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Evaluation of Demonstrations of National School Lunch Program and School Breakfast Program Direct Certification of Children Receiving Medicaid Benefits: Access Evaluation Report

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Evaluation of Demonstrations of National School Lunch Program and School Breakfast Program Direct Certification of Children Receiving Medicaid Benefits: Access Evaluation Report

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CONTENTS

EXECUTIVE SUMMARY xi

I INTRODUCTION 1

A. The School Meals Programs and Direct Certification 1

1. Opportunities for Direct Certification-Medicaid (DC-M) 3

B. The DC-M Demonstration Evaluation 5

1. Demonstration States and Districts 5
2. Objectives of the Access Evaluation 6
3. Overview of Report 6

II METHODS OVERVIEW 9

A. Sample 9

B. Data Collection 11

C. Process for Matching Student Enrollment and Medicaid Records 12

D. Methods for Analyzing the Effects of DC-M 13

E. Pooled Estimates and National Extrapolations 16

F. Measuring the Precision of Estimates 16

G. Limitations of the Sample and the Analysis Methods 17

III DC-M SIMULATION RESULTS 19

A. Simulated Impact of DC-M: Core Analyses 19

1. Variation in Simulated Impacts Across Access Evaluation Districts 19

B. Comparison of Alternative Matching Procedures 25

C. Results Under Alternative Policies 29

1. Changes in DC-M Rules 30
2. Upcoming Policy Changes that Might Affect DC-M 33
3. Extrapolations of the Effects of DC-M to Other States and Districts 37

D. Reasons Some Eligible Children Are Not Certified Under DC-M 37

1. Unmatched Children in Medicaid Files 37
2. Children with Indeterminate Income Eligibility 40

IV CONCLUSIONS AND LIMITATIONS 41

A. Summary of Findings 41

B. Limitations of the Findings 42

REFERENCES 43

APPENDIX A: METHODS A.1

APPENDIX B: SUPPLEMENTAL TABLES RELATED TO SIMULATIONS OF DC-M AS CURRENTLY AUTHORIZED B.1

APPENDIX C: SUPPLEMENTAL TABLES RELATED TO SIMULATIONS OF DC-M UNDER ALTERNATIVE POLICIES C.1

APPENDIX D: SUPPLEMENTAL TABLES ON REASONS FOR MATCH FAILURE AND INDETERMINATE INCOME D.1

TABLES

I.1 Research Questions for Access Evaluation 7

II.1 Sample for Access Evaluation Analysis 11

III.1 Summary of Simulated Impacts of DC-M 20

III.2 Distribution of Access Evaluation Sample Districts, by Key Thresholds Related to the CEP, Actual October 2011 Direct Certification Rates and Simulated Rates Under DC-M 24

III.3 Summary of Simulated Impacts of DC-M by Alternative Matching Stringency Levels 27

III.4 Summary of Simulated Outcomes under DC-M, with Different Geographic Restrictions on Medicaid Files 27

III.5 Summary of Simulated Outcomes under DC-M, by Timing of Match 28

III.6 Summary of Simulated Outcomes under DC-M, Including Other Children in the Household 29

III.7 Summary of Simulated Impacts of Using DC-M for Reduced-Price Certification 32

III.8 Summary of Simulated Impacts of DC-M Under Different Rules for Determining Eligibility 33

III.9 Summary of Simulated Impacts of DC-M Under Different Rules for Related Programs 35

III.10 Summary of Simulated Impacts of DC-M, Extrapolated to Other States 38

III.11 Match Rates for Medicaid Children Under Each Matching Stringency Level, October 2011 39

A.1 Income Eligibility Limits for Medicaid and CHIP, in SY 2011-2012 ..... A.6

A.2 Data Elements Available in Medicaid and School District Enrollment Files, by State/District A.9

A.3 Matching Criteria and Stringency Levels A.11

B.1a Certification Counts and Percentages Under Current Certification Procedures (without DC-M) for October 2011, by State B.5

B.1b Certification Counts and Percentages With DC-M Simulation Results Added to Current Certification Procedures for October 2011, by State B.6

B.2 Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation Pooled Sample, October 2011 ..... B.7

B.3 Simulated Impact of DC-M on Access, Pooled Sample, October 2011 ..... B.8

B.4a Distribution of Access Evaluation Sample Districts, by Actual October 2011 Certification Rates and Simulated Rates Under DC-M B.9

B.4b Distribution of Access Evaluation Sample Districts, by Percentage Point Increase in Certification Rates Under DC-M Simulation B.10

B.5 Distribution of Access Evaluation Sample Districts, by State, by Key Thresholds Related to the CEP, Actual October 2011 Direct Certification Rates and Simulated Rates Under DC-M B.11

B.6 Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Pooled Sample of Districts with Data for All Three Matching Stringency Levels, October 2011 ..... B.12

B.7a Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Access Evaluation Districts in Florida, October 2011 ..... B.14

B.7b Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Access Evaluation Districts in Illinois, October 2011 ..... B.16

B.7c Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Access Evaluation Districts in Kentucky, October 2011 ..... B.18

B.7d Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Access Evaluation Districts in New York City, October 2011 ..... B.20

B.7e Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Access Evaluation Districts in Pennsylvania, October 2011 ..... B.21

B.8a Simulated Impact of DC-M on Access, Pooled Sample of Districts, Weak Stringency Matching Algorithm B.23

B.8b Simulated Impact of DC-M on Access, Pooled Sample of Districts, Medium Stringency Matching Algorithm B.24

B.8c Simulated Impact of DC-M on Access, Pooled Sample of Districts, Strong Stringency Matching Algorithm B.26

B.9 Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation Using Statewide Medicaid Files, Pooled Sample B.27

B.10 Summary of Simulated Impacts of DC-M, by State and Timing of Match, Pooled Sample of Districts with Data for Three Points in Time B.28

B.11 Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, Pooled Sample of Districts with Data for Three Points in Time B.30

B.12a Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation with Extension of Benefits to Other Students in the Household Based on Address, Pooled Sample, October 2011 ..... B.32

B.12b Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation with No Extension of Benefits to Other Students in the Household, Pooled Sample, October 2011 ..... B.33

B.13 Summary of Simulated Impacts of DC-M on Verifications Required B.34

C.1 Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, Pooled Sample without Illinois, October 2011 ..... C.3

C.2 Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation Based on Net Income, Pooled Sample without Illinois C.4

C.3 Simulated Impact of DC-M Based on Net Income, Pooled Sample without Illinois C.5

C.4 Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation If Medicaid Enrollment Conferred Categorical Eligibility, Pooled Sample without Illinois C.6

C.5 Simulated Impact of DC-M if Medicaid Enrollment Conferred Categorical Eligibility, Pooled Sample without Illinois C.7

C.6a Certification Counts and Percentages Under DC-SNAP Performance Standard of 80% and DC-M Simulation, Pooled Sample C.8

C.6b Certification Counts and Percentages Under DC-SNAP Performance Standard of 90% and DC-M Simulation, Pooled Sample C.9

C.6c Certification Counts and Percentages Under DC-SNAP Performance Standard of 95% and DC-M Simulation, Pooled Sample C.10

C.6d Certification Counts and Percentages Under DC-SNAP Performance Standard of 100% and DC-M Simulation, Pooled Sample C.11

C.7a Simulated Impact of DC-M on Access, Under DC-SNAP Performance Standard of 80%, Pooled Sample C.12

C.7b Simulated Impact of DC-M on Access, Under DC-SNAP Performance Standard of 90%, Pooled Sample C.13

C.7c Simulated Impact of DC-M on Access, Under DC-SNAP Performance Standard of 95%, Pooled Sample C.14

C.7d Simulated Impact of DC-M on Access, Under DC-SNAP Performance Standard of 100%, Pooled Sample C.15

C.8 Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation Under ACA Medicaid Eligibility Rules, Pooled Sample C.16

C.9 Simulated Impact of DC-M on Access Under ACA Medicaid Eligibility Rules, Pooled Sample C.17

C.10 Actual and Extrapolated National Certification Counts and Percentages Under Current Certification Procedures (without DC-M)..... C.18

C.11 National Extrapolations of Certification Counts and Percentages Under DC-M Simulation..... C.19

C.12 National Extrapolations of Simulated Impact of DC-M on Access..... C.20

D.1 Matched and Unmatched Medicaid Cases, by Percentage with Missing Data Element, October 2011..... D.3

D.2 Match Rates for Medicaid Children by Characteristic, October 2011..... D.4

D.3 Percentage of Medicaid Children with Missing Poverty Status Data Elements D.5

D.4 Percentage of Medicaid Children with Unknown Poverty Status, by Characteristic..... D.6

FIGURES

II.1 SY 2011-2012 Medicaid/M-CHIP Eligibility, DC-SNAP Rates, and NSLP Certification, for DC-M Sample and Nation 11

III.1 Variation in Simulated Impacts Across Sample Districts 21

III.2 Percentage of Students Directly Certified in Access Evaluation Sample Districts.....22

III.3 Percentage of Students Certified for Free Meals in Access Evaluation Sample Districts.....23

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EXECUTIVE SUMMARY

The Healthy, Hunger-Free Kids Act of 2010 (HHFKA; P.L. 111-296) required the U.S. Department of Agriculture (USDA) Food and Nutrition Service (FNS) to conduct a demonstration that adds Medicaid to the list of programs used to directly certify students for free school meals. FNS invited States to participate in the demonstration beginning in school year (SY) 2012–2013. Direct Certification-Medicaid (DC-M) is expected to expand the number of students who are certified without completing an application. It might also increase the total number of students who receive free meals by reaching students who are eligible but not certified under standard procedures. If DC-M leads to an increase in the number of free meals served, it will have an impact on Federal costs. In addition, DC-M will likely affect the costs that States and districts incur for administering the National School Lunch Program (NSLP). FNS contracted with Mathematica Policy Research to examine the effects of DC-M on these and other outcomes.

The School Meals Programs and Direct Certification. The NSLP is the largest child nutrition assistance program in the United States, providing food to nearly 32 million students each day in fiscal year (FY) 2012 (USDA FNS 2013). Along with the School Breakfast Program (SBP), the NSLP is a cornerstone of the government's efforts to provide nutritious meals to schoolchildren. Although the USDA subsidizes all school meals that meet program requirements, the subsidies are much larger for meals provided to students certified for free or reduced-price meals. Students become certified through two main methods:

- **Application.** Historically, most students who receive free or reduced-price school meals have been certified on the basis of information reported by their households in applications submitted to their school districts. Households must either (1) provide detailed information on household size and income or (2) demonstrate that they are "categorically eligible" because of participation in one of several public assistance programs, including the Supplemental Nutrition Assistance Program (SNAP), the Food Distribution Program on Indian Reservations (FDPIR), and Temporary Assistance for Needy Families (TANF).[1] The district assesses the information on the application to determine whether the household meets the eligibility requirements for free or reduced-price meals. Children in families with incomes that fall at or below 130 percent of the Federal poverty level (FPL) are eligible for free meals, and those that have incomes above 130 but no greater than 185 percent of the FPL are eligible for reduced-price meals.
- **Direct certification.** In recent years, increasing numbers of students have been automatically determined eligible for free meals through direct certification rather than an application. Direct certification typically involves matching SNAP, TANF, and FDPIR administrative records with student enrollment records to establish that

[1] Students can be certified for free meals based on participation in certain other programs, including Head Start and Even Start, Migrant Education Program, and programs under the Runaway and Homeless Youth Act. Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

a student is a member of a household participating in one of these programs and, therefore, is automatically eligible to receive free school meals.

Opportunities for direct certification-Medicaid (DC-M). Adding Medicaid to the set of programs used to directly certify students for free school meals has the potential to both expand the number of eligible children who are certified and reduce the number of households that need to submit applications. Although students receiving Medicaid are not categorically eligible for free meals, the DC-M demonstration authorizes selected States and districts to use income information from Medicaid files to directly certify those students found to be eligible for free meals. Under the demonstration, students are eligible for free meals if they are (1) enrolled in Medicaid and (2) in a household with a gross income that does not exceed 133 percent of the FPL.[2] Students in a household with a child who meets these two criteria are also eligible for free school meals under DC-M. However, the potential effect of DC-M on students' access to free school meals is limited because a large proportion of Medicaid enrollees also receive SNAP and/or TANF benefits and thus could already be directly certified.

The DC-M demonstration evaluation. FNS contracted with Mathematica Policy Research to evaluate a demonstration of DC-M in selected States and school districts. Later reports will present findings based on the outcomes of the demonstration itself, which began in SY 2012–2013. Those analyses will measure the impact of DC-M on participation in the school meals programs and program costs by comparing outcomes in districts randomly assigned to conduct DC-M with the outcomes in districts assigned to use normal certification procedures. Later reports also identify the challenges that States and districts face when implementing DC-M and independently validate DC-M matches made in a small subset of evaluation districts.

This report presents findings from the Access Evaluation, a study component that is designed to assess the potential impacts of DC-M on students' access to free school meals by conducting retrospective simulations of DC-M in school year 2011–2012, the year before the demonstration began. For the Access Evaluation, researchers at Mathematica collected (1) student enrollment files for a sample of school districts in the demonstration and (2) Medicaid data for school-age children. We matched these two types of files based on individual identifiers, such as name and date of birth, to simulate DC-M.[3] If a student was found to be enrolled in Medicaid, we assessed whether the income information in the Medicaid file indicated that the student would be eligible for free meals and determined the certification status that each student in the school enrollment file would have if DC-M were used in addition to actual SY 2011–2012 certification procedures.[4] Impacts are measured by comparing these simulated certification outcomes under DC-M to districts' actual certifications that year. Such comparisons reveal the extent to which DC-M could increase the number of students certified for free meals and decrease the reliance on applications. Separate simulations show the potential impact of DC-M under different matching algorithms and policies.

[2] The HHFKA allows a slightly higher income threshold for Medicaid direct certification than is otherwise allowed.

[3] Throughout the report, "we" refers to the DC-M evaluation team at Mathematica.

[4] Because DC-M is being tested as a supplement to existing certification procedures, the demonstration can only increase the school meal benefits provided. DC-M can move a student's certification status from reduced-price or paid to free but cannot move a student from free to reduced-price or paid status.

Demonstration States and districts. FNS solicited applications from States to participate in the DC-M demonstration and selected five—Florida, Illinois, Kentucky, New York City, and Pennsylvania—to begin conducting DC-M in SY 2012–2013.[5] The Access Evaluation sample was selected from districts in these States. An additional State and additional districts in three states were selected for SY 2013–2014 and will be included in the later study components and reports.[6]

Summary of *Access Evaluation* Findings

Key findings from the Access Evaluation include the following:

- **DC-M could increase the direct certification rate by 12 percentage points in Access Evaluation districts.** The simulations indicate that DC-M could have increased the percentage of students who were directly certified to receive free meals in October 2011 from approximately 26 percent to 38 percent in the Access Evaluation districts pooled together (Table 1). The difference between these numbers indicates that 12 percent of students in these districts were not directly certified through SNAP or other programs but could be by Medicaid.
- **The potential increase in the percentage of students certified for free meals is smaller—at 6 percentage points—because some of the students who could be directly certified under DC-M would be certified for free meals by application in the absence of DC-M.** Among the additional students who would be made eligible for free meals by DC-M, about one-fifth had submitted an application and been certified to receive reduced-price meals and four-fifths were in the paid category without DC-M.

Table 1. Summary of Simulated Impacts of DC-M

	Percentage of Students	
Pooled Sample of Access Evaluation Districts (455 districts)	Directly Certified for Free Meals	Total Certified for Free Meals[a]
Actual certification rate	26	43
Simulated certification rate under DC-M	38	49
Difference	12	6

[a]Including by application, direct certification, or other categorical eligibility.

[5] A sixth State, Alaska, was initially selected but withdrew before conducting DC-M.

[6] New York City, which entered the demonstration in Year 1, will continue to be considered a separate site from the approximately 300 districts in New York State that entered in Year 2. In Florida and Illinois, relatively small numbers of new districts joined in Year 2 and will be combined with the Year 1 sample for analysis in those states.

- **There is substantial variation in the effects of DC-M across districts.** Among the States in the demonstration, the largest simulated impacts were found in Illinois, the only state for which income data were not included in the Medicaid files provided for the study, preventing an independent assessment of eligibility.
- **The simulated impacts vary little under alternative matching procedures.** Matching using different algorithms resulted in differences of 3 percentage points in the impact on direct certifications and of one-half percentage point in the impact on free certifications. The other alternative matching procedures examined resulted in smaller differences.
- **The simulated impacts vary little under most alternative policy assumptions.**
  - Changes to the eligibility criteria used for DC-M, such as allowing direct certification for reduced-price meals or using net instead of gross income, could increase the percentage of students certified by small amounts. Of the alternative policies examined in the simulations, only making Medicaid enrollees categorically eligible would increase the impacts of DC-M by more than 4 percentage points.
  - Improvements in SNAP direct certification rates to meet new performance standards could decrease the net effects of DC-M (by less than 2 percentage points even if all SNAP recipients were certified through DC-SNAP) because participation in the two programs overlaps.
  - Implementation of the Medicaid expansions under the Affordable Care Act might have only a very small effect on the impacts of DC-M.

Limitations. In interpreting these findings, the limitations of the DC-M demonstration and of the Access Evaluation in particular should be noted. The DC-M evaluation is based on a nonrepresentative sample of States and districts. The States that applied to participate may differ systematically from other States in the nation; for example, their interest likely indicates State-level data systems and interagency relationships that are more conducive to implementing DC-M than in other States. Within these States, the selection of districts was subject to several constraints—such as excluding some of the largest districts and some of the districts with the highest percentages of students certified for free or reduced-price meals. Thus, the within-state findings presented in this report cannot be considered representative of any State as a whole, and the pooled sample is not representative of the nation. In addition to the limitations of the demonstration as a whole, additional limitations pertain to the Access Evaluation. Although simulating DC-M allows us to explore a variety of matching methods and alternative policy scenarios, the simulated outcomes may be different than when States and districts themselves conduct DC-M. Later reports of the evaluation will reflect the actual outcomes of DC-M procedures as implemented by the demonstration States and districts.

I. INTRODUCTION

The Healthy, Hunger-Free Kids Act of 2010 (HHFKA; P.L. 111-296) required the U.S. Department of Agriculture (USDA) Food and Nutrition Service (FNS) to conduct a demonstration that adds Medicaid to the list of programs used to directly certify students for free school meals. FNS invited States to participate in the demonstration beginning in school year (SY) 2012–2013. Direct Certification-Medicaid (DC-M) is expected to expand the number of students who are certified without completing an application. It might also increase the total number of students who receive free meals by reaching students who are eligible but not certified under standard procedures. If DC-M leads to an increase in the number of free meals served, it will have an impact on Federal reimbursement costs. In addition, DC-M will likely affect the costs that States and districts incur for administering the National School Lunch Program (NSLP).

FNS contracted with Mathematica Policy Research to examine the effects of DC-M on these and other outcomes. This report presents findings from the Access Evaluation, a component of the study that assesses the potential impacts of DC-M on students' access to free school meals by conducting retrospective simulations of DC-M in SY 2011–2012, the year before the demonstration began. Later reports will focus on the outcomes of the demonstration itself, during SY 2012–2013 and 2013-2014.

A. The School Meals Programs and Direct Certification

The NSLP is the largest child nutrition assistance program in the United States, providing food to nearly 32 million students each day in fiscal year (FY) 2012 (USDA FNS 2013). Along with the School Breakfast Program (SBP), the NSLP is a cornerstone of the government's efforts to provide nutritious meals to schoolchildren. These Federal programs are administered by child nutrition agencies at the State level and by local educational agencies (LEAs) and school food authorities (SFAs)—which are typically school districts—at the local level.[7]

Eligibility for program benefits. All students enrolled in schools participating in the school meals programs are eligible to receive subsidized school meals. Those in families with incomes at or below 130 percent of the Federal poverty level (FPL)—$29,055 for a family of four during SY 2011–2012—are eligible for free meals, as are students who participate in one of several public assistance programs (discussed below). Reduced-price meals are provided to students whose families have incomes above 130 but no greater than 185 percent of poverty. Students who have not been certified for free or reduced-price meals pay what is referred to as full price for their school meals. Although the USDA subsidizes all school meals that meet program

[7] The Richard B. Russell National School Lunch Act (NSLA) uses two terms to refer to the local entities that operate the school meals programs. The Child Nutrition and WIC Reauthorization Act of 2004 (P.L. 108-265) amended NSLA by using the term "local educational agency" when referring to the application, certification, and verification functions of the school meals programs. Sections of NSLA that deal with other aspects of the programs, such as meal pattern requirements and meal-counting and claiming reimbursements, use the term "school food authority," which current regulations define as the governing body that has the legal authority to operate the NSLP/SBP in one or more schools. Because nearly all schools in the NSLP/SBP are parts of entities commonly known as school districts, we use that term throughout this document.

requirements, the subsidies are much larger for meals provided to students certified for free or reduced-price meals. There are two main methods by which students can become certified: application and direct certification.[8]

- ***Eligibility determination through application.*** Historically, most students who receive free or reduced-price school meals became certified on the basis of information reported by their households in an application submitted to the school district. Households must either (1) provide detailed information on household size and income or (2) demonstrate that they are "categorically eligible" because they participate in one of several public assistance programs, including the Supplemental Nutrition Assistance Program (SNAP), the Food Distribution Program on Indian Reservations (FDPIR), and Temporary Assistance for Needy Families (TANF).[9] The district assesses the information on the application to determine whether the household meets the eligibility requirements.
- ***Eligibility determination through direct certification.*** In recent years, increasing numbers of students have been automatically determined eligible for free meals through direct certification rather than an application. Direct certification typically involves matching administrative records from programs that confer categorical eligibility with student enrollment records to establish that a student is a member of a household participating in one of these programs. All districts participating in the NSLP, including private schools, are required to directly certify students in SNAP households. Beginning in SY 2011–2012, FNS regulations required districts to conduct direct certification with SNAP at least three times each year: at the beginning of the school year, three months after the beginning of the school year, and six months after the beginning of the school year. Districts are also encouraged, but not required, to directly certify students in TANF and FDPIR households.

Nearly 12.3 million students were directly certified for free school meals in SY 2012–2013 (Moore et al. 2013). This number has increased dramatically in recent years because of a combination of an increase in the number of school-age children receiving SNAP benefits, expansion in the use of direct certification across the country, and the improved performance of these efforts in States and districts. The 2013 Report to Congress on direct certification shows that the number of States and districts implementing direct certification has increased steadily (Moore et al. 2013). In SY 2004–2005 (prior to the Congressional mandate for direct certification), 56 percent of districts directly certified SNAP participants; by SY 2012–2013, 91

[8] Some school districts use alternative procedures that do not involve certifying individual students each year. Districts participating in Provision 2 or Provision 3 conduct certification in a base year and are reimbursed in later years based on claims from that base year. Under the new Community Eligibility Provision (CEP), schools in high-poverty areas in select States claim reimbursement based on data from the prior year on the number of students certified for free meals through means other than applications.

[9] Students can be certified for free meals based on participation in certain other programs, including Head Start and Even Start, Migrant Education Program, and programs under the Runaway and Homeless Youth Act. Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

percent of districts did so.[10] Those districts enrolled 99 percent of all students in NSLP-participating schools nationwide.

1. Opportunities for Direct Certification-Medicaid (DC-M)

Direct certification through the Medicaid program would extend the use of direct certification to Medicaid-enrolled students who are from low-income families but not directly certified through SNAP or other programs; without DC-M, they are either certified for free meals by application or not certified. Students receiving Medicaid are not categorically eligible for free meals, but the DC-M demonstration authorizes selected States and districts to use income information from Medicaid enrollment and/or eligibility files to determine eligibility and directly certify those students found to be eligible for free meals.

Under the DC-M demonstration, students are eligible if they are (1) enrolled in Medicaid and (2) in households with a gross income (as measured by Medicaid "before the application of any expense, block, or other income disregards") not exceeding 133 percent of the poverty level.[11] Other students in a household with a child who meets these criteria can also be directly certified for free meals under DC-M.

In States with upper Medicaid income eligibility thresholds above 133 percent of poverty, there are further opportunities to use Medicaid data to directly certify students for reduced-price meals, which is not an option under direct certification with SNAP and other programs that confer categorical eligibility.[12] Before the implementation of the Affordable Care Act (ACA), Medicaid upper income eligibility thresholds for children ages 6 to 19 exceeded 133 percent of poverty in 25 States (Heberlein and Brooks 2013).

Implementation of the ACA might enhance opportunities to use Medicaid data to directly certify students for school meals. Several key provisions affect the number of students that stand to benefit and the Medicaid eligibility data available for matching:

[10] Of the 9 percent of districts that did not directly certify students in SY 2012–2013, about two-thirds are private, and four-fifths are single-school districts. Private-school districts sometimes are excluded from State-level direct certification matching systems, and smaller public school districts may face technical challenges in developing effective systems. In addition, some of these districts might not have SNAP participants among their students.

[11] The HHFKA allows a slightly higher income threshold (133 percent of the FPL) for Medicaid direct certification than is otherwise allowed (130 percent of the FPL). The phrase "before the application of any expense, block, or other income disregard" is part of the legislation authorizing DC-M and requires that a gross, rather than net, measure of income be used for DC-M. Income "disregards" refer to exclusions or deductions from countable income used for determining income eligibility for Medicaid. For example, Medicaid allows applicants to exclude some child support payments and the first $90 of earned income and to deduct some child care expenses from income. States also have the flexibility to apply other exclusions or deductions of expenses, and a number of States have done so to expand Medicaid eligibility.

[12] Although direct certification of students for reduced-price meals is not authorized under the DC-M demonstration, the Access Evaluation explores the potential of using income data in Medicaid files for this purpose.

- Under the ACA, in 2014, the mandatory minimum upper income eligibility levels for Medicaid for children ages 6 to 19 are increasing from 100 to 133 percent of poverty, which has required 20 States to expand Medicaid income eligibility for children in this age range. These States were required to move children with household incomes between 100 and 133 percent of poverty from separate Children's Health Insurance Programs (S-CHIP) to Medicaid as of January 1, 2014, increasing the number of school-age children covered by Medicaid and, in turn, potentially eligible for DC-M (Prater and Alker 2013).[13]
- ACA also changes the financial criteria used for Medicaid eligibility determinations. Starting in 2014, income eligibility for most eligibility groups (including school-age children) must be determined based on modified adjusted gross income (MAGI) as defined in the Internal Revenue Code, which eliminates the various state-specific income exclusions or disregards formerly used and ensures a standard income definition across States.[14] Upon implementation of MAGI, states are required to maintain their eligibility levels for children until 2019. This is typically accomplished by increasing the income eligibility cutoffs for Medicaid in each state (previously based on net income, in general) to reflect the average value of the disregards previously used. Most states are using formulas developed by the Centers for Medicare and Medicaid Services to make these adjustments. The MAGI adjustment is intended to keep the number of children eligible for Medicaid roughly the same as before ACA.
- Because MAGI is based on an income tax definition, a household is defined based on the tax filing unit, which may differ from the household composition under prior Medicaid rules, but the effects of these changes on eligibility are unclear.

The potential effect of DC-M on students' access to free school meals is limited, however, because a large proportion of students participating in Medicaid also participate in other programs used to directly certify students for free meals. In the Access Evaluation sample, approximately 60 percent of those who could be certified by DC-M are already directly certified through SNAP or other programs.[15] These children will not receive any additional benefit from DC-M. The impact of DC-M also depends on the ability of States and local districts to identify students in Medicaid eligibility files. These factors warrant a careful evaluation of both the potential and observed effects of DC-M.

[13] Children enrolled in Medicaid-expansion CHIP programs (M-CHIP) are already eligible for DC-M under the demonstration, so their change in status from M-CHIP to Medicaid will not affect DC-M. Throughout this report, the terms S-CHIP and M-CHIP are used to distinguish between two types of CHIP: Medicaid-expansion programs (M-CHIP) and separate programs (S-CHIP).

[14] In addition, all states must disregard income up to 5 percent of FPL for each family, effectively expanding the minimum eligibility cutoff of 133 percent of poverty for school-age children to a cutoff of 138 percent of poverty. Most of the children newly eligible for Medicaid due to this expansion will have MAGI incomes above 133 percent of poverty. Thus, it will have minor effects on DC-M certification for free meals, but increases the potential for using DC-M to certify students for reduced-price meals.

[15] This estimate is derived from data in Appendix B, Table B.2.

B. The DC-M Demonstration Evaluation

The DC-M evaluation will examine the impacts of DC-M on certification, participation, and cost outcomes. This report focuses on the results of simulations of DC-M on the number of students certified for free meals and the number certified without needing to submit an application. Later components of the evaluation will examine a wider set of outcomes based on the experiences of States and districts in conducting DC-M.

The DC-M demonstration, mandated in the HHFKA, may expand the number of students who receive free meals by reaching students who are eligible—but not yet certified—for free meals. The demonstration will also affect the costs that States and districts incur. Although matching students to Medicaid data will likely increase direct certification costs for State agencies and some districts, DC-M can generate cost savings for districts if it leads to fewer families submitting school meal program applications that need to be processed. DC-M will also have an impact on Federal costs if it leads to an increase in the number of free meals served, which could result both from an increase in the number of students certified in that category (whose meals would have been reimbursed at the reduced-price or paid levels otherwise) and from a potential increase in the number of meals those students choose to receive. The evaluation will examine the effects of DC-M on these and other outcomes.

This report presents findings from the Access Evaluation**.** This part of the study will assess the potential impacts of DC-M on students' access to free school meals by conducting retrospective simulations of DC-M in SY 2011–2012, the year before the demonstration began, and comparing the simulated certification outcomes with districts' actual certifications. Separate simulations show the potential impact of DC-M under different matching algorithms and policies.

Later reports will focus on the other components of the DC-M study based on the outcomes of the demonstration itself, which began in SY 2012–2013. The Participation and Cost Evaluation component will measure the impact of DC-M on participation and costs observed over two years of the demonstration (SY 2012–2013 and SY 2013–2014). Based on a comparison of districts randomly assigned to either conduct DC-M or use normal certification procedures, this component of the study will examine whether DC-M leads to changes in the numbers and distributions of certified students and reimbursable meals and the certification costs in districts. It will also identify the challenges that States and districts face when implementing DC-M. In addition, the evaluation will include (1) an assessment of a socioeconomic survey certification alternative, (2) a substudy that will use varying levels of match stringency to independently validate matches made in a small sample of evaluation districts, and (3) an exploration of the impacts of DC-M on the special milk and afterschool snack programs.

1. Demonstration States and Districts

FNS solicited applications from States to participate in the DC-M demonstration and selected five—Florida, Illinois, Kentucky, New York City, and Pennsylvania—to begin

conducting DC-M in SY 2012–2013.[16] The Access Evaluation sample was drawn from treatment districts in these States, as described in more detail in the next chapter and Appendix A. An additional State and additional districts in three other states were selected to join the demonstration in SY 2013–2014 and will be included in the subsequent study components.

2. Objectives of the Access Evaluation

Table I.1 lists the research questions for the Access Evaluation, which fall into three broad categories: (1) potential impact of DC-M on the number and distribution of students in each certification category, (2) sensitivity of DC-M results to alternative policy scenarios and assumptions, and (3) reasons for any failures of Medicaid data to identify potentially eligible children.

To address these objectives, researchers at Mathematica collected two types of data from the school year before DC-M began: (1) student enrollment files for school districts selected for the demonstration and (2) Medicaid data for school-age children. To simulate DC-M, we matched these two types of files based on individual identifiers, then assessed income information from the Medicaid file for each matched student to determine the student's certification status if DC-M were added to the standard school meal certification procedures. Impacts are measured by comparing these simulated certification outcomes under DC-M to districts' actual certifications (without DC-M) that year.

3. Overview of Report

This report presents the findings from the simulations conducted for the Access Evaluation component of the DC-M demonstration evaluation. Chapter II summarizes the methods used to collect data and conduct analyses. Chapter III contains key findings on the potential impacts of DC-M, as implemented and under alternative scenarios, and findings related to match failure and missing income data. Finally, Chapter IV summarizes conclusions and limitations of the findings. Appendices provide additional detail on methodology and supplemental tables.

[16] A sixth State, Alaska, was initially selected but withdrew before conducting DC-M. In New York, only New York City participated in the demonstration in SY 2012–2013 and is included in the Access Evaluation. For convenience, we refer to each of the five as "States" throughout the report.

Table I.1. Research Questions for Access Evaluation

Potential Impact of DC-M as Currently Authorized
1. What are the numbers and percentages of students certified under current procedures by (a) NSLP certification category (free, reduced-price, and paid) and (b) free certification subcategory—i.e., method of certification?
2. What numbers and percentages of students and households are in each DC-M simulation result category by (a) NSLP certification category and (b) free certification subcategory?
3. Under DC-M policy, (a) what number and percentage of students and households would be moved from paid to free? From reduced-price to free? From free to reduced-price or paid? (b) What would be the impact on the number of verifications required?
4. How would DC-M change the distribution of districts by proportions of free and reduced-price certifications? Would DC-M move significant numbers of districts from lower to higher rates of free and reduced-price certification? Vice versa? How large are these distribution changes? Where on the distribution are the changes located?
DC-M Simulation Results Under Alternative Policy and Program Assumptions
5. What would the incremental and total impact be if the policy had also allowed DC-M for reduced-price certifications (133 to 185 percent of the federal poverty level)? What number and percentage of students and households would have moved from paid to reduced-price?
6. For research questions 1–3 and 5, provide estimates for each of the following simulated scenarios: (a) All States and territories (not just demonstration areas) attempted to implement DC-M using their current Medicaid systems. (Note: Some areas would not be able to implement DC-M because of lack of appropriate data systems. DC-M matches would equal zero in those areas.) (b) All States improved their data systems so that they could perform the required matches.
7. For research questions 2–3 and 5–6, provide estimates that take into account sensitivity to each of the following scenarios: (a) changes in the rates of DC-SNAP performance minimums required by P.L. 111-296 §101 and at least five additional levels agreeable to FNS[a] and (b) changes in Medicaid eligibility rules as projected by the President's budget request for fiscal year 2012 or an alternate set of up to five assumptions mutually agreed to with FNS.
8. For research questions 2–3 and 5–6, how would the results differ if the acceptable Medicaid income definition did not include the phrase "before the application of any expense, block, or other income disregard"?
Reasons for Any Failures of Medicaid Data to Identify Potentially Eligible Children
9. For cases in which Medicaid income is indeterminate (unknown), why is it indeterminate? What information, if it were available, could reduce the number of cases with indeterminate income?
10. For cases in which Medicaid data fail to match to enrollment data, why is that the case? What information, if it were available, could reduce the number of nonmatch cases? By how much?

[a] The legislation requires States to directly certify no fewer than the following percentages of the total number of children in a State who are eligible for DC-SNAP: "(I) for the school year beginning July 1, 2011, 80 percent; (II) for the school year beginning July 1, 2012, 90 percent; and (III) for the school year beginning July 1, 2013, and each school year thereafter, 95 percent." Results simulating achievement of the 80, 90, 95, and 100 percent levels are presented in Chapter III.[17].

[17] In addition, we examined DC-SNAP performance minimums of 70, 75, 85, and 110 percent, but results for these additional levels are not provided in this report.

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II. METHODS OVERVIEW

DC-M offers two potential benefits to students and their families: (1) certification for free meals when they might otherwise pay the full or a reduced price and/or (2) certification without having to complete an application. The Access Evaluation measures these benefits using a retrospective simulation of the effects of DC-M on school meals program access.

The Access Evaluation uses data from SY 2011–2012, the year before the demonstration began. For districts in the study, researchers at Mathematica matched student enrollment data with Medicaid data to identify how many students could have benefited from DC-M had it been in place in SY 2011–2012. The approach consisted of five basic steps:

1. Acquire student enrollment data and Medicaid enrollment files for select months during SY 2011–2012.
2. Match student enrollment and Medicaid data (using a variety of matching algorithms).
3. Determine for each successful match the income category (133 percent or less, between 133 and 185 percent, or greater than 185 percent of poverty) based on Medicaid income (before the application of any expense, block, or other income disregard) and family size.
4. Assess the NSLP/SBP certification status that each student in the school enrollment file would have if this information were used in addition to actual SY 2011–2012 certification procedures.
5. Compare simulated certification outcomes under DC-M to actual certification status (without DC-M). The analysis focuses on two key outcomes: the percentage of students directly certified and the percentage certified for free meals.

This chapter summarizes the data collection and analysis methods used. Appendix A provides additional details.

A. Sample

The Access Evaluation included simulations of DC-M for all students in samples of school districts in five States. This section describes the selection of States and districts for the demonstration and the retrospective simulation. Additional discussion of the sample can be found in Appendix A.

States. FNS solicited applications from States to participate in the DC-M demonstration and selected five—Florida, Illinois, Kentucky, New York City, and Pennsylvania—to begin

conducting DC-M in SY 2012–2013.[18] An additional State was selected for SY 2013–2014 but is not included in the Access Evaluation.[19]

Districts. DC-M is being conducted in selected districts within three States (Florida, Illinois, and New York City, called DC-M1 States) and is being implemented statewide in two other States (Kentucky and Pennsylvania, called DC-M2 States). In the DC-M1 States, researchers at Mathematica matched districts into pairs and then randomly assigned one district from each pair to conduct DC-M and the other to carry out normal certification procedures (without DC-M).[20] (See Appendix A for additional detail on the matching and random assignment procedures.) The Access Evaluation sample was drawn only from districts in which DC-M is being conducted.

Federal guidelines limited to nine the number of entities from which we could obtain each type of individual-level data required for the Access Evaluation.[21] In all five States, the necessary Medicaid enrollment data could be provided by a single entity (typically either the State agency responsible for determining eligibility for Medicaid or the agency that oversees the program). In three States, school enrollment data (including NSLP/SBP certification status) was also available from a single entity (typically the State education agency). However, in two States (Florida and Pennsylvania), school enrollment data had to be collected from individual districts. Therefore, the Access Evaluation study included all districts in which DC-M would be conducted in three States and three purposively selected districts from each of Florida and Pennsylvania. Table II.1 shows the resulting Access Evaluation sample.

Figure II.1 shows how the states and districts in the Access Evaluation sample compare to others in the nation along relevant characteristics. States in the DC-M demonstration are less likely than other states to have upper income limits for Medicaid/M-CHIP at or above 133 percent of poverty. The percentage of school-aged SNAP participants who were directly certified was somewhat higher (86.4 percent) in the DC-M states than in other states (84.0 percent). Districts in the study tend to have somewhat higher proportions of students certified for free or reduced-price meals (50.5 percent) compared to other states in the nation (48.6 percent).

[18] A sixth State, Alaska, was initially selected but withdrew before conducting DC-M.

[19] The demonstration also expanded into additional districts in three of the Year 1 states. New York City, which entered the demonstration in Year 1, will continue to be considered a separate site from the approximately 300 New York State districts that entered in Year 2. In Florida and Illinois, relatively small numbers of new districts joined in Year 2 and will be combined with the Year 1 sample for analysis in those states.

[20] In New York, only New York City participated in the first year of the demonstration and in the Access Evaluation; the 32 community districts in the city were randomly assigned to conduct DC-M or not and are considered as districts in the data collection and analysis.

[21] The stipulated schedule for the Access Evaluation did not allow sufficient time to obtain approval from the Office of Management and Budget for collecting data from more than nine entities.

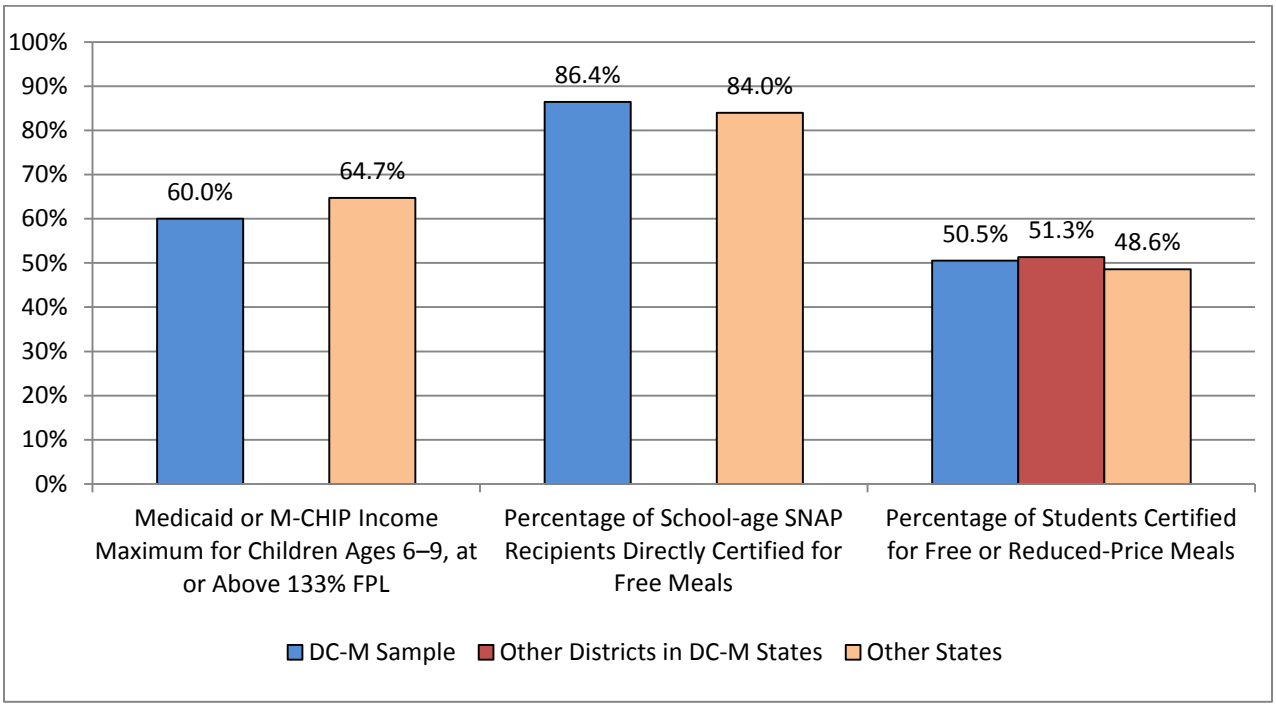
Table II.1. Sample for Access Evaluation Analysis

State	Number of Districts	
	Selected for Access Evaluation[a]	Provided Student Enrollment Data[b]
Florida	3	3
Illinois	342	311
Kentucky	122	122
New York City	16	16
Pennsylvania	3	3

[a] In States where student enrollment data for all districts were available from a single point of contact, all eligible treatment districts (that is, the set of districts the State included in its DC-M application, after exclusions discussed in Appendix A, and assigned to conduct DC-M) are included in the Access Evaluation analysis sample. In the two States where school enrollment data were available only from individual districts (Florida and Pennsylvania), three treatment districts were selected for the Access Evaluation.

[b] The response rate among selected districts was 100 percent in all States except Illinois, which provided data for 91 percent of sampled districts.

Figure II.1. SY 2011-2012 Medicaid/M-CHIP Eligibility, DC-SNAP Rates, and NSLP Certification, for DC-M Sample and Nation



Note: States without M-CHIP are more likely to have upper limits below 133% of FPL for children ages 6-19 (most used the minimum Medicaid limit of 100% of FPL and put children above that level in an S-CHIP program), but some had much higher limits. All S-CHIP programs had maximum income levels above 133% of FPL.

FPL = federal poverty level; S-CHIP = separate children's health insurance program; SNAP = Supplemental Nutrition Assistance Program.

B. Data Collection

The Access Evaluation collected two primary types of records:

1. **Student enrollment and school meal program certification data.** The student enrollment files include one record for each student enrolled in each school district included in the Access Evaluation, with data elements in two categories: (a) identifying information to match students with children in Medicaid records and (b) NSLP certification status (free, reduced-price, or neither) and basis of the certification decision (application, direct certification, etc.). Most States and districts provided data for August 2011 (the first month in which direct certification matching was conducted for SY 2011–2012), October 2011, and January 2012.[22]

2. **Medicaid enrollment data.** The Medicaid enrollment files contain one record for each school-age child who was enrolled in Medicaid in the demonstration States during (for most States) the period from July 2011 to March 2012.[23] The request focused on two main types of data items: (a) identifying information to match children in the Medicaid files with students in the school district enrollment records and (b) Medicaid enrollment status and the income and household size data needed to simulate DC-M. Illinois was not able to provide income information but provided a file restricted to only those children whose family incomes met the same eligibility criterion that the State was using in conducting DC-M.

C. Process for Matching Student Enrollment and Medicaid Records

To simulate DC-M, researchers at Mathematica used computer matching methods similar to those used by States and districts for direct certification with the SNAP, TANF, and FDPIR programs. Because Illinois matches a single statewide student enrollment data file to a single statewide Medicaid file, we conducted matching at the State level in Illinois for our main analyses. In New York City, we matched at the city level—using a citywide Medicaid file and a file containing all students in schools in New York City for which DC-M would be conducted in the first year of the demonstration. In the other States, however, we conducted a separate match of each sample district's student enrollment data to a Medicaid data file restricted to the same geographic area.[24]

We first developed a standard matching algorithm associated with each of three levels of matching stringency: weak, medium, and strong. The matching criteria for each stringency level were selected based on common practices nationwide for direct certification based on SNAP participation (DC-SNAP) (as reported in the recent National Survey of Direct Certification Practices) and the DC-M procedures being used in the Access Evaluation States and districts (see

[22] One district in Pennsylvania provided data for August, November, and February. In three districts, data were not available for three months: two districts in Pennsylvania provided data as of January 2012 only, and one district in Florida provided only March 2012 data.

[23] We requested Medicaid data for this period to ensure that we would have data from both sources for the same three points in time, to the extent possible, even if school enrollment files were not available for the specific months requested. As discussed in Appendix A, the specific age range provided varied by State.

[24] The relevant geographic indicator varied by State. We used county to restrict the Florida and Kentucky files and a district indicator in the Pennsylvania files.

Appendix A for additional details on the selection of matching stringency levels). The criteria for the three stringency levels are the following:

- Strong: requires exact match on Social Security number (SSN) **and** either

  (1) date of birth

  or

  (2) at least two of the following: first name, last name, race, gender

- Medium: requires exact match on either

  (1) SSN

  or

  (2) first name, last name, date of birth, and gender

- Weak: requires exact match on date of birth and gender, and phonetic match on first four letters of first and last names

When feasible, we conducted a separate match of the student enrollment and Medicaid data for each State or district using each of these three algorithms. Our ability to apply and examine the effects of different match stringency levels was limited, however, because not all States and districts in the Access Evaluation had all of the data elements needed to simulate every level of stringency. In particular, SSNs, which are required for identifying strong matches, were not available in the student enrollment data for Illinois, New York City, and two Pennsylvania districts.[25] Thus, no matches are possible in these States/districts under the strong stringency level, and medium stringency matches can only be identified through the use of other data elements. Although our analysis compares the results of matching using three different sets of criteria, it is beyond the scope of this study to assess which set produces the most accurate results.

In addition to varying the match stringency level, we also examined the sensitivity of the results of the DC-M simulations to different matching processes that States and districts could use within DC-M demonstration guidelines. Specifically, we conducted separate matches (1) with different restrictions on the geographic scope of the Medicaid files, (2) using data as of different points in time during SY 2011–2012, and (3) with or without automatic identification of other students in households with matched students. These match variations are discussed in the next chapter and in greater detail in Appendix A.

D. Methods for Analyzing the Effects of DC-M

The effects of DC-M are determined by: (1) using Medicaid information in conjunction with actual school meal certification status to simulate school meal eligibility and (2) comparing that simulated eligibility category with actual certification status. The second step is important because DC-M could (a) certify additional students for free meals (students who must pay the

[25] In some other States and districts, SSNs were often missing, as discussed further in Chapter III.

reduced or full priced under the district's actual certification procedures), (b) identify students already directly certified for free meals by application, or (c) identify students already certified through SNAP or other programs. DC-M has the largest effect on students and their families when certifying additional students for free meals and the next largest impact when identifying students who would otherwise be certified by application; it has no impact when it identifies students who were already directly certified.

For each student successfully matched to a Medicaid record, we examined data in the Medicaid file on gross income (i.e., income "before the application of any expense, block, or other income disregard") and household size to determine whether that student met the threshold for eligibility for free, reduced-price, or full-price school meals—133 percent or less, between 133 and 185 percent, or greater than 185 percent of poverty, respectively.[26] The Illinois Medicaid file did not include income data, but it was restricted to only school-age children determined by the State to be income eligible for free meals. Thus, we assumed that every student that successfully matched to a Medicaid record in Illinois was eligible for free meals.

We then determined the simulated school meal certification status that each student in the school enrollment file would have had if this eligibility information were used in addition to actual SY 2011–2012 certification procedures. Students who are not matched to cases in the Medicaid enrollment files, or who are matched to cases missing information needed to determine income eligibility, will be unaffected by DC-M.[27] In addition, the demonstration could not reduce a student's certification status because other methods of certification continue under DC-M. Even if Medicaid data suggested that a student's household income was above the income eligibility threshold, that information would not be used to reverse a certification decision based on another source.[28]

To estimate the impacts of DC-M, we compared these simulated certification outcomes under DC-M to actual certification status without DC-M. Our core results focus on the DC-M simulation using the October 2011 data and the stringency level and other procedures that most closely align with those used in each State (in Illinois); city (in New York City); or district (in

[26] Although DC-M has been authorized for determining eligibility for free meals only, the Access Evaluation also examines the potential for certifying students for reduced-price meals.

[27] We explored reasons why some eligible children receiving Medicaid failed to match to a student in the enrollment file, using the results of the match from our core analyses. We compared the characteristics and prevalence of missing data for matched and unmatched school-age children (defined as between 4 and 19 years old) in the Medicaid files. As in the core analyses, we restricted the Medicaid files to the same geographic areas as the student enrollment files in Florida, Kentucky, and Pennsylvania, but we were not able to geographically align the files in Illinois and New York City. For this reason, match rates in Illinois and New York City are not meaningful, except to compare relative match rates of subgroups within the State.

[28] Medicaid income data might suggest eligibility for a lower level of benefits than a student's actual NSLP certification status for several reasons, including differences in the timing of eligibility determination (for example, a student could have been correctly approved based on an application at the beginning of the year but the Medicaid data reflects a subsequent change in circumstances, or an approved application could reflect more recent circumstances than the data in the Medicaid file), differences between the composition of the household as defined in the NSLP application and the family as defined in the Medicaid case, and errors in a data source or in the matching process. Examining these reasons is beyond the scope of this study.

Florida, Kentucky, and Pennsylvania). However, we also conducted matches under variations on these procedures, as noted earlier, and examined the differences in the results. In addition, we examined the sensitivity of the core results to alternative policy assumptions by exploring whether and by how much the outcomes of DC-M would change under three types of alternative scenarios:

1. **Alternative rules for DC-M.** For all States but Illinois (which did not provide income data), we simulated the effects of three expansive changes in DC-M eligibility rules: (1) allowing direct certification for reduced-price meals for Medicaid enrollees with gross family incomes above 133 but no greater than 185 percent of poverty, (2) using net income (income after disregards) rather than gross income to assess eligibility, and (3) allowing all Medicaid enrollees (including students with incomes above 133 percent of poverty) categorical eligibility for free meals. Both gross and net income and household size were provided in the Medicaid data received in each of the four States included in these simulations.[29]

2. **DC-M in the context of changes in FNS performance standards for DC-SNAP.** We examined the sensitivity of DC-M results to different levels of DC-SNAP rates, in response to new FNS performance standards that call for the percentage of SNAP children directly certified for school meals in each State to increase gradually to 80 percent in SY 2011–2012, 90 percent the next year, and 95 percent thereafter. We simulated the effects of meeting each of these performance standards as well as the effects of 100 percent DC-SNAP certification and examined the change in additional certifications due to DC-M as DC-SNAP certifications increase. Key assumptions of this analysis included (1) that States already meeting each standard would maintain their current DC-SNAP rate, (2) that States below the standard would certify more income-eligible children to the point of meeting the standard, (3) that any additional students certified through DC-SNAP would have been certified by application otherwise (so meeting a higher performance target would not change the total number certified for free meals), and (4) that the percentage of students eligible for both DC-SNAP and DC-M would stay the same.

3. **Changes in Medicaid eligibility rules for school-age children under the Affordable Care Act.** The ACA Medicaid expansion includes increasing the minimum upper limit for Medicaid eligibility from 100 to 133 percent of poverty for school-age children. Twenty States, including two in the demonstration—Florida and Pennsylvania—have covered school-age children in this income range through an S-CHIP (Prater and Alker 2013). S-CHIP enrollees are not eligible for DC-M under the demonstration rules, but the ACA Medicaid expansion moves any such children to the Medicaid program and thus makes them eligible for DC-M. Under the assumption that all States implement the Medicaid expansions, the percentage of students certified via DC-M would increase in States with only S-CHIP programs covering this age group. For each of the Florida and Pennsylvania districts in our sample, we

[29] It was necessary to exclude Illinois from these simulations because Illinois did not provide income information and did not include higher-income Medicaid enrollees in the data. The estimates in this analysis are thus less precise and less representative than if Illinois could have been included.

simulated increases in DC-M under ACA by using the American Community Survey to estimate the percentage of school-age children with household incomes between 100 and 133 percent of poverty with public health coverage. These estimates were adjusted for the survey undercount and the percentage of these children who would already be directly certified via SNAP.

E. Pooled Estimates and National Extrapolations

To summarize the results obtained across the Access Evaluation States and districts, the report presents "pooled estimates" and "national extrapolations." The pooled estimates of certification counts (e.g., the number of students directly certified under simulated DC-M) are obtained by simply adding across all the districts in the Access Evaluation sample. Then a corresponding percentage (e.g., the percentage of students directly certified under DC-M) is calculated by dividing the certification count by the total enrollment across all the districts. Pooled estimates pertain only to the particular collection of districts included in the Access Evaluation; they are not intended to have any broader generalizability. In particular, they do not estimate the likely effects of DC-M if it were implemented throughout the demonstration States or the entire country.

To satisfy a requirement of the evaluation and provide a very crude sense of the potential effects of DC-M were it adopted nationwide, the report also presents national extrapolations. We derive the national extrapolations by weighting the Access Evaluation districts to represent all districts in the country, estimating the weights using methods that are described in detail in Appendix A. Then when summing across districts to obtain extrapolated certification counts for the nation, we weight up each district's certification count by the calculated weight for that district. The very severe limitations of the national extrapolations are discussed later in this chapter and in Appendix A.

F. Measuring the Precision of Estimates

In addition to the certification estimates with and without DC-M, tables present 95 percent confidence interval (CI) "half-widths." These indicate the margin of error in the certification estimates due to having samples of districts—rather than all districts—in each State.[30] If, for example, an estimate of 30 percent for the direct certification rate has a margin of error of plus or minus 5 percentage points, it is likely that estimates of the direct certification rate from different samples would fall in the range from 25 to 35 percent. The methods used to derive the confidence interval half-widths and important limitations of those methods are discussed in Appendix A.[31]

[30] Because we have data for all districts in Kentucky that do not have any schools operating under the CEP or a substantial fraction operating under Provision 2 or 3, the confidence interval half-widths for estimates for Kentucky are zero. The confidence interval half-widths for certification estimates for the other States are greater than zero because we have only samples of districts in those States.

[31] One important limitation is that the methods are valid only when applied to random samples. The samples for Florida and Pennsylvania, however, are not random, although they are treated as such for the derivation of the confidence interval half-widths. Likewise, the States are not a random sample.

G. Limitations of the Sample and the Analysis Methods

Several limitations of the DC-M demonstration sample and of the Access Evaluation subsample and methods in particular should be noted. Appendix A provides a more detailed discussion of these and other limitations.

Demonstration sample. The DC-M evaluation is based on a nonrepresentative sample of States and districts. The States that applied to participate are not a random probability sample and differ systematically from other States in the nation. Among other characteristics, their interest in participating suggests State-level data systems and interagency relationships that are conducive to a greater willingness and, likely, a greater ability than in other States to implement DC-M. The inclusion of such a small number of States also limits our ability to examine policy changes that affect only a subset of States, as discussed in Chapter III and Appendix A.

Within these States, the selection of districts was subject to several constraints. Because of a Congressionally imposed limit on the number of students certified for free and reduced-priced meals in DC-M districts, some of the largest districts—with substantial fractions of the State student populations—had to be excluded from the demonstration and evaluation.[32] In addition, other districts had to be excluded because of their role in another evaluation being conducted by FNS, and New York City only included in the demonstration sample schools with electronic point-of-sale systems. Moreover, in two States (Florida and Pennsylvania), very small nonrandom samples of districts had to be selected for the Access Evaluation to maintain compliance with statutory requirements pertaining to Federal data collection activities.

All of these limitations on the selection of the samples within each demonstration State severely limit the ability to define a meaningful universe of districts to which the evaluation districts and findings might generalize.[33] The estimated impacts presented in this report for the States should not be interpreted as indicative of the likely effects of statewide adoption of DC-M. Furthermore, the estimates for the sample of districts pooled across the demonstration States pertain to that specific sample only and do not generalize more broadly to the combined set consisting of those States or to the nation as a whole. Finally, although the national extrapolations attempt to estimate the potential effects of DC-M if its implementation were expanded nationwide, the Access Evaluation includes only five States—three with very small samples.[34] Thus, the national extrapolations are highly imprecise; that is, they have very large margins of error, even when the States and districts are assumed to be random samples, which is an invalid assumption that leads to understatement of the error in the estimates. Furthermore, given the limitations on how the Access Evaluation sample could be selected, there is no valid

[32] The HHFKA specified that districts conducting DC-M in SY 2012–2013 in States where DC-M is conducted only in selected districts collectively must include no more than 2.5 percent of all students certified for free and reduced-price meals in the nation, or approximately 688,000 certified students.

[33] In Kentucky, the results could be interpreted as generalizable to the set of districts that have no schools adopting the CEP and no more than 20 percent of their schools operating under Provision 2 or 3.

[34] The samples in Florida and Pennsylvania include only three districts each, and the New York City sample includes only one city district with a nonrepresentative sample of schools.

basis grounded in statistical sampling theory for generalizing beyond those districts to a broader collection of districts, such as all districts in the nation.

Access Evaluation simulations. In addition to the limitations of the demonstration sample as a whole, additional limitations pertain to the specific analyses conducted for the Access Evaluation. Although simulating DC-M allows us to explore a variety of matching methods and alternative policy scenarios, the simulated outcomes may be different from the results obtained when States and districts themselves conduct DC-M.

- Although some aspects of the simulations were designed to conform to the processes actually used in the sample States and districts, researchers could not replicate their matching processes exactly. For example, as discussed in greater detail in Appendix A, it was not feasible to replicate manual matching procedures that districts may use to resolve partial matches or situations in which a student matches to more than one case in the Medicaid files. In addition, because data collection had to be limited to State agency staff in Illinois and Kentucky, no district-specific variations in matching procedures in those States could be reflected in the analyses.
- There are also limitations related to the data available for the Access Evaluation. For example, student enrollment files were not always available for the specific points in time at which States and districts would have conducted their direct certification matches, and not all States and districts in the sample had all of the data elements needed to simulate every level of stringency. Most notably, Illinois did not provide data on income in its Medicaid files, so the simulations are based on the assumption that the State appropriately restricted the file provided. Appendix A provides additional details on data availability and the related limitations.
- The Access Evaluation examines potential impacts on certification status only. Changes in certification might result in different participation patterns, and DC-M might also affect costs at the local, State, and national level. However, exploration of these issues is beyond the scope of this component of the study.
- The analyses regarding the potential impact of the ACA on DC-M rely on strong assumptions because implementation of the ACA is still in its early stages. Thus, the results of these analyses should be considered highly speculative.

Later reports of findings from the DC-M study will address some of the limitations of the Access Evaluation. They will expand the set of outcomes examined to include participation in school meals (i.e., the number of meals served to students, by certification status); Federal reimbursement costs; and administrative costs incurred by States and districts. In addition, the later reports will reflect the actual outcomes of DC-M procedures as implemented by the demonstration States and districts.

III. DC-M SIMULATION RESULTS

FNS authorized five States to begin conducting DC-M in SY 2012–2013. To examine the potential impacts of DC-M before results from the demonstration itself were available, the evaluation conducted simulations of DC-M matching procedures using student enrollment and Medicaid data for SY 2011–2012, the year prior to the implementation of the demonstration. Simulating DC-M involved matching the data from these two sources using individual identifiers such as name and birthdate, and then for each match assessing the school meal eligibility category suggested by the income information in the Medicaid file. The result of this process for each student was compared with the student's actual certification status to determine the potential impact of DC-M.

This chapter presents the findings of the DC-M simulations in the Access Evaluation States and districts. It begins with a discussion of the simulated impact on certification outcomes of DC-M as authorized under the demonstration. Next, it examines how the results differ depending on procedural variations districts can choose within the guidelines established by FNS for the demonstration. It then explores how the simulated effects of DC-M might change under alternative scenarios, such as changes in FNS policy and expected changes to Medicaid eligibility under the ACA. Finally, it examines reasons why some children receiving Medicaid do not become directly certified for free meals under DC-M.

A. Simulated Impact of DC-M: Core Analyses

For the Access Evaluation districts pooled together, the simulations indicate that DC-M could have increased the percentage of students who were directly certified to receive free meals from 25.8 percent to 37.5 percent in October 2011, an increase of 11.6 percentage points (based on unrounded figures) (Table III.1).[35] The potential change in the total percentage of students certified for free meals is smaller (5.5 percentage points), however, because some of the students who could be directly certified under DC-M were certified for free meals by application in the absence of DC-M. This 5.5 percent of students who could be made eligible for free meals by DC-M includes 1.1 percent who were certified to receive reduced-price meals based on the districts' actual certification procedures and 4.4 percent who were in the paid category without DC-M (not shown).[36]

1. Variation in Simulated Impacts Across Access Evaluation Districts

The simulated impacts of DC-M varied across the Access Evaluation districts. The increase in the percentage of students directly certified for free meals was 15.1 percentage points in the

[35] By decreasing the number of students certified by application, DC-M would also decrease the number of verifications required. As shown in Table B.13 the simulations result in 0.1 percentage points fewer verifications.

[36] Tables B.1a through B.3 in Appendix B present a more detailed breakdown of certification status and method under actual procedures and DC-M simulation for the pooled sample in October 2011.

Table III.1. Summary of Simulated Impacts of DC-M

Access Evaluation Districts in	Percentage of Students (CI)	
	Directly Certified for Free Meals	Total Certified for Free Meals[a]
Florida (3 districts)		
Actual certification rate	36.9	56.8
	(+/-8.1)	(+/-14.5)
Simulated certification rate under DC-M	43.2	58.2
	(+/-5.8)	(+/-13.8)
Difference	6.3	1.4
	(+/-3.8)	(+/-1.3)
Illinois (311 districts)		
Actual certification rate	15.8	30.5
	(+/-1.9)	(+/-2.7)
Simulated certification rate under DC-M	34.1	40.7
	(+/-2.8)	(+/-3.0)
Difference	18.3	10.2
	(+/-1.6)	(+/-0.7)
Kentucky (122 districts)		
Actual certification rate	28.6	46.5
	(0)	(0)
Simulated certification rate under DC-M	34.8	48.2
	(0)	(0)
Difference	6.2	1.6
	(0)	(0)
New York City (16 districts)		
Actual certification rate	35.5	54.9
	(+/-6.5)	(+/-6.6)
Simulated certification rate under DC-M	44.3	59.0
	(+/-6.2)	(+/-6.5)
Difference	8.9	4.1
	(+/-1.0)	(+/-0.5)
Pennsylvania (3 districts)		
Actual certification rate	48.0	72.4
	(+/-29.6)	(+/-35.2)
Simulated certification rate under DC-M	60.6	77.6
	(+/-26.4)	(+/-32.4)
Difference	12.6	5.3
	(+/-5.3)	(+/-3.1)
Pooled Sample Excluding Illinois (144 districts)[b]		
Actual certification rate	32.7	51.7
	(+/-2.9)	(+/-3.3)
Simulated certification rate under DC-M	39.8	53.9
	(+/-2.8)	(+/-3.3)
Difference	7.1	2.2
	(+/-0.7)	(+/-0.2)
Pooled Sample (455 districts)		
Actual certification rate	25.8	43.1
	(+/-2.7)	(+/-3.0)
Simulated certification rate under DC-M	37.5	48.6
	(+/-2.4)	(+/-2.8)
Difference	11.6	5.5
	(+/-1.2)	(+/-0.6)

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

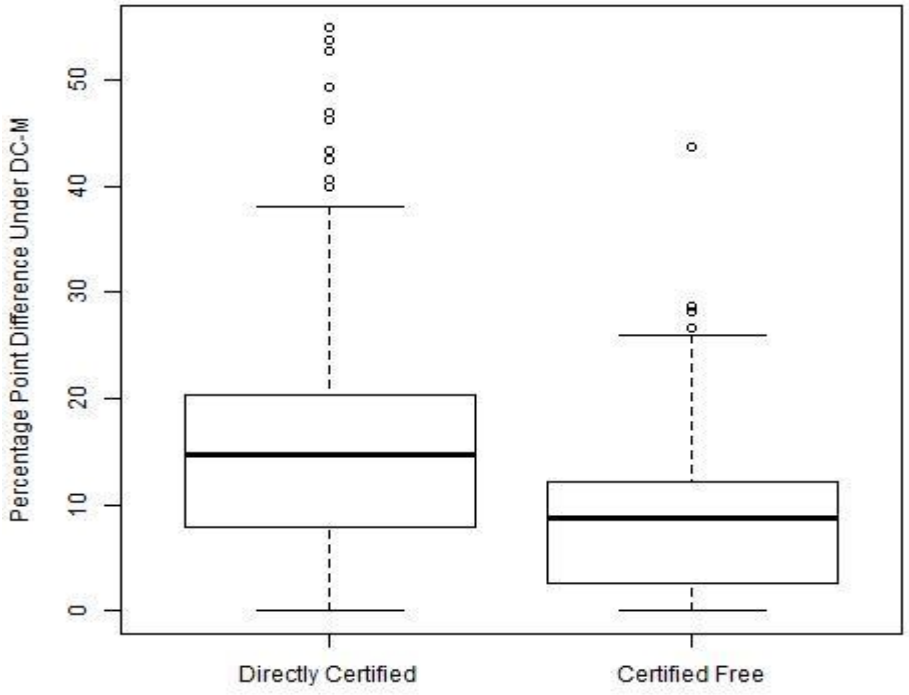
[a]Including by application, direct certification, or other categorical eligibility.

[b]Tables B.1a through B.3 in Appendix B present a more detailed breakdown of certification status and method under actual procedures and DC-M simulation for the pooled sample in October 2011.

CI = 95 percent confidence interval half-width.

median district (Figure III.1). However, the effect of DC-M on direct certifications was less than 8.7 percentage points in a quarter of the districts and greater than 20.3 percentage points in a quarter of the districts. For all free certifications, the effect of DC-M was an increase of 8.7 percentage points in the median district, whereas a quarter of the districts had simulated increases of less than 2.8 percentage points and another quarter had impacts greater than 12.1 percentage points.

Figure III.1. Variation in Simulated Impacts Across Sample Districts



Note: The bottom of each box in Figure III.1 is the 1st quartile (the 25th percentile), the heavy line is the median (the 50th percentile), and the top of the box is the 3rd quartile (the 75th percentile). The "whisker" below each box extends to the minimum, whereas the whisker above the box extends out 1.5 times the interquartile range (the difference between the 3rd and 1st quartiles). Open circles above the whisker depict districts with even larger impacts.

Figures III.2 and III.3 depict the variation in DC-M results in a different way. For each district, Figure III.2 shows the percentage of students directly certified under the standard (non-DC-M) procedures actually used by the district in SY 2011–2012 (on the horizontal axis) and the percentage under simulated DC-M (on the vertical axis). The distance from the diagonal line (of equality, meaning no change) represents the impact of DC-M, and a different color dot is used for districts in each State. With the exception of one district that lies on the diagonal, the DC-M simulation increases the percentage of directly certified students in all 455 districts in the sample, as expected. Figure III.3 presents a similar graph showing the percentages of students certified for free meals by any method (application, direct certification, etc.). The dots are closer to the diagonal line in this figure, showing the smaller impacts on free certification rates overall than on direct certification rates. The simulated impacts of DC-M are larger in Illinois than in the other demonstration States—compared with the dots for other States, the (green) dots for Illinois are generally farther from the diagonal lines in Figures III.2 and III.3 than are the dots for other States. As shown in Table III.1, the percentage of students certified for free meals under

simulated DC-M was 10.2 points higher than under actual procedures in Illinois, compared with a 2.2 percentage points impact in the pooled sample of other demonstration States. Similarly, the percentage of students directly certified under DC-M was 18.3 points higher than under actual procedures in Illinois, compared with an effect of 7.2 percentage points in the other States. (Tables B.4a and B.4b provide more detailed results on distributions.)

Figure III.2. Percentage of Students Directly Certified in Access Evaluation Sample Districts

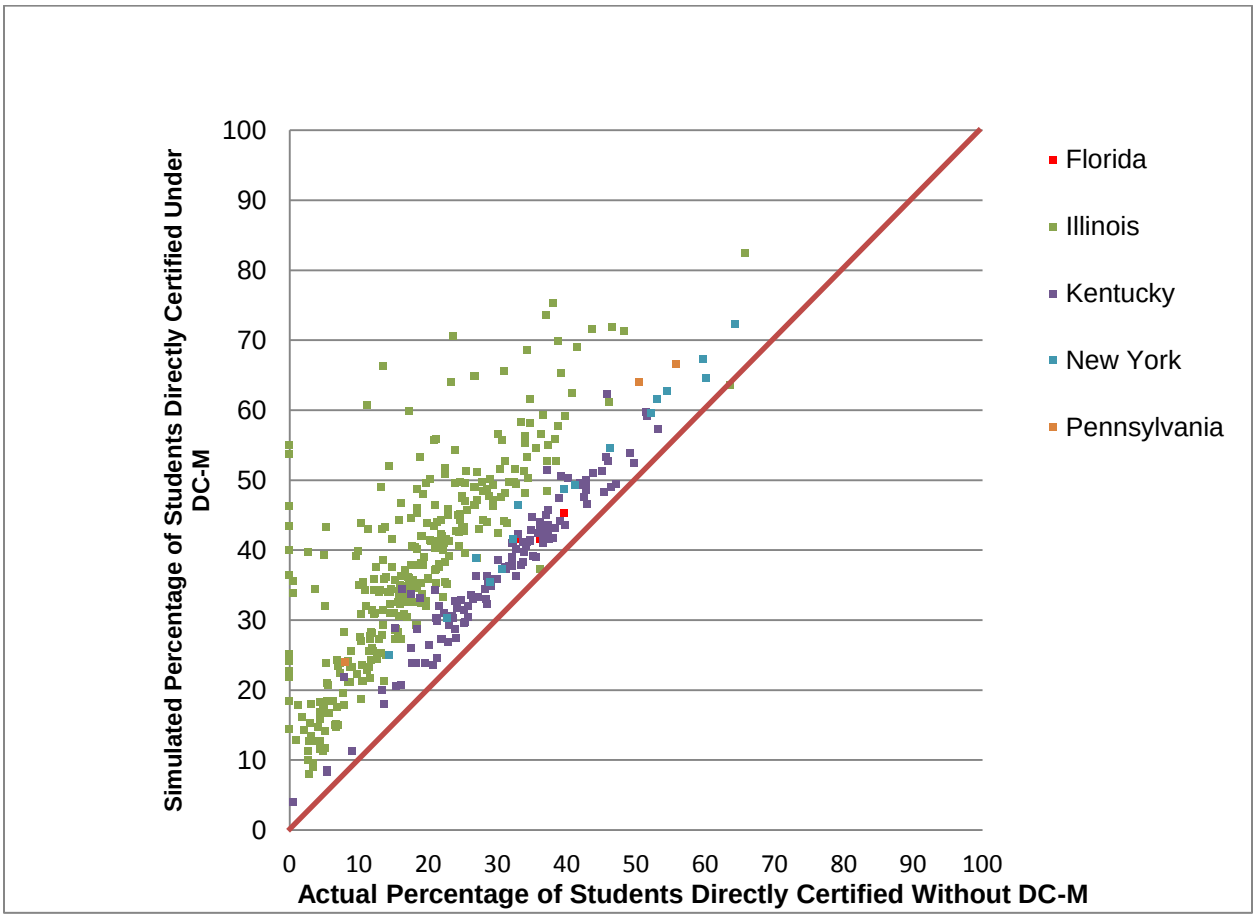
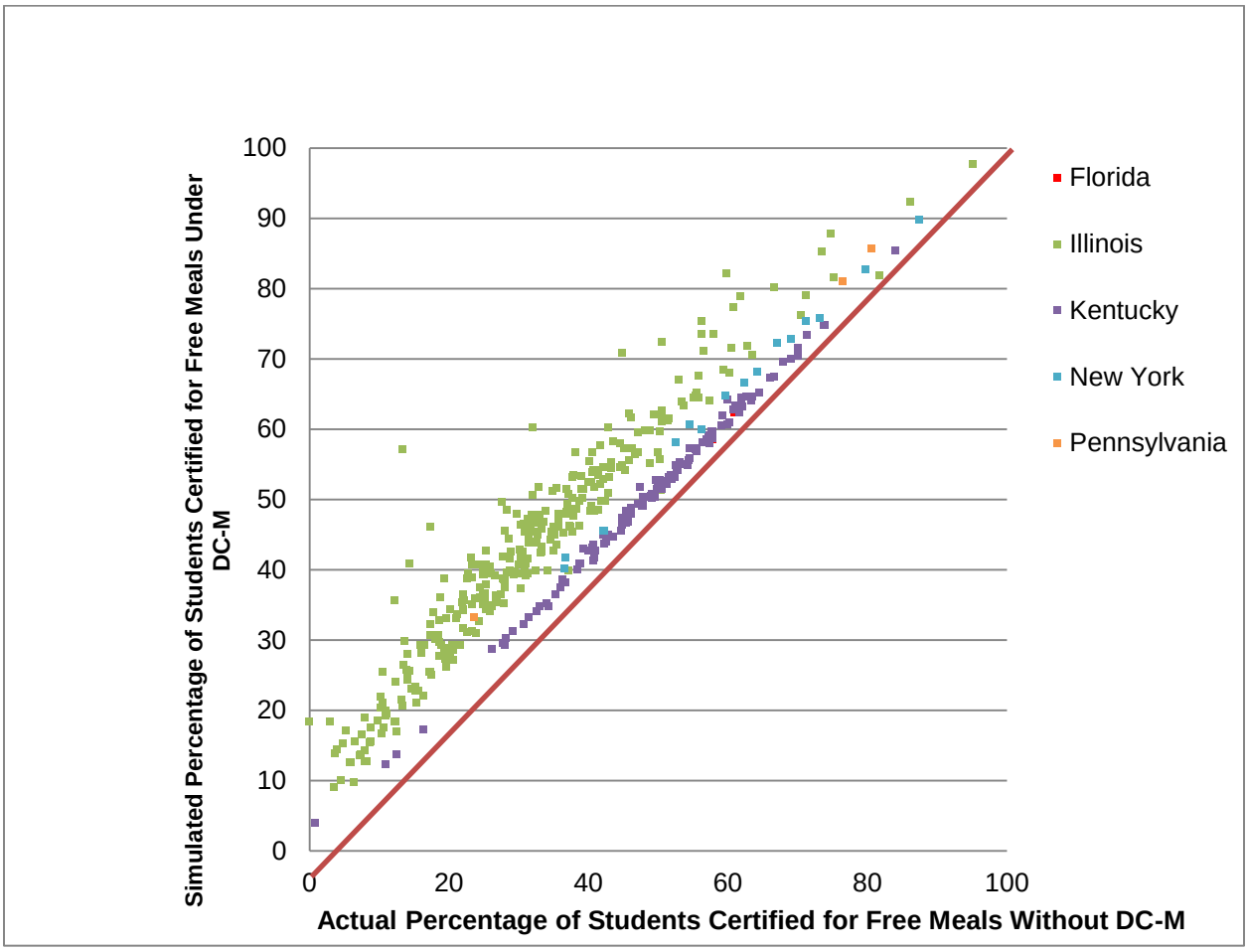


Figure III.3. Percentage of Students Certified for Free Meals in Access Evaluation Sample Districts



Although the larger simulated effects of DC-M in Illinois might arise from differences between the characteristics of districts from different states, further analyses do not support that conjecture. Simple regression models suggest that the strongest predictor of the impact of DC-M in a district is whether the district is located in Illinois. DC-M's impact on the percentage of students directly certified is 10 to 11 points higher in the average district in Illinois than in the average district from one of the other States. For the percentage of students certified for free meals, the impact of DC-M for the average district in Illinois is about 7 points higher than the impact for the average district elsewhere. These higher average impacts for districts in Illinois are not associated with the lower average direct and free meals certification rates or the lower average enrollments of those districts according to the estimated regression models.[37]

[37] Within Illinois, there are statistically significant—but small—differences by enrollment in the impact on direct and free certifications. Likewise, there are also relatively small but statistically significant differences within Illinois in the impact on direct certifications for districts at different direct certification rates without DC-M. However, differences in enrollment or certification rates without DC-M are not significantly predictive of the differences between the impacts of DC-M in Illinois and other States.

The differences in impacts across States could, instead, be related to a limitation of the Medicaid data received from Illinois for the simulations. Illinois did not include income information in the Medicaid files provided for the evaluation as other States did. Instead, Illinois restricted the Medicaid data provided to include only those children the State determined to be income eligible for free meals. Thus, researchers could not use the same procedures to determine DC-M eligibility that we implemented to simulate DC-M for other States. The Medicaid data provided for Illinois do not enable us to independently verify students' eligibility for free meals based on Medicaid income.

Community Eligibility Provision. By increasing the number of directly certified students, DC-M could increase the number of districts eligible to participate in the new CEP established by the HHFKA. Schools, groups of schools, or entire districts are eligible for the CEP if at least 40 percent of their students in the previous year were identified as eligible for free meals through means other than submitting an application—such as through direct certification, including DC-M. Per-meal reimbursement rates under the CEP are based on the percentage of identified students, with the reimbursement rate rising with the percentage identified up to 62.5 percent of students.[38]

Table III.2 shows the proportion of districts in the Access Evaluation sample that had directly certified less than 40 percent of students, 40 to 62.5 percent of students, and more than 62.5 percent of students in SY 2011–2012 using SNAP, TANF, or FDPIR. The table also shows the proportion of districts in these three groups under the DC-M simulation. Comparisons of the numbers in the table indicate that more than a third of districts in the Access Evaluation sample (36.4 percent) would have become eligible for the CEP district wide under the DC-M simulation. However, because the CEP is often adopted by subsets of schools within a district, parts of these districts might be eligible without DC-M. Under DC-M, 4.8 percent of school districts would have reached the level at which all meals were reimbursed at the highest rate, compared to less than one percent without DC-M.

Table III.2. Distribution of Access Evaluation Sample Districts, by Key Thresholds Related to the CEP, Actual October 2011 Direct Certification Rates and Simulated Rates Under DC-M

	Pooled Sample (455 districts)	
Percentage of Students Directly Certified	Actual	Simulated Under DC-M
More than 62.5 to 100	0.7	4.8
More than 40 to 62.5	7.9	40.2
0 to 40	91.4	54.9

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district. See Table B.5 for additional details.

[38] The reimbursement rate is computed by multiplying the percentage identified by 1.6, reimbursing the resulting percentage of meals at the free rate and reimbursing the remaining meals at the paid rate. When 62.5 percent of students are identified, all meals are reimbursed at the free rate (because 62.5 * 1.6 = 100 percent).

B. Comparison of Alternative Matching Procedures

The guidelines established by FNS for the demonstration of DC-M allow participating States and districts considerable flexibility in implementing DC-M. For example, States and districts choose which data items and matching procedures to use, whether to match student enrollment data to geographically restricted or statewide Medicaid data, the frequency with which direct certification matching is conducted, and the method for extending benefits to other members of the household.

To obtain the results discussed in the previous section, researchers at Mathematica simulated DC-M procedures that are similar to those actually being used by each demonstration State or district.[39] This section describes and compares results from simulations of DC-M under alternative matching procedures.

Matching stringency. The potential impacts of DC-M might depend on the criteria used in matching Medicaid enrollment files to student enrollment files. Direct certification matching algorithms strike a balance between the risks of false positives and false negatives. An algorithm that includes overly stringent requirements to identify matches will fail to directly certify students who are entitled to free school meals, whereas an algorithm with overly lax match requirements will directly certify students who might not actually be eligible for free meals.

The analysis of the effects of matching stringency simulates DC-M using three different sets of matching criteria:[40]

- Strong: requires exact match on SSN **and** either

  (1) date of birth

  or

  (2) at least two of the following: first name, last name, race, and gender

- Medium: requires exact match on either

  (1) SSN

  or

  (2) first name, last name, date of birth, and gender

- Weak: requires exact match on date of birth and gender, and phonetic match on first four letters of first and last names

As discussed in the previous chapter (and in greater detail in Appendix A), these sets of criteria were selected based on common practices nationwide for DC-SNAP, as reported in the

[39] The simulations do not replicate State and district procedures exactly, however, as discussed in Appendix A.

[40] However, it is beyond the scope of this study to assess which set produces the most accurate results.

recent National Survey of Direct Certification Practices (Moore et al. forthcoming), and the DC-M procedures being used in the Access Evaluation States and districts. The analysis of the effects of different matching stringency levels was limited, however, because not all States and districts in the Access Evaluation had all of the data elements needed to simulate every level of stringency. In particular, SSNs, which are required for the strong match, were not available in the student enrollment data for Illinois, New York City, and two Pennsylvania districts.[41] Thus, no matches are possible in these States/districts under the strong criteria, and medium matches can only be identified through the use of other data elements.

Table III.3 shows how the potential effects of DC-M vary by matching stringency level in those States and districts where the available data made it possible to simulate matches at all three stringency levels.[42] Using the strongest of the three levels, 36.0 percent of students would be directly certified under DC-M, 4.3 percentage points higher than the actual direct certification rate without DC-M.[43] In contrast, 38.3 and 38.9 percent of students could be directly certified under DC-M using the medium and weak stringency levels, for impacts of 6.6 and 7.2 percentage points, respectively. Simulated impacts on the percentage of students certified for free meals follow a similar pattern, with roughly equal impacts based on weak and medium stringencies (1.8 and 1.7 percentage points) and impacts based on the strongest level somewhat lower (1.3 percentage point).

Geographic scope of the Medicaid files used in matching. In some States, direct certification matching is conducted by matching a single file containing all students enrolled in schools in the State with a single statewide file containing all school-age children receiving Medicaid, SNAP, or other program benefits. In other States, district-level student enrollment files are matched to geographically restricted program data. The geographic scope of the files used could affect the number of matches for several reasons. For example, some students may live outside the geographic area officially covered by their school district, and errors in geographic indicators could result in individuals being included in the incorrect location. Restricting the program files could miss an opportunity to directly certify these students. However, using unrestricted files may increase the risk of false positives or multiple matches. For the core analyses presented at the beginning of this chapter, researchers at Mathematica replicated the geographic level of match conducted in each study State. For this next analysis, however, we compare the results of a geographically-restricted match to those of a statewide match in the States and districts where the data were available for both. As shown in Table III.4, expanding the Medicaid files used for the DC-M match to include children outside the district's geographic boundaries within a State increases the percentage of students who could be directly certified by less than one percentage point. (See Table B.9 for additional detail.)

[41] In some other States and districts, SSNs were often missing, as discussed later in this chapter and in Appendix A.

[42] Detailed results by matching stringency level are provided in Tables B.6, B.7a-B.7e, B.8a-B.8c.

[43] This impact would be lower if the States and districts without SSNs were included in the analysis.

Table III.3. Summary of Simulated Impacts of DC-M by Alternative Matching Stringency Levels

Matching Stringency Level	Percentage of Students (CI)	
	Directly Certified for Free Meals	Total Certified for Free Meals[a]
Actual certification rate	31.7 (+/-2.9)	50.3 (+/-3.3)
Weak matching stringency level		
Simulated certification rate under DC-M	38.9 (+/-2.9)	52.1 (+/-3.4)
Difference from actual	7.2 (+/-0.9)	1.8 (+/-0.2)
Medium matching stringency level		
Simulated certification rate under DC-M	38.3 (+/-2.7)	52.1 (+/-3.3)
Difference from actual	6.6 (+/-0.7)	1.7 (+/-0.2)
Strong matching stringency level		
Simulated certification rate under DC-M	36.0 (+/-2.9)	51.6 (+/-3.3)
Difference from actual	4.3 (+/-0.8)	1.3 (+/-0.2)

Note: The sample for this table includes only those States and districts that provided the data necessary for matches at all three matching stringency levels: Florida, Kentucky, and one district in Pennsylvania (n = 126 districts). The data files for Illinois, New York City, and two districts in Pennsylvania did not include SSNs, which were necessary for the strong stringency match, and thus are excluded from this analysis.

[a]Including by application, direct certification, or other categorical eligibility.

CI = 95 percent confidence interval half-width.

Table III.4. Summary of Simulated Outcomes under DC-M, with Different Geographic Restrictions on Medicaid Files

Simulated certification rate under DC-M	Percentage of Students (CI)	
	Directly Certified for Free Meals	Total Certified for Free Meals[a]
With Medicaid files restricted to geographic area covered by district	38.6 (+/-3.0)	52.6 (+/-3.7)
Using statewide Medicaid files	39.5 (+/-3.0)	52.9 (+/-3.7)

Note: The sample for this table includes only those states where Medicaid files could be restricted geographically to align with the student enrollment files: Florida, Kentucky, and Pennsylvania (n=128 districts). It was not feasible to restrict the Medicaid data files in Illinois and New York City to align with the school districts in the sample, so those states are excluded from this analysis. The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Including by application, direct certification, or other categorical eligibility.

CI = 95 percent confidence interval half-width.

Matching at multiple points in time. FNS guidelines require that DC-SNAP be conducted at least three times during the school year. Districts are allowed to conduct direct certification more frequently, and best practices documented in the annual report to Congress on direct

certification in the NSLP suggest that doing so increases the percentage of students directly certified for free school meals (Moore et al. 2013). Repeating the matching process multiple times, with updated data, can ensure that students who transfer to a different school district or enroll in a program used for direct certification after the beginning of the school year have an opportunity to be directly certified for free meals. Although the HHFKA did not specify the frequency with which DC-M is to be conducted, most States in the demonstration conduct DC-M on the same timetable as DC-SNAP once they begin. For the DC-M study, researchers collected data for three points in time—the first match of the school year, October, and January—where available, to facilitate an assessment of how many additional students can be directly certified in a second or third match.

Table III.5 shows key certification outcomes based on DC-M simulations at three points in time during the 2012-2013 school year.[44] Each later DC-M simulation increased the percentage of students directly certified, but by only about one percentage point each time. The simulated total percentage of students certified for free meals also increases by only a small amount after subsequent DC-M matches. (Tables B.10 and B.11 provide additional detail.)

Table III.5. Summary of Simulated Outcomes under DC-M, by Timing of Match

	Percentage of Students (CI)	
Simulated certification rate under DC-M	Directly Certified for Free Meals	Total Certified for Free Meals[a]
July/August 2011	35.9 (+/-2.5)	46.0 (+/-2.9)
October 2011	37.0 (+/-2.4)	47.9 (+/-2.8)
January 2012	37.9 (+/-2.4)	49.2 (+/-2.9)

Notes: The sample for this table includes only those states and districts that provided the data for three points in time during SY 2011–2012: Illinois, Kentucky, New York City, two districts in Florida, and one district in Pennsylvania (n=252 districts). Three districts (one in Florida and two in Pennsylvania) did not provide data for three different points in time and thus are excluded from this analysis. The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Including by application, direct certification, or other categorical eligibility.

CI = 95 percent confidence interval half-width.

Extending benefits to other students in the household under DC-M. In August 2009, FNS implemented a policy to extend categorical eligibility for free meals to all students in households receiving assistance from SNAP, TANF, or FDPIR. Although Medicaid does not confer categorical eligibility, the DC-M demonstration guidelines similarly extend free meal benefits to other students in households with children who meet the criteria to be certified through DC-M. Nationwide, the most common strategy for extending eligibility to certified students' household members is revising the letters that notify families of their children's

[44] The sample for this analysis is restricted to States and districts that were able to provide data for three points in time. Because individual students may transfer in and out of the districts during the course of the school year, some differences in certification percentages could be due to changes in the student population over time.

certification to include instructions on informing the district about additional students in the household (Moore et al. forthcoming). However, many States and districts use an automated process to identify and certify these students. Such processes use data such as address, parent name, or—if available—a household ID number in the school enrollment records to automatically identify students who were not matched to the program records used for direct certification but share this household-level information with a student who was. Although researchers cannot simulate the letter method, we did simulate in our main analyses the automated method for the States and districts that told us they use that method (the three districts in Pennsylvania and one of the districts in Florida).[45] As an additional analysis, we examine the effects of simulating the automated method of benefit extension in not only those four districts, but also all of the other Access Evaluation districts.

Table III.6 presents the results of a simulation that automatically certifies students with the same address in the student enrollment files as another student who was certified through DC-M. Applying this process to all Access Evaluation States/districts increases the percentage of students directly certified under DC-M by 1.6 percentage points (from 37.4 to 39.0 percent) and increases the percentage of students certified for free meals by 0.8 percentage points. (See Tables B.12a and B.12b for additional detail.)

Table III.6. Summary of Simulated Outcomes under DC-M, Including Other Children in the Household

Simulated certification rate under DC-M	Percentage of Students (CI)	
	Directly Certified for Free Meals	Total Certified for Free Meals[a]
With no match of other children in household	37.4 (+/-2.4)	48.5 (+/-2.8)
With automated match of other children in household based on address only	39.0 (+/-2.6)	49.3 (+/-2.9)

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Including by application, direct certification, or other categorical eligibility.

CI = 95 percent confidence interval half-width.

C. Results Under Alternative Policies

DC-M has the potential to increase certification for and participation in free school meals. At the same time, differences between the income eligibility rules of the Medicaid program and USDA nutrition programs create some concerns about the feasibility and administrative costs of DC-M as well as the best approach to using Medicaid data. In addition, because DC-M is being implemented as a demonstration program at a time when the school meals programs and the Medicaid program are both undergoing extensive changes, it is prudent to consider the sensitivity

[45] Although neither Illinois nor Kentucky conducted an automated match at the State level in SY 2011–2012 to certify other household members, some individual districts in those States may have done so. Additional details on the certification procedures used in the Access Evaluation States and districts are provided in Appendix A.

of the findings to alternative assumptions about the effects of these external changes. Thus, this section considers policy scenarios of three types:

- Changes in DC-M rules for using Medicaid data to conduct direct certification
- The effects of DC-M in the context of upcoming policy changes in other programs
- The effects of expanding DC-M to other States

See Appendix A for more detail on the methods used.

1. Changes in DC-M Rules

The first set of simulations examines alternative DC-M rules. As being tested by FNS in this demonstration, Medicaid enrollment does not confer categorical eligibility for free meals. Rather, eligibility for free school meals under DC-M is based not only on Medicaid receipt but also on gross household income (before the application of any expense, block, or other income disregard) and household size as indicated in the Medicaid program data. Furthermore, DC-M is authorized only for certifications for free meals. The eligibility rules of the Medicaid program are very different from those of other programs used in direct certification. These differences create opportunities for DC-M to reach additional students who are not directly certified through other programs; however, they also make implementation more difficult.

This section considers three alternative approaches to conducting DC-M: (1) using Medicaid data to directly certify students for reduced-price meals if gross household income is above 133 but no greater than 185 percent of the poverty level; (2) using net household income (income after deductions allowed by the Medicaid program) rather than total income to determine eligibility; and (3) using Medicaid enrollment as a form of categorical eligibility so that all students on Medicaid could be certified for free meals, regardless of income. Each of these policy changes would allow more students to become certified for free or reduced-price meals than do the DC-M rules being tested in the demonstration. The last two would also simplify the implementation of DC-M. The simulations of these alternatives use data from the four States that provided income data for all school-age children on Medicaid.[46]

Allowing reduced-price certifications. The demonstration rules for DC-M do not allow Medicaid data to be used for reduced-price direct certifications. However, Medicaid does not confer categorical eligibility for free meals and Medicaid programs in many States have higher income eligibility levels than do other programs used for direct certification. Depending on the rules of State Medicaid and Medicaid-expansion CHIP (M-CHIP) programs, some school-age children enrolled in Medicaid may have household incomes above 133 but no greater than 185

[46] Illinois did not provide income data in its Medicaid files but provided data only for children whose gross household income was at or below 133 percent of poverty. Thus, their data cannot be used for modeling variations of DC-M that would effectively raise the income limit. The other four States provided Medicaid data on both gross and net income for all school-age children statewide (or citywide, in New York City). Because Illinois reported lower certification rates without DC-M than did other States, certification rates in the data excluding Illinois are much higher on average, as discussed above. See Appendix C, Table C.1 for more information on the effects of the demonstration DC-M rules in the four-State sample.

percent of poverty, at which income level they would be eligible for reduced-price school meals. Among the four States that provided Medicaid income data, Kentucky and New York City fall into this category.

As shown in the first column of Table III.7, allowing for reduced-price certifications under DC-M would increase the simulated percentage of students directly certified from 39.8 percent under demonstration rules (DC-M for free meals only) to 41.5 percent (with DC-M for both free and reduced-price). The difference implies that 1.7 percent of students in sample districts would be directly certified for reduced-price meals; some of these students may have been certified for reduced-price meals by application under current policies and others may not have been certified at all. Adding reduced-price certifications under DC-M would increase the total percentage certified for free or reduced-price meals by 0.6 percentage points, from 59.5 percent with DC-M for free meals to 60.1 with DC-M for both free and reduced-price meals (last column in Table III.7).[47] A key reason the changes are so small is because the vast majority of students certified for reduced-price meals (without DC-M) are not on Medicaid (80 percent have "no match" in the Access Evaluation sample; see Appendix C, Table C.2).

Defining DC-M eligibility using Medicaid net income. Using Medicaid net income rather than gross (total) income for DC-M would align determination of income eligibility for direct certification for school meals with the income definition used to determine Medicaid eligibility in each State.[48] Because net income is lower than gross income by the amount of various disregards and deductions (which differ by State), the use of net income for DC-M could increase the number of students directly certified.[49] However, as shown in Table III.8, in districts in the four States providing income data, this alternative policy would increase direct certifications by only 0.4 percentage points over the demonstration DC-M procedures (from 39.8 to 40.2 percent), while increasing the percentage of students certified for free meals by only 0.1 percentage points (from 53.9 to 54.0 percent). (See Tables C.2 and C.3 for additional detail.)

As expected, a large part of the impact of categorical eligibility is driven by Kentucky results. However, a small percentage of additional certifications would also occur in the other states, possibly because their Medicaid cutoff is based on net rather than gross income, so their gross income may exceed 133 percent of poverty, even though their net income does not.

[47] Under demonstration DC-M rules, total reduced-price certifications fall (relative to actual certifications) because of reduced-price-certified students moving into the free category. The number of students paying full price who would be certified as reduced-price if reduced-price DC-M was allowed is too small to entirely offset this movement from reduced-price to free. See Table C.1 for details on these changes.

[48] Net income could have been used if the acceptable Medicaid income definition for DC-M (defined in the HHFKA) did not include the phrase "before the application of any expense, block, or other income disregard."

[49] However, as of the implementation of the ACA in 2014, net income is no longer a concept used in the Medicaid program for children (see discussion of MAGI in Chapter I and later in this chapter).

Table III.7. Summary of Simulated Impacts of Using DC-M for Reduced-Price Certification

Alternative Policy Assumption	Percentage of Students (CI)	
	Directly Certified for Free or Reduced-Price Meals	Total Certified for Free or Reduced-Price Meals[a]
Actual certification rate	32.7	58.7
	(+/-2.9)	(+/-3.3)
DC-M as Authorized (for Free Certifications Only)		
Simulated rate under DC-M	39.8	59.5
	(+/-2.8)	(+/-3.2)
Difference from actual	7.1	0.8
	(+/-0.7)	(+/-0.2)
DC-M Also Allowing for Reduced-Price Certifications		
Simulated rate under DC-M	41.5	60.1
	(+/-2.8)	(+/-3.2)
Difference from actual	8.8	1.4
	(+/-0.7)	(+/-0.2)

Note: Illinois is excluded from these estimates because that State did not provide income information and did not include children in households with incomes above 133 percent of poverty in the Medicaid data provided. The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Including by application, direct certification, or other categorical eligibility.

CI = 95 percent confidence interval half-width.

Allowing categorical eligibility for Medicaid-enrolled students. If Medicaid enrollment conferred categorical eligibility for free meals, direct certification would be administratively similar to DC-SNAP and would be simpler to implement because State or local child nutrition agencies would not need to obtain and interpret Medicaid income data. However, such a policy could permit students with much higher incomes than allowed for certification via household applications to receive free meals because some States have Medicaid-based CHIP programs with eligibility limits as high as 300 percent of the poverty level. Among the five Access Evaluation States, only one currently has an M-CHIP program with upper income eligibility limit above 133 percent of poverty for school-age children; the limit in Kentucky is 150 percent of poverty. All five of the demonstration States have S-CHIP programs that cover higher income children, and their S-CHIP upper eligibility limits range from 200 to 400 percent of poverty. Across all States in the country, upper eligibility limits for S-CHIP programs range from 133 percent to 400 percent of poverty.[50]

As shown in Table III.8, allowing categorical eligibility for free meals to Medicaid participants under DC-M (but not S-CHIP participants) would lead to an 11.3 percentage point increase in the number of students directly certified for free meals, versus a 7.1 percentage point increase under demonstration rules for DC-M—representing a 60 percent increase in the number of DC-M direct certifications. DC-M demonstration rules would increase free certifications by 2.3 percentage points, whereas DC-M based on categorical eligibility would increase them by 4.7

[50] The differences between the Medicaid eligibility rules across states, and between Medicaid eligibility rules and income eligibility for school meal certification by applications might raise concerns about equity both within and between States. Further equity issues would arise if the law allowed S-CHIP as well as Medicaid and M-CHIP to confer categorical eligibility for free meals.

percentage points, a doubling of the effect. The smaller absolute changes in total free certifications than in direct certifications reflects the fact that more than half of the additional direct certifications under this alternative policy would cover children who would otherwise receive free meals by application. See Tables C.4 and C.5 for further details.[51]

Table III.8. Summary of Simulated Impacts of DC-M Under Different Rules for Determining Eligibility

	Percentage of Students (CI)	
Alternative Policy Assumption	Directly Certified for Free Meals	Total Certified for Free Meals[a]
Actual certification rate	32.7 (+/-2.9)	51.7 (+/-3.3)
DC-M as Authorized (Using Gross Income to Determine Eligibility)		
Simulated rate under DC-M	39.8 (+/-2.8)	53.9 (+/-3.3)
Difference from actual	7.1 (+/-0.7)	2.3 (+/-0.2)
DC-M Eligibility Determined Using Medicaid Net Income		
Simulated rate under DC-M	40.2 (+/-2.8)	54.1 (+/-3.3)
Difference from actual	7.5 (+/-0.8)	2.4 (+/-0.3)
Medicaid Enrollment Confers Categorical Eligibility		
Simulated rate under DC-M	44.0 (+/-2.8)	55.8 (+/-3.3)
Difference from actual	11.3 (+/-0.8)	4.7 (+/-0.3)

Note: Illinois is excluded from these estimates because that State did not provide income data and did not include children in households with incomes above 133 percent of poverty in the Medicaid data provided. The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Including by application, direct certification, or other categorical eligibility.

CI = 95 percent confidence interval half-width.

2. Upcoming Policy Changes that Might Affect DC-M

In considering whether to adopt or expand the use of DC-M, policymakers will make decisions in the context of ongoing changes to both the Medicaid program and to the process of direct certification via SNAP. This section reports the results of simulations of DC-M applied in alternative policy contexts: (1) simulations under potential changes in DC-SNAP certification rates to meet the performance standards required in the HHFKA, and (2) simulations under potential changes in Medicaid enrollment due to the implementation of the ACA. These simulations may provide a sense of how the changes in the process of taking effect might affect

[51] These analyses simulate categorical eligibility for Medicaid enrollees identified through direct certification; we cannot simulate categorical eligibility for Medicaid by application.

the impacts of DC-M. However, because implementation of these policies is subject to many uncertainties, these estimates should be considered with caution. These simulations use data from all five States.

Changes to DC-SNAP rates to meet performance standards. The HHFKA set standards for States regarding percentages of school-age SNAP participants who should be directly certified for free meals. The standards increase over time: 80 percent in SY 2011–2012, 90 percent in SY 2012–2013, and 95 percent in SY 2013–2014. The majority of States nationally were meeting the 80 percent standard in SY 2011–2012 (Moore et al. 2012, Figure 4). Those that fail to meet HHFKA standards must submit Direct Certification Improvement Plans to FNS laying out steps that they will take to meet the standards. The Access Evaluation simulations examine the extent to which increases in DC-SNAP would reduce the net increase in direct certifications from DC-M; both DC-SNAP and DC-M are simulated in the exploration of how the effects of DC-M would change if all states met DC-SNAP performance targets ranging from 80 percent of SNAP participants directly certified to 100 percent directly certified (Table III.9). (See Tables C.7a-C7d for additional details.)

Because three of the five Access Evaluation States were already directly certifying more than 90 percent of children on SNAP in SY 2011–2012, the percentage of enrolled students who are directly certified rises by only a few points (from 37.6 percent to 38.3 percent) as the DC-SNAP performance targets rise, and the net increase in this percentage from adding DC-M declines slightly (from 11.4 percentage points to 9.7 percentage points) (see Table III.9).[52]

Changes related to the ACA. The second set of external policy changes that may affect DC-M are changes in Medicaid eligibility and enrollment policies under the ACA, the effects of which may vary substantially by State:

- ***Changes in categorical and income eligibility for Medicaid.*** If a State covers children with family incomes between 100 and 133 percent of poverty in an S-CHIP plan, such children will be transferred to Medicaid. Although S-CHIP participants do not qualify for DC-M under the guidelines established for the DC-M demonstration, they could be directly certified under DC-M if they were transferred to Medicaid.
- ***Changes in the income concept used in determining income eligibility for Medicaid and CHIP*** to be consistent with that used for eligibility for subsidies for purchasing insurance through the health insurance exchanges. Rather than each State defining net income for its program, the ACA requires all States to use MAGI, based on the definition of adjusted gross income on Federal individual income tax returns. However, each State will have its own formula for calculating an adjusted eligibility threshold, calibrated so the numbers of people eligible for

[52] In this simulation, for each possible standard, we raise the certification rate of all States not meeting the standard to that standard, whereas the certification rates for States already meeting the standard remain as they were. The impacts of DC-M on the percentage of students certified for free meals do not change in these simulations because we assume that students newly certified by DC-SNAP (when the DC-SNAP rate rises) would have been certified for free meals anyway via application. See Appendix A for further discussion.

Table III.9. Summary of Simulated Impacts of DC-M Under Different Rules for Related Programs

Alternative Policy Assumption	Percentage of Students (CI)	
	Directly Certified for Free Meals	Total Certified for Free Meals[a]
DC-M in Policy Environment of SY 2011-2012		
Actual certification rate	25.8	43.1
	(+/-2.7)	(+/-3.0)
Simulated rate under DC-M	37.5	48.6
	(+/-2.4)	(+/-2.8)
Difference	11.6	5.5
	(+/-1.2)	(+/-0.6)
Achievement of New Target Performance Rates for DC-SNAP Certification by All States[b]		
80% DC-SNAP Performance Rate Achieved		
Rate without DC-M	26.1	43.1
	(+/-2.7)	(+/-3.0)
Simulated rate under DC-M	37.6	48.6
	(+/-2.4)	(+/-2.8)
Difference	11.4	5.5
	(+/-1.2)	(+/-0.6)
90% DC-SNAP Performance Rate Achieved		
Rate without DC-M	26.8	43.1
	(+/-2.7)	(+/-3.0)
Simulated rate under DC-M	37.7	48.6
	(+/-2.4)	(+/-2.8)
Difference	10.9	5.5
	(+/-1.2)	(+/-0.6)
95% DC-SNAP Performance Rate Achieved		
Rate without DC-M	27.5	43.1
	(+/-2.7)	(+/-3.0)
Simulated rate under DC-M	37.9	48.6
	(+/-2.4)	(+/-2.8)
Difference	10.5	5.5
	(+/-1.2)	(+/-0.6)
100% DC-SNAP Performance Rate Achieved		
Rate without DC-M	28.6	43.1
	(+/-2.7)	(+/-3.0)
Simulated rate under DC-M	38.3	48.6
	(+/-2.4)	(+/-2.8)
Difference	9.7	5.5
	(+/-1.2)	(+/-0.6)
Medicaid Eligibility Policies Change under the Patient Protection and Affordable Care Act (School-Age Children in S-CHIP programs with incomes 100-133% of FPL Move to Medicaid)		
Actual certification rate	25.8	43.1
	(+/-2.7)	(+/-3.0)
Simulated rate under DC-M	37.5	48.6
	(+/-2.4)	(+/-2.8)
Difference	11.6	5.5
	(+/-1.2)	(+/-0.6)

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Including by application, direct certification, or other categorical eligibility.

[b]Performance rates refer to the percentage of school-age children on SNAP who are directly certified for school meals. Percentages certified reported in this table refer to the percentage of all enrolled children who are directly certified.

CI = 95 percent confidence interval half-width.

Medicaid in previously eligible groups will be essentially the same.[53] Because the goal of this change is to keep overall Medicaid eligibility levels about the same as before ACA implementation, use of MAGI will have no effect on DC-M rates.[54]

- ***Changes in the likelihood of Medicaid or M-CHIP enrollment by eligible children.*** It is possible that as adults become covered either through the Medicaid expansion or the health insurance exchanges, they may become aware for the first time that their children are eligible for Medicaid or M-CHIP, leading to increases in enrollment. Given that many States are not currently expanding Medicaid, it is difficult to say what the magnitude of this type of effect will be, and it may vary substantially by State. This report does not attempt to model enrollment effects.

The analyses simulate the changes in the first bullet. Of the demonstration States, only Florida and Pennsylvania enroll children in the relevant income range (from 100 to 133 percent of poverty) in S-CHIP—the other three States use regular Medicaid or M-CHIP for children in this income range—so the changes will not affect the majority of districts in the Access Evaluation sample. We assume that the changes discussed in the second bullet will have no net effect on the impacts of DC-M, and we do not attempt to model the effects discussed in the third bullet.

Table III.9 shows the results of simulating DC-M under an expansion of Medicaid in Florida and Pennsylvania, which moves children on S-CHIP in those states to Medicaid, and makes them eligible for DC-M. We used the American Community Survey to estimate the number of S-CHIP children in the relevant income range (as described in more detail in Appendix A). We assumed that all of these children were already certified for free meals (by application), so although the direct certification rate increases under DC-M, the rate of certification for free meals does not. Because these changes apply to only two of the five States (with only three districts each in the sample), the effects of these changes on direct certification rates under DC-M in the pooled sample are essentially zero—the percentage of students directly certified under DC-M increases from 37.46 before the Medicaid expansions to 37.47 percent after the Medicaid expansions (Table III.9, last panel).[55] See Tables C.8-C.9 for more details.

[53] The new thresholds were published in October 2013 at http://medicaid.gov/Medicaid-CHIP-Program-Information/By-State/By-State.html. They are also described in Heberlein and Brooks (2013).

[54] As noted in Chapter I, the ACA also adds a consistent income disregard equal to five percent of the FPL for the household. This policy effectively increases the upper eligibility limit for Medicaid in all states by five percent of FPL. In general, this expansion will affect children in households with MAGI above 133 percent of FPL, so it would not affect the number eligible for free meals under DC-M (assuming MAGI is roughly equivalent to the gross income measures now available). However, these changes could increase the potential for reduced-price certifications via DC-M, if FNS should ever adopt such a policy.

[55] The effects of the S-CHIP to Medicaid transfer on DC-M certifications are of course larger in the affected States. DC-M certifications would increase by 2 percentage points in the three Access Evaluation districts in Florida and by 3.2 percentage points in the three districts in Pennsylvania. Six other States (not in the demonstration) have S-CHIP (and not M-CHIP) programs that cover children between 100 and 133 percent of poverty, and they would also transfer these children to Medicaid under ACA if they choose to expand Medicaid.

3. Extrapolations of the Effects of DC-M to Other States and Districts

To provide a very crude sense of the potential effects of DC-M were it adopted more broadly than in the demonstration, we extrapolate the Access Evaluation results by weighting the sample districts to represent all districts in the country. Details on estimation of the weights are described in Appendix A along with the severe limitations of the extrapolations. Table III.10 summarizes the results of nationwide extrapolations and extrapolations to all districts in a subset of States identified as likely to be able to conduct DC-M. The extrapolated nationwide direct certification rate under DC-M is 37.6 percent of students, compared to 25.4 percent without DC-M, for an impact of 12.1 percentage points. The extrapolated impact of DC-M on free certifications nationwide is 5.7 percentage points. However, as indicated by the large confidence intervals, these extrapolations are highly imprecise.[56] See also Appendix C, Tables C.10-C.11.

D. Reasons Some Eligible Children Are Not Certified Under DC-M

The preceding sections focused on changes in the number of students who could be certified under DC-M. This section focuses on why some children receiving Medicaid would not be directly certified for free meals. It first examines the reasons some Medicaid cases do not match to a student in the school enrollment file, including geographic/population misalignment and missing data. Then it examines the prevalence of missing data for cases matched to the Medicaid files for which we were unable to determine income eligibility.

1. Unmatched Children in Medicaid Files

As discussed earlier in this chapter, the HHFKA requires that States meet certain direct certification performance targets for DC-SNAP. One such target is a minimum percentage of the State's SNAP population that is successfully directly certified. Although there are no such requirements for the DC-M demonstration, examining an analogous performance measure (that is, the percentage of eligible children receiving Medicaid that can be directly certified for free meals) may be informative. Each school-age child receiving Medicaid is expected to match to a child in the student enrollment file unless either of the following is true:

- The information used to match data files for direct certification is missing or incorrect for the child (in either the Medicaid or student file).
- The child does not attend a school in the student enrollment file used for matching. For example, the child may have completed, dropped out from, or not yet started school; may attend a school that is not eligible for or does not participate in the NSLP and SBP; may attend a private or special public school that is not included in the Access Evaluation sample;[57] or may attend a school in another area.

[56] The very large margins of error are understatements because they are based on the invalid assumption that the States and districts in the DC-M study are random samples, as discussed in Appendix A.

[57] Private and parochial schools participating in the NSLP are required to conduct DC-SNAP and would presumably be required to conduct DC-M if it were implemented more broadly. Some States may include these students in the match file. In these cases, we would expect the child receiving Medicaid to appear in the student

Table III.10. Summary of Simulated Impacts of DC-M, Extrapolated to Other States

Alternative Policy Assumption	Percentage of Students (CI)	
	Directly Certified for Free Meals	Total Certified for Free Meals[a]
National Extrapolations (DC-M Implemented Nationwide)		
Certification rate without DC-M	25.4	43.5
	(+/-13.5)	(+/-15.7)
Simulated rate under DC-M	37.6	49.1
	(+/-5.0)	(+/-9.4)
Difference	12.1	5.6
	(+/-11.1)	(+/-7.4)
Extrapolations if DC-M Implemented Only in States Most Likely to be Feasible[b]		
Certification rate without DC-M	25.4	43.3
	(+/-13.7)	(+/-16.2)
Simulated rate under DC-M	37.5	48.9
	(+/-5.3)	(+/-9.9)
Difference	12.0	5.6
	(+/-10.9)	(+/-7.4)

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Including by application, direct certification, or other categorical eligibility.

[b]The following 22 states are included in this analysis: Arizona, Florida, Illinois, Indiana, Kentucky, Maine, Massachusetts, Minnesota, Mississippi, Missouri, New Mexico, New York City, Nebraska, Nevada, Ohio, Pennsylvania, South Carolina, Texas, Utah, Washington, Wisconsin, and Wyoming. These were the States deemed most likely to be able to conduct DC-M, because they were the States that (1) have performed MAGI conversions with their own data, (2) use Medicaid data to conduct direct verification, (3) are included in the DC-M demonstration in either SY 2012–2013 or SY 2013–2014, or (4) submitted an intent to apply for the DC-M demonstration, indicating that they had the ability to conduct DC-M.

CI = 95 percent confidence interval half-width.

Some types of nonmatches are unavoidable. For example, there is no way for States to restrict the Medicaid match files to children attending schools participating in the NSLP and SBP. However, States and districts can restrict the match files by age to include only the children who are most likely to be attending school. In our analysis, we restrict the Medicaid files to children age 4 to 19.[58] It is also possible to limit the number of students attending schools outside of a given district by limiting the geographic coverage of a Medicaid file. As discussed earlier in

(continued)

enrollment file. However, in other States (for example, Illinois), these schools conduct their matches independently. Therefore, students enrolled in these schools in such States would not appear in the student enrollment files that we received from those States for the Access Evaluation.

[58] Narrowing the age range to 5 to 18, or even 6 to 17, would likely reduce the number of nonmatches, but increase the risk of excluding—and, thus, not directly certifying—a child who is attending school. Table D.2 explores how match rates vary by age group.

the chapter, we use geographically restricted Medicaid files in Florida, Kentucky, and Pennsylvania to approximate the matching processes used in these States in SY 2011–2012. However, we use a statewide Medicaid data file in Illinois and a citywide file in New York City because it was not feasible to restrict those files to align with the school districts and schools in the samples.

Table III.11 shows the number of children in the Medicaid files for each of the five demonstration States. The table also presents the number of matches under each of the matching stringency levels detailed in this chapter and presents match rates for Florida, Kentucky, and Pennsylvania, the three States for which we were able to geographically align the Medicaid data file with the student enrollment data file.[59] These estimated DC-M match rates are substantially lower than the States' DC-SNAP match rates, which were 96 percent, 87 percent, 93 percent, and 65 percent, respectively, for Florida, Illinois, Kentucky, and Pennsylvania in SY 2011-2012 (Moore et al. 2012).[60]

Table III.11. Match Rates for Medicaid Children Under Each Matching Stringency Level, October 2011

Access Evaluation Districts in	Total Number of Medicaid Records[a]	Medicaid Records Matched Under					
		Strong Stringency[b]		Medium Stringency		Weak Stringency	
		Number	Percentage	Number	Percentage	Number	Percentage
Florida	110,195	33,978	30.8	63,110	57.3	69,671	63.2
Illinois	1,136,252	0	0.0	148,144	*	173,827	*
Kentucky	286,044	129,804	45.4	146,610	51.3	149,438	52.2
New York City	408,996	0	0.0	29,857	*	36,672	*
Pennsylvania	34,846	4,558	13.1	17,300	49.6	21,971	63.1

Note: The Florida, Kentucky, and Pennsylvania Medicaid analysis files include only children residing in Access Evaluation districts. The Illinois file includes all children enrolled in Medicaid in the State, and the New York City files contain all Medicaid children in the city.

[a]Includes children ages 4 to 19 as of September 1, 2011.

[b]The student enrollment files for Illinois, New York City, and some districts in Florida and Pennsylvania did not include the elements required for a strong stringency level match. Therefore, match rates under strong stringency matching for Illinois and New York City are zero, and those for Florida and Pennsylvania are lower than they otherwise would be if all districts in those States provided the data needed for strong stringency level matching.

*Match rates in Illinois and New York City are not meaningful because we are not able to restrict the Medicaid files to children residing in Access Evaluation districts. Therefore, we do not calculate them in this table.

[59] In each State, the student enrollment files include only students enrolled in Access Evaluation districts. Match rates are not meaningful in Illinois or New York City because the Medicaid files include children who attend schools outside of those areas.

[60] The estimated DC-M match rates might be lower than they would be under full-scale, non-demonstration conditions because for this evaluation, the Medicaid files include children who attend school in districts that have been excluded from the school enrollment files. For example, districts with more than a small fraction of schools operating under Provisions 2 or 3 or any schools operating under the CEP are excluded from the student enrollment files. However, there was often no reliable way for the purposes of this evaluation to exclude the children attending those districts from the Medicaid files. Similarly, students attending private school districts were excluded from the school enrollment files, but could not be excluded from the Medicaid files. Finally, it was not possible in all States to include in the Medicaid files only children residing within the geographic boundaries of the districts that are included in the analyses. Thus, Medicaid children residing outside those boundaries will generally not be matched to students in the school enrollment files.

For the most part, missing data for the variables used for matching in the Medicaid file are not a major reason for match failure. First name, last name, date of birth, gender, and address are rarely, if ever, missing in each of the demonstration sites' files. Furthermore, SSNs were excluded from the Medicaid file in fewer than one percent of the cases in all demonstration States except for New York City, which did not include any SSNs in the Medicaid file provided for our DC-M simulations.[61] (See Appendix D, Table D.1 for details.)

Children age 4 to 5 match less often than do older children, likely because some of these very young children are not yet enrolled in school. For example, only 27.8 percent of children age 4 to 5 in Florida match to students in the school enrollment file, compared to at least 54.5 percent of children in each of the other age groups. Similarly, children age 15 to 19 match less often than children ages 6 to 9 or 10 to 14 in most States (for example, 54.5 percent of children age 15 to 19 in Florida, compared to 67.7 percent of children age 10 to 14) because the older children are more likely to have completed or dropped out of school.[62] (See Table D.2 for match rates by age and other characteristics.)

2. Children with Indeterminate Income Eligibility

Directly certifying students for free meals under DC-M requires assessing their gross family income as a percentage of poverty. If income or family size, on which the poverty level is based, is missing from the Medicaid file, eligibility cannot be determined. Except for Illinois, where the State was unable to provide income data for any Medicaid cases, poverty level is very rarely indeterminate. Among the other four States, only Kentucky has a non-negligible fraction of Medicaid cases with indeterminate income as a percentage of poverty (1.6 percent of all school-age children in the Medicaid file), the reason in all cases being that family size was missing. (See Table D.3 for details on indeterminate income.)

[61] Although these particular analyses have focused on missing Medicaid data, missing or incomplete data in the student enrollment files may also result in nonmatches. The student enrollment files for two States and two districts did not include SSNs at all, and the files for three other districts were missing SSNs for a substantial portion of students. One State and one district had missing data on race/ethnicity, and one district was missing data on gender for at least 50 percent of students. More detail is available in Appendix A, Table A.2.

[62] The one exception is in New York City, where high schools are overrepresented in the demonstration sample and where the file is not geographically restricted, leading to higher match rates for older children.

IV. CONCLUSIONS AND LIMITATIONS

Adding Medicaid to the set of programs used to directly certify students for free school meals has the potential to both expand the number of eligible students who are certified and reduce the number of households that need to submit applications. The evaluation of the DC-M demonstration will assess the magnitude of these changes in selected States and districts, and the Access Evaluation analyses presented in this report provide an early look at possible outcomes, based on simulations of DC-M using retrospective school enrollment and Medicaid data. However, the findings presented here should be viewed in the context of the limitations of the demonstration and of the Access Evaluation in particular. This chapter summarizes key findings, notes important limitations, and looks ahead to upcoming components of the DC-M evaluation.

A. Summary of Findings

- DC-M could increase the direct certification rate by 12 percentage points in the Access Evaluation districts. The simulations indicate that DC-M could have increased the percentage of students who were directly certified to receive free meals in October 2011 from 26 percent to 38 percent in the Access Evaluation districts pooled together. The difference between these numbers indicates that 12 percent of students in these districts were not directly certified through SNAP or other programs but could be by Medicaid.
- DC-M could increase eligibility for free school meals by 6 percentage point. This impact is smaller than the impact on direct certifications because some of the students who could be directly certified under DC-M would be certified for free meals by application in the absence of DC-M. Among the students who would be made eligible for free meals by DC-M, one-fifth were certified to receive reduced-price meals based on the districts' actual certification procedures and four-fifths were in the paid category without DC-M.
- There is substantial variation in the effects of DC-M across districts. Among the States in the demonstration, the largest simulated impacts were found in Illinois, the only state for which income data were not included in the Medicaid files provided for the study, preventing an independent assessment of eligibility.
- Alternative matching procedures made only small differences in the simulated impacts. The most stringent (strongest) matching algorithm resulted in a 3 percentage point smaller impact on direct certifications and a one-half percentage point smaller impact on free certifications, compared to impacts using the weakest stringency level. None of the other alternative matching procedures examined resulted in differences of as much as 2 percentage points.
- The simulated impacts vary little under most alternative policy assumptions.
    - Changes to the eligibility criteria used for DC-M, such as allowing direct certification for reduced-price meals or using net instead of gross income, could increase the percentage of students certified, but the only such change that increased the simulated impacts of DC-M by more than 4 percentage points is extending categorical eligibility to all Medicaid enrollees.

- Improvements in SNAP direct certification rates to meet new performance standards could decrease the net effects of DC-M (by less than 2 percentage points even if all SNAP recipients were certified through DC-SNAP) because participation in the two programs overlaps.
- Implementation of the Medicaid expansions under the ACA might have only a very small effect on the impacts of DC-M.

B. Limitations of the Findings

Limitations of the DC-M sample and strong assumptions made in some of the simulations necessitate caution in interpreting the Access Evaluation findings. Chapter II and Appendix A provide a more detailed discussion of these and other limitations.

Sample. The DC-M evaluation is based on a nonrepresentative sample of States and districts. The States that applied to participate differ systematically from other States in the nation; for example, their interest likely indicates State-level data systems and interagency relationships that are more conducive to implementing DC-M than in other States. Within these States, the selection of districts was subject to several constraints—such as excluding some of the largest districts and some of the districts with the highest percentages of students certified for free or reduced-price meals. Moreover, for the Access Evaluation, very small nonrandom samples of districts had to be selected in two States (Florida and Pennsylvania) to comply with statutory requirements pertaining to federal data collection activities. These sample limitations severely limit the ability to define a meaningful universe of districts to which the demonstration and evaluation findings might generalize. The within-State findings presented in this report cannot be considered representative of any State as a whole, and the pooled sample is not representative of the combined set of States or the nation. Finally, although the national extrapolations attempt to estimate the potential effects of DC-M if its implementation was expanded nationwide, the extrapolations have very large margins of error, and statistical sampling theory provides no valid basis for generalizing beyond those districts to a broader collection of districts.

Access Evaluation simulations. Although simulating DC-M allows us to explore a variety of matching methods and alternative policy scenarios, the simulated outcomes may be different than when States and districts themselves conduct DC-M. The inability of some States and districts to provide all requested data further limits the analyses in some States and districts. Also, the Access Evaluation examines potential impacts on certification status only and does not explore participation or cost outcomes.

Later reports of findings from the DC-M study will address some of the limitations of the Access Evaluation. They will reflect the actual outcomes of DC-M procedures as implemented by the demonstration States and districts. In addition, the later reports will expand the set of outcomes examined to include participation in school meals (i.e., the number of meals served to students, by certification status); federal meal reimbursement costs; and administrative costs incurred by States and districts.

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APPENDIX A

METHODS

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This appendix discusses in detail the data collection and analysis methods used for the Access Evaluation.[63] The Access Evaluation centers on a retrospective simulation of the effects of DC-M on school meals program access using data from SY 2011–2012, the year before the demonstration began. For this simulation, researchers at Mathematica matched student enrollment data with Medicaid data to identify how many students could have benefited from DC-M had it been in place in SY 2011–2012.

Our approach had four basic steps:

1. Acquire data, including the student enrollment files for SY 2011–2012 and Medicaid enrollment files for the same period.
2. Match student enrollment and Medicaid data (using a variety of different algorithms).
3. Determine for each successful match the income category (less than or equal to 133 percent, between 133 and 185 percent, or greater than 185 percent of FPL) based on Medicaid income (before the application of any expense, block, or other income disregard) and family size.
4. Assess NSLP/SBP certification status that each student in the school enrollment file would have if this information were used in addition to actual SY 2011–2012 certification procedures.

To assess impacts, we examined how the distribution of students by certification category under DC-M differs from the actual SY 2011–2012 distribution without DC-M. We also examined the sensitivity of these estimates to different matching procedures and different policy and program assumptions.

In this appendix, we describe the process for developing the databases used and for conducting the retrospective matching and analyses in each State/district. After an overview of the Access Evaluation sample, we describe how we collected the school enrollment and Medicaid data, conducted the retrospective matching, and simulated the process of determining eligibility for DC-M for each student. We then discuss the analytic approaches used to address the study's research objectives.

1. Sample

Demonstration States. FNS solicited applications from States to participate in the DC-M demonstration and selected five—Florida, Illinois, Kentucky, New York City, and Pennsylvania—to begin conducting DC-M in SY 2012–2013.[64] DC-M is conducted in selected districts within some of the demonstration States (DC-M1 States) and implemented statewide in other States (DC-M2 States). Of the five States participating in SY 2012–2013, three (Florida, Illinois, and New York City) are DC-M1 States and the other two (Kentucky and Pennsylvania)

[63] Throughout this document, "we" refers to the authors of the report and the DC-M evaluation team at Mathematica.

[64] A sixth State, Alaska, was initially selected but withdrew before conducting DC-M.

are DC-M2 States. An additional State was selected for SY 2013–2014 and will be included in the later components of the study.[65]

DC-M evaluation districts. The demonstration sample frame for each State was based on the list of districts in the State's DC-M application submitted to FNS. To refine the sample frame based on the objectives of the evaluation, we excluded certain types of entities from these lists, including private schools; residential programs; those that did not appear in the Verification Summary Report (VSR, FNS Form 742) data; and districts implementing Provision 2 or 3 in more than 20 percent of their schools.[66] Other exclusions affected only a subset of States:

- HHFKA specified that districts selected for the demonstration in DC-M1 States in SY 2012–2013 collectively must include no more than 2.5 percent of all students certified for free and reduced-price meals in the nation, or approximately 688,000 certified students. This resulted in the exclusion of very large districts—the five largest in Florida and Chicago Public Schools in Illinois—from the sample frame of districts to begin DC-M in SY 2012–2013.
- Districts implementing CEP in any schools were excluded from the evaluation. At the time the SY 2012–2013 sample was selected, Illinois and Kentucky were the only CEP States in the DC-M demonstration. In addition, we were asked by FNS to exclude CEP-eligible districts in Illinois identified as potential comparison districts for a study of the CEP. Because CEP eligibility depends on the percentage of students identified as eligible for free meals without completing an application, these exclusions resulted in a sample with lower percentages eligible for free meals than in the State as a whole.
- In New York, only New York City participated in Year 1 of the demonstration. The 32 community districts in the city were randomly assigned to conduct DC-M or not and are considered as districts in the data collection and analysis. Although we did not exclude any of New York City's community districts from the sample frame, the State's application limited the schools that could be included in the demonstration and evaluation to those that (1) were not participating in Provision 2 and (2) had electronic point-of-sale systems. This second criterion resulted in a sample with a higher proportion of high schools than the city as a whole.

These exclusions make the samples less representative of each State as a whole and, for some States, any well-defined and policy-relevant subset of districts in the entire State. Also, the

[65] The demonstration also expanded into additional districts in three of the Year 1 states. New York City, which entered the demonstration in Year 1, will continue to be considered a separate site from the rest of New York State, which entered in Year 2 with approximately 300 districts. In Florida and Illinois, relatively small numbers of new districts joined in Year 2 and will be combined with the Year 1 sample for analysis in those states.

[66] We used data from the VSR in creating matched pairs for random assignment. Schools participating in Provision 2 or 3 do not conduct certification, except during a base year, so DC-M would not affect them in non-base years. The VSR is a form state agencies are required to file annually with FNS, describing all SFAs in the state in terms of the numbers of students enrolled, certified for free meals, and certified for reduced-price meals, as well as other SFA characteristics. Although the compilation of these forms is primarily intended as an administrative database, it has been used as a sample frame for many recent national studies of the school meal programs.

differential effects of some exclusions across States make cross-state comparisons less meaningful.

For each of the four DC-M1 States, districts from the resulting sampling frame were matched into pairs; for each pair, one of the districts was randomly assigned to the treatment condition (DC-M) and the other to a control condition (no DC-M).[67] All treatment and control districts in these States are included in the DC-M evaluation. The two DC-M2 States include treatment districts only (and no control districts), because DC-M is implemented statewide there.

Access Evaluation districts. The Access Evaluation sample was drawn from the set of districts that began conducting DC-M in SY 2012–2013 (no control group districts are included). The Access Evaluation required collection of individual-level data on Medicaid enrollment and school enrollment, including NSLP/SBP certification status. Both Medicaid and school enrollment data were available at the city level in New York City. In all other States in the study sample, Medicaid enrollment data are available at the State level through the State Medicaid agencies. In Illinois and Kentucky, student enrollment data are also available at that level. In these two States, all districts in the DC-M study are included in the Access Evaluation analysis sample. Because Florida and Pennsylvania do not have a centralized student enrollment database, we collected school enrollment data from individual districts in those States. In each, we chose three treatment group districts that had among the highest numbers of students certified for free or reduced-price meals for inclusion in the Access Evaluation sample.[68] Table II.1 shows the resulting sample for the Access Evaluation.

Figure II.1 shows how the states and districts in the Access Evaluation sample compare to others in the nation along relevant characteristics, and Table A.1 provides additional detail on Medicaid rules by state. States in the DC-M demonstration are less likely than other states to have upper income limits for Medicaid/M-CHIP at or above 133 percent of poverty. The percentage of school-aged SNAP participants who were directly certified was somewhat higher (86.4 percent) in the DC-M states than in other states (84.0 percent). Districts in the study tend to have slightly lower proportions of students certified for free or reduced-price meals (50.5 percent), compared to other districts in study states (51.3 percent), but DC-M states have

[67] The matching process was designed to minimize the pairwise differences between treatment and control group members along six variables: (1) percentage of students eligible for free meals; (2) percentage of students eligible for free or reduced-price meals; (3) percentage of students eligible for free meals that were certified based on an application; (4) overall participation rate, that is, the average number of meals served daily divided by enrollment; (5) blended reimbursement rate, a weighted average of the percentages of free, reduced-price, and full-price meals served, where the weights are the per-meal reimbursement rates for lunches; and (6) number of students eligible for free or reduced-price meals (log scale).

[68] The sample was limited to three districts in each of these States to comply with OMB guidelines concerning the maximum number of respondents that can be contacted without receiving approval to contact more individuals. The schedule for the Access Evaluation did not allow sufficient time to obtain such approval. Districts participating in another large USDA evaluation were first removed from the list of treatment districts in the DC-M evaluation in Florida and Pennsylvania, and the three largest (in terms of the number of students certified for free or reduced-price meals) remaining districts in each of the two States were selected. In Pennsylvania, one of the three districts selected did not respond to multiple attempts to collect student enrollment data, so we went down the list by size, excluding two other potential replacement districts until we identified a district that was able to provide the necessary data.

Table A.1. Income Eligibility Limits for Medicaid and CHIP, in SY 2011-2012

State	Medicaid Income Maximum for Children 6 - 19	M-CHIP Income Maximum for Children 6 - 19	S-CHIP Income Maximum for Children 0 -19
Alabama	100	-	300
Alaska	150	175	-
Arizona	100	-	200
Arkansas	100	200	-
California	100	-	250
Colorado	133	-	250
Connecticut	185	-	300
Delaware	100	-	200
District of Columbia	100	300	-
Florida	100	-	200
Georgia	100	-	235
Hawaii	100	300	-
Idaho	100	133	185
Illinois	100	133	200
Indiana	100	150	250
Iowa	100	133	300
Kansas	100	-	232
Kentucky	100	150	200
Louisiana	100	200	250
Maine	125	150	200
Maryland	100	300	-
Massachusetts	114	150	300
Michigan	150	-	200
Minnesota	275	-	200
Mississippi	100	-	300
Missouri	100	150	250
Montana	100	133	-
Nebraska	100	200	-
Nevada	100	-	200
New Hampshire[a]	185	300	350
New Jersey	100	133	-
New Mexico	185	235	400
New York[a]	100	133	200
North Carolina	100	-	160
North Dakota	100	100	-
Ohio	150	200	-
Oklahoma	100	185	-
Oregon	100	-	300
Pennsylvania	100	-	300
Rhode Island	100	250	-
South Carolina	150	200	-
South Dakota	100	140	200
Tennessee	100	-	250
Texas	100	-	200
Utah	100	-	200
Vermont	225	-	300
Virginia	100	133	200
Washington	200	-	300
West Virginia	100	-	300
Wisconsin	100	150	300
Wyoming	100	-	200

Source: Heberlein et al. (2013)

Note: States in Year 1 of the DC-M demonstration are shaded.

[a]New York and New Hampshire moved some or all S-CHIP children to M-CHIP in 2011. The table shows the eligibility guidelines after this change.

ACA = Affordable Care Act; M-CHIP = Medicaid-expansion Children's Health Insurance Programs; S-CHIP = Separate Children's Health Insurance Programs.

somewhat higher proportions of free/reduced-price students than other states in the nation (48.6 percent).

2. Data Sources

The Access Evaluation analysis required the collection of data from two primary sources: (1) student enrollment data and (2) Medicaid enrollment data. Most of the States/districts in the Access Evaluation provided student enrollment data files that included information on NSLP/SBP certification status, whereas others provided information on certification status separately from enrollment data. Table A.2 summarizes the availability of key identifying data elements across States and districts.

Student enrollment and certification data. The student enrollment files include one record for every student enrolled in each school district included in the Access Evaluation. The data elements in the student enrollment files fall into two categories:

1. ***Identifying information to match students with children in Medicaid records.*** These data include student's full name and date of birth in all States/districts, and, in some (depending on availability), SSN, gender, race/ethnicity, address, and parent/guardian name.
2. ***School meal certification status.*** These data include information on whether the student was certified for free or reduced-price meals and the basis of the certification decision (application, direct certification, etc.).[69]

We attempted to obtain the actual student enrollment files used by the State or district for direct certification at three points in time: (1) the first month in which matching was conducted for SY 2011–2012, (2) the match conducted in or closest to October 2011, and (3) the match conducted in or closest to January 2012. If those files were not available, we requested files showing student enrollment in each of those months. Most States and districts provided data for August 2011, October 2011, and January 2012 (either in three separate files or in one file that included information enrollment start and end dates, which we used to determine the month(s) in which each student was enrolled), and one district in Pennsylvania provided data for August, November, and February. In three districts, data were not available for three months: one district in Pennsylvania provided data as of February 2012 only, and two districts (one in Florida and one in Pennsylvania) provided data as of the end of the 2012–2013 school year.

Medicaid data. The Medicaid enrollment files contain one record for every school-age child who was enrolled in Medicaid in the demonstration States.[70] Because we understood that the school enrollment files might not be available for the specific months requested, we attempted to collect Medicaid enrollment records for the entire period from July 2011 to March 2012 to ensure that we would have data from both sources for the same three points in time to the extent

[69] No State or district was able to provide a breakdown of the program source of direct certification—that is, SNAP, TANF, etc.

[70] Most States provided Medicaid data for at least children age 1 through 19 or 20. Kentucky provided data for individuals up through age 22, with a few older outliers. New York City restricted age to 4 through 20.

possible. However, one State, Pennsylvania, provided income data for three months only: July, October, and January.

We requested two main types of data items in the Medicaid files:

1. ***Identifying information to match children with students with school records.*** All Medicaid agencies provided full name, date of birth, gender, and address. Most (all but New York City) also provided SSN and race/ethnicity, and some included parent(s)/guardian name.
2. ***Enrollment and income/household size data needed to determine direct certification status.*** All States' Medicaid files indicated enrollment in Medicaid, and most (all but New York City) included indicators of which children were also receiving SNAP or TANF benefits. With the exception of Illinois, all agencies also provided measures of both gross and net family income.[71] Illinois was not able to provide income information but provided a file restricted to only those children whose family incomes met the same eligibility criterion that the State was using in conducting DC-M. All Medicaid agencies included information on family size, which we used to determine the applicable Federal poverty guideline.

Table A.2 shows which data elements were available in the files provided by each State and district. Information on name and birthdate were available in all files and gender and race/ethnicity in most. However, SSN was less commonly available: the student enrollment files for two States and two districts did not include SSNs at all, and the files for three other districts were missing SSNs for a substantial portion of students. The next section describes how these data were used in the matching process.

[71] Net income is the measure used by the agency in determining eligibility for Medicaid. Gross income is the measure used for determining eligibility for free school meals under DC-M, stated in the legislation as "before the application of any expense, block, or other income disregards."

Table A.2. Data Elements Available in Medicaid and School District Enrollment Files, by State/District

State/District	Data Source	Data Element					
		Child's First Name	Child's Last Name	Date of Birth	SSN	Gender	Race/ Ethnicity
Florida	Medicaid data	X	X	X	X	X	X
Escambia	School enrollment data	X	X	X	Incomplete	X	
Polk	School enrollment data	X	X	X	Incomplete	X	X
Volusia	School enrollment data	X	X	X	X	Incomplete	X
Illinois							
	Medicaid data	X	X	X	X	X	X
	School enrollment data	X	X	X		X	
Kentucky							
	Medicaid data	X	X	X	X	X	X
	School enrollment data	X	X	X	X	X	X
New York City							
	Medicaid data	X	X	X		X	
	School enrollment data	X	X	X		X	X
Pennsylvania	Medicaid data	X	X	X	X	X	X
Allentown	School enrollment data	X	X	X		X	X
Reading	School enrollment data	X	X	X	Incomplete	X	X
Whitehall-Coplay	School enrollment data	X	X	X		X	X

Note: "Incomplete" indicates that the data element was missing in at least 50 percent of cases.

3. Record Matching Procedures

In conducting the retrospective matches of student enrollment and Medicaid records for selected months during SY 2011–2012, we employed computer matching methods similar to those used for direct certification with the SNAP, TANF, and FDPIR programs. The design of States' and districts' computer matching procedures varies along several key dimensions, including whether student enrollment files are matched to statewide or geographically restricted Medicaid data files, identifiers used for matching, and matching algorithms and methods. Our approach to simulating DC-M matching procedures recognizes and accounts for this variation. Some aspects of our analysis are designed to replicate the procedures actually used in the sample States or districts, whereas other aspects are standardized across sites.

Statewide versus geographically restricted matching. The main analyses presented in this report attempt to replicate the geographic level of matching used in each State, to the extent

possible, and a sensitivity analysis explores how the results might differ if a different method were used. In Illinois, State agency staff conduct direct certification centrally, matching a single file containing all students enrolled in schools in the State with a single statewide file containing all school-age children receiving Medicaid. Although the student enrollment data collected for the Access Evaluation included only students enrolled in the districts in the sample, we collected statewide Medicaid data and conducted a match of these two large files for our main analyses for Illinois. In Florida, Kentucky, and Pennsylvania, each district matches a file containing the Medicaid cases in its geographic area with a file of the students enrolled in the district.[72] We replicated this process by conducting a separate match for each district in the Access Evaluation sample in these three States, using a Medicaid file restricted to the geographic area covered by each district. The relevant indicator for identifying the geographic area covered by sample districts varied based on what is used in the State. We used county to restrict the Florida and Kentucky files and a district indicator in the Pennsylvania files.[73] In New York City, a citywide student enrollment file was matched to a citywide Medicaid file. Although we used a citywide Medicaid file, our student enrollment file included only students from the community districts and schools in the Access Evaluation sample.

Data elements and algorithms used for matching. Using information from States' applications and conversations with child nutrition agency staff in each State, as well as information available on other States' direct certification systems, we developed a standard matching algorithm associated with each of three levels of matching stringency: weak, medium, and strong.[74] Table A.3 presents the matching algorithms used for each level of matching stringency. The recent National Survey of Direct Certification Practices (which Mathematica conducted for FNS under another contract) found that student first name, last name, and date of birth are almost universally used—sometimes in combination with other data elements—as matching identifiers (Moore et al. forthcoming). These three data elements were available for all States and districts in the Access Evaluation sample and used in their own matching procedures, and we incorporated them, in one way or another, in all three matching algorithms. The National Survey of Direct Certification Practices also found that SSN could be used to match students with a high degree of accuracy even with simple matching techniques but was less commonly available. We included SSN as a required variable in our strongest stringency algorithm and as an optional variable in our medium stringency algorithm. In States/districts where SSN was not available in the Medicaid or student enrollment files (see Table A.2), no strong matches are possible, and medium matches can only be identified through the use of other data elements.

[72] In Pennsylvania, districts also have the option of uploading their student enrollment data to be matched against the statewide data file, but this method was less common in SY 2011–2012.

[73] There is a one-to-one relationship between districts and counties in Florida, but in Kentucky some districts were matched to a file containing multiple counties.

[74] Weaker stringency criteria are more likely to result in "false positives," and stronger criteria are more likely to result in "false negatives." Although the analysis compared the number of matches under the different levels of stringency, it is beyond the scope of the study to assess which criterion comes closest to certifying all students eligible for free meals without certifying any ineligible students.

Table A.3. Matching Criteria and Stringency Levels

Stringency Level	Data Elements Used	Match Criteria	States/Districts with Matching Algorithms that Most Closely Align with this Level
Strong	SSN, DOB, first name, last name, race, gender	*First round:* exact match on SSN and DOB *Second round:* exact match on SSN and at least two of the following four data elements: first name, last name, race, gender	Escambia, FL[a] Reading, PA
Medium	SSN, DOB, first name, last name	*First round:* exact match on SSN *Second round:* exact match on first name, last name, and DOB	Florida Kentucky Volusia, FL Polk, FL Allentown, PA Whitehall-Coplay, PA
Weak	First and last names, DOB, gender	Exact match on DOB and gender and phonetic match on first four letters of first and last names	Illinois New York City

Note: All matches in a stronger stringency category are also considered matches in a weaker stringency category.

[a]Although Escambia uses a matching algorithm that aligns with the strong stringency level and has the data elements required for that, it was able to include SSNs for only a small portion of students in the data provided for the evaluation, due to a technical issue, so we use the results from the medium stringency level match for that district in our core analyses.

DOB = date of birth; SSN = Social Security number.

The direct certification matching procedures used by States and districts often involve multiple rounds, each with a different set of data elements or criteria. Of the States and districts in the study sample, two districts (in Pennsylvania) used single-round procedures, while others used multiple rounds—as many as five (in Illinois). We included multiple rounds in our simulations. For example, in our strong algorithm, a first round would identify cases that matched exactly on SSN and date of birth, and a second round would identify additional matches based on SSN and two or more other data elements. Matches identified at either round would be considered strong matches. In addition, to ensure that any case matched using a stronger algorithm would also be a match using a weaker algorithm, we defined the strong criteria as an early round of the medium algorithm, and the medium as an early round of the weak algorithm.

We applied each of these three standard matching algorithms for all Access Evaluation States/districts to (a) compare results across sites based on a similar set of criteria and (b) determine the extent to which variations in matching stringency affect DC-M outcomes. For each State/district, we identified which of these three matching algorithms most closely resembles the one it uses in conducting direct certification and used that level of matching stringency as a benchmark for estimating the likely impact of DC-M if it had been implemented in SY 2011–2012.

Time periods covered by the files used for matching. For all States and districts, the main analyses presented in this report rely on matching of data for October 2011 or the closest month for which data are available. Most States and districts provided both student enrollment data and Medicaid data for October, but one district in Florida and three districts in Pennsylvania did not. Specifically,

- For one district in Pennsylvania, the closest month of student enrollment data provided was November 2011. We matched these data with October 2011 Medicaid data because that was the closest month for which the Medicaid agency in that State provided income data.
- For another district in Pennsylvania, the earliest month of student enrollment data available was February 2012. We matched these data with January 2012 Medicaid data, the closest month for which Medicaid income data were available.
- For another district in Pennsylvania and one district in Florida, student enrollment data were only available for the end of the 2011–2012 school year. We matched these student enrollment data with Medicaid data for the latest month for which the necessary data were available: January 2013 for Pennsylvania and March 2013 for Florida.

In addition to the point in time used for our main analyses, we conducted DC-M simulations at two other points in time, in consideration of the HHFKA requirement that States/districts perform direct certification with SNAP matching at least three times per school year. Specifically, we simulated matches at (1) the first month in which DC-SNAP matching was conducted at the beginning of the school year, typically July or August 2011, and (2) January 2012, approximately six months after the initial match, in each case matching student enrollment data for each time point with Medicaid data from the corresponding month where the available data allowed. Not all States or districts were able to provide data for more than one point, however. The sample for analyses comparing outcomes across time is restricted to the States and districts that were able to provide data for three points in time, which excludes two Pennsylvania districts and one Florida district. In another district in Pennsylvania, we matched August and February student enrollment data with July and January Medicaid data because the two types of data were not available for the same months. In the remaining States and districts, we matched student enrollment data to Medicaid data covering the same months.

Extending benefits to unmatched students in the household. Among the Access Evaluation States and districts, Pennsylvania identifies other students in households with directly certified students through an automated process at the State level, and one of the three Florida districts (Volusia) uses an automated process at the district level to identify other students in the household. For these sites, the main analyses presented in this report include a simulation of an automated process to extend categorical eligibility for free meals to all students in households where any student was certified through our DC-M simulations. We identified unmatched students in the student enrollment data who are in the same households as those successfully matched to Medicaid data, based on the same measure used by the State or district—address in Pennsylvania and both address and parent/guardian name in the Florida district. We assigned students thus identified to the same income category as the matched student, unless doing so

gave them a lower certification status (where free is the highest status and paid is the lowest) than they already had.

For all other States and districts in the sample, the main analyses in this report do not include extension of benefits to other students in the household. However, we present a sensitivity analysis that compares results using such an automated extension in all sample States and districts to results omitting that step. Although neither Illinois nor Kentucky conducted an automated match at the State level in SY 2011–2012, it is possible that some individual districts in those States did so.

Resolving multiple matches. The process for resolving situations where a case from one file matched to more than one case in another file varies by State/district. The recent National Survey of Direct Certification Practices found that a majority of States investigated such matches by examining additional information, but that this step was often left to the districts, even in States where matching was conducted centrally (Moore et al. 2013). More than one quarter of States in the survey reported identifying all duplicates as matches. Because manual investigation was infeasible in our simulations, we developed simple rules to resolve such cases:

- If more than one case in the Medicaid file matched to a single case in the student enrollment file, we considered the student to be a match to the case that would result in the most generous benefit level possible. For example, if a student matched to both a Medicaid case with income implying eligibility for free meals and another case with an income above the eligibility threshold for free meal, we accepted the first match and counted the student as certified for free meals in our DC-M simulations.
- If more than one student from the student file matched to a single case in the Medicaid file, we considered them all to be matches. If the Medicaid case had income that would make the student eligible for free meals under DC-M, we considered all students that matched to that case to be certified for free meals in our DC-M simulations.

4. Eligibility Determination Process

For each successfully matched student, we assessed data in the Medicaid file on gross income (that is, income "before the application of any expense, block, or other income disregard") and household size to determine whether that student met the threshold for eligibility for free, reduced-price, or full-price school meals.[75] We created a variable to indicate the student's eligibility category based on DC-M (free if income as a percentage of poverty was 133 percent or less, reduced-price if between 133 and 185 percent, or paid if greater than 185 percent) or indicate if available Medicaid income data were insufficient (because of missing data, for example) to determine eligibility.

An exception to this process was made for Illinois because of a limitation of the Medicaid data received from that State. Illinois did not provide income data but instead restricted the file

[75] Although DC-M has been authorized for determining eligibility for free meals only, the Access Evaluation also examines the potential for certifying students for reduced-price meals.

provided to us to include only school-age children determined by the State to be income eligible for free meals. Thus, we assumed that every student successfully matched to a Medicaid record in that State was eligible for free meals under our DC-M simulation.

5. Analysis Methods

To analyze the potential impacts of DC-M, we compared the results of the DC-M simulation with actual certification results provided in the student enrollment files. Key findings presented in Chapter 3 focus on percentages of students directly certified and percentages certified for free meals under actual certification procedures and with DC-M. More detailed tables in subsequent appendices cross-tabulate actual certification outcomes with the certification outcomes implied by the income information in the matched Medicaid cases.

Our core results focus on the DC-M simulation using the October 2011 data and the stringency level and other procedures that most closely align with those used in each State (in Illinois and Kentucky), city (in New York City), or district (in Florida and Pennsylvania). In addition, we conducted analyses using match simulations of different DC-M variations that the States and districts could choose within the guidelines established by FNS for the current demonstration.

Pooled estimates. To summarize the results obtained across the Access Evaluation States and districts, we present "pooled estimates" and "national extrapolations." The pooled estimates of certification counts (such as the number of students directly certified under simulated DC-M) are obtained by simply adding across all the districts in the Access Evaluation sample. Then a corresponding percentage (such as the percentage of students directly certified under DC-M) is calculated by dividing the certification count by the total enrollment across all the districts. Pooled estimates pertain only to the particular collection of districts included in the Access Evaluation; they are not intended to have any broader generalizability. In particular, they do not estimate the likely effects of DC-M if were implemented throughout the demonstration States or the entire country. The national extrapolations are discussed below.

Simulations of DC-M under alternative policy scenarios. In addition to the core analyses and exploration of different matching methods States and districts could use in the current DC-M demonstration, we explore how DC-M results might be affected by alternative rules and policies for DC-M and other programs. These sensitivity analyses all are based on the results of the core match, that is, the match using data for October (or the closet available month) and the geographic restrictions, matching stringency level, and other procedures closest to those used by each State or district. As in the DC-M simulations under demonstration rules, no students certified for free or reduced-price meals under current rules are moved to a lower certification status in the additional simulations. We explored whether and by how much the outcomes of DC-M would change under three types of alternative scenarios:

1. Alternative rules for DC-M. For all States but Illinois (which did not provide income data), we simulated the effects of three expansive changes in DC-M eligibility rules:[76]

- ***Allowing direct certification for reduced-price meals for Medicaid enrollees with gross family incomes between 133 and 185 percent of poverty.*** To use DC-M for reduced-price certifications, States would generally need to have Medicaid or M-CHIP eligibility for children in households between 133 and 185 percent of the poverty level. Such eligibility would be possible in Kentucky and New York City because their M-CHIP programs covered children above 133 percent of poverty (although only up to 150 percent in Kentucky). Other states in the sample used S-CHIP for children in this income range. However, the fact that Medicaid eligibility is based on a net income concept rather than gross income suggests that other states may also have children with gross incomes above 133 percent of poverty who are eligible for Medicaid because their net income is below the cutoff. We examined how many students matched to the Medicaid files had gross household incomes above 133 but no greater than 185 percent of the poverty level and assumed that they would be eligible for reduced-price direct certification if such a policy were implemented.
- ***Using net income (income after disregards) rather than gross income to assess eligibility.*** Data on both gross and net income were provided in the Medicaid data received in each of the four States included in these simulations. For this alternative, we followed the same procedures as in the core analyses but used net rather than gross income in assessing eligibility.
- ***Granting all Medicaid enrollees (including students with incomes above 133 percent of poverty) categorical eligibility for free meals.*** For this simulation, we assumed that any student that matched to a record in the Medicaid files was eligible for free meals.

2. DC-M in the context of changes in FNS performance standards for DC-SNAP. We examined the sensitivity of DC-M results to different levels of DC-SNAP rates in response to new FNS performance standards that call for the percentage of SNAP schoolchildren directly certified for school meals in each State to increase to 80 percent in SY 2011-2012, 90 percent in SY 2012-2013, and 95 percent in SY 2013-2014. We simulated the effects of full implementation of each performance standard as well as the effects of 100 percent DC-SNAP certification and examined the change in additional certifications due to DC-M as DC-SNAP certifications increased.

- SNAP State-level direct certification rates for 2012 (from Moore et al. 2013, Figure 4) were used to assess how far districts were from meeting each performance target. These rates are calculated from SNAP administrative data and reflect the percentage of children receiving SNAP benefits who are directly certified for free meals (not to be confused with the percentage of schoolchildren overall who are directly certified,

[76] It was necessary to exclude Illinois from these simulations because Illinois did not provide income information and did not include higher-income Medicaid enrollees in the data.

which is the outcome measure in this analysis). An important assumption is that statewide rates apply to all districts within a State.

- Additional assumptions of this analysis included: (1) States already meeting a given standard would maintain their current DC-SNAP rate (rather than fall to the standard); (2) for each performance target, States below the standard would certify more income-eligible children to the point of meeting the standard; (3) any additional students certified through DC-SNAP would have been certified for free meals by application (so meeting a higher performance target does not change the total number certified for free meals); and (4) the percentage of students eligible for both DC-SNAP and DC-M—that is, the overlap between SNAP and Medicaid—as a proportion of all DC-SNAP eligible students, would stay the same as DC-SNAP performance improves.

3. Changes in Medicaid eligibility rules for school-age children under the Affordable Care Act. The ACA Medicaid expansion includes increasing the minimum upper limit for Medicaid eligibility from 100 to 133 percent of poverty for children age 6 to 19. Eight States, including two in our sample—Florida and Pennsylvania—previously covered school-age children in this income range through an S-CHIP. S-CHIP enrollees are not eligible for DC-M under the demonstration rules, but the ACA Medicaid expansion would move any such children to the Medicaid program and thus make them eligible for DC-M.

- Under the assumption that all States implement the Medicaid expansions, the percentage of students certified for free meals via DC-M would increase in States with only S-CHIP programs covering this age group. For each of the Florida and Pennsylvania districts in our sample, we simulated increases in DC-M from children moving from S-CHIP to Medicaid by using data from the American Community Survey 2009–2011 to estimate the number of school-age children with household incomes between 100 and 133 percent of poverty with public health coverage.

- Specifically, we used district-level ACS data files and the Census Bureau's American Factfinder table generator to estimate the percentage of children ages 0 to 18 with household incomes between 100 and 133 percent of poverty who are reported to have public health insurance coverage (U.S. Census Bureau 2013a). (We assume any such coverage for school-age children in Florida or Pennsylvania is through S-CHIP.) We adjust this number by multiplying by the percentage of children age 0 to 18 statewide who are age 5 to 18 (73 percent in both States; U.S. Census Bureau 2013b). We also assume that the number of children 5 to 18 is equal to the number age 6 to 19, the age category used by the Medicaid program.

- These estimates were adjusted for the survey undercount based on recent research linking ACS data and administrative records from Medicaid and CHIP (Boudreaux et al. 2013). They found that reporting of public health insurance in the ACS was better than for many programs, especially for children, and estimated the undercount for children at approximately 20 percent. Thus, we multiplied our estimates by 1.2.

- We then subtracted the number of children likely to already be certified via DC-SNAP from the estimate of new Medicaid participants, assuming the percentage overlap would be the same for the new Medicaid cases. Finally, we assumed that all

children receiving S-CHIP in the income range eligible for free meals were already certified as eligible for free meals by application, so the percentage of students eligible for free meals does not change.

Extrapolations to other States. To satisfy a requirement of the evaluation and provide a very crude sense of the potential effects of DC-M were it adopted nationwide, we also present national extrapolations. We derive the national extrapolations by weighting the Access Evaluation districts to represent all districts in the country, estimating the weights using methods that are described in detail below. Then, when summing across districts to obtain extrapolated certification counts for the nation, we weight up each district's certification count by the calculated weight for that district. Because the Access Evaluation includes only five States—three with very small samples—the national extrapolations are highly imprecise, as discussed along with other limitations below.

The weights used for generating national extrapolations were created using logistic regression models (Stuart et al. 2011). First, we developed a national frame of districts from the FNS 742 file, excluding residential and other similar special school districts, districts with any schools implementing the CEP, districts where 20 percent or more of the schools are operating under Provision 2 or 3 (not in a base year), and districts composed of private schools only. For each district in the frame, we created a binary variable, assigning the district a 1 if it was an Access Evaluation district and a 0 otherwise. We then fit a logistic regression model with this binary variable and State- and district-level predictor variables that included the percentage of students certified as free, the percentage certified as free or reduced-price, the percentage of students directly certified, the number of students certified as free or reduced-price, and total enrollment.[77] The model was fit using a stepwise selection procedure so that only variables that were moderately or highly correlated with the binary variable were included in the final model. The estimated propensities from the fitted model were inverted to generate weights for each of the Access Evaluation districts. These weights were then used for generating national extrapolations. In computing estimates and confidence intervals for the national extrapolations, we treated States as clusters (even though the States were not randomly selected).

We used a similar weighting process to extrapolate the DC-M demonstration results to the subset of States most likely to be able to conduct DC-M. First, we identified the States that (1) have performed MAGI conversions with their own data, (2) use Medicaid data to conduct direct verification, (3) are included in the DC-M demonstration in either SY 2012–2013 or SY 2013–2014, or (4) submitted an intent to apply for the DC-M demonstration, indicating that they had the ability to conduct DC-M. This resulted in a set of 22 States: Arizona, Florida, Illinois, Indiana, Kentucky, Maine, Massachusetts, Minnesota, Mississippi, Missouri, New Mexico, New York, Nebraska, Nevada, Ohio, Pennsylvania, South Carolina, Texas, Utah, Washington, Wisconsin, and Wyoming. Then, we fit a logistic regression model and generated weights, as described for the national extrapolations, except we restricted the districts in the model to those in the 22 States listed above. These extrapolations assume that the estimated impacts of DC-M in other States would be zero.

[77] Although we initially considered State-level program variables measuring, for example, differences among State Medicaid programs, such variables could not be used because there was insufficient variation in their values across the very small sample of States in the Access Evaluation.

Measuring the precision of estimates. In addition to the certification estimates with and without DC-M, we have provided 95 percent confidence interval half-widths. These indicate the margin of error in the certification estimates due to having samples of districts—rather than all districts—in each State.[78] If, for example, an estimate of 30 percent for the direct certification rate has a margin of error of plus or minus 5 percentage points, it is likely that estimates of the direct certification rate from different samples would fall in the range from 25 to 35 percent. We used SAS analytic software's PROC SURVEYMEANS procedure to generate the confidence interval half-widths, accounting for the clustering of students within districts, where appropriate. As noted elsewhere, the estimates and confidence intervals should be interpreted with caution because of several important limitations of the demonstration. One important limitation is that the samples for Florida and Pennsylvania are not random, although they are treated as such for the derivation of the confidence interval half-widths. Likewise, the States are not a random sample.

Reasons for match failure and indeterminate income. To explore reasons why some children receiving Medicaid failed to match to a student in the school district enrollment file, we examined the prevalence of missing data among matched and unmatched cases and compared match rates by child characteristic. These analyses focused on the results of the match from our core analyses—that is, based on October data, using the matching stringency level that most closely aligned to that used by the State or district in SY 2011–2012, and so on.

We computed match rates using all unique school-age children–defined as those ages 4 to 19 or with an unknown date of birth—in the Medicaid file as the denominator.[79] As in our core analyses, we restricted the Medicaid files for Florida, Kentucky, and Pennsylvania to the same geographic areas as the student enrollment files in those States using county or district codes. However, because we were not able to geographically align the files in Illinois and New York City, the overall match rates in those two States are not meaningful. However, relative match rates of various subgroups within the State (for example, the rate for children age 4 and 5 versus the rate for children age 6 through 9) may be informative.

To assess the extent of and reasons for indeterminate income eligibility, we examined cases in the Medicaid files that were missing information on income or family size—the elements needed to compute poverty level. We conducted this analysis for all States and districts except Illinois, which did not provide income data.

[78] Because we have data for all districts in Kentucky that do not have any schools operating under the CEP or a substantial fraction operating under Provision 2 or 3, the confidence interval half-widths for estimates for Kentucky are 0. The confidence interval half-widths for certification estimates for the other States are greater than 0 because we have only samples of districts in those States. All district-level estimates are regarded as free of sampling error.

[79] In cases where multiple children had the same individual ID number, we kept the child with the lower poverty ratio and removed the other child from the file. Overall, less than one percent of cases were removed for this reason. Duplicate ID numbers were most common in the Medicaid files in Florida, where approximately five percent of cases were removed as duplicates.

6. Limitations of the Sample and the Analysis Methods

Several limitations of the DC-M demonstration sample, the Access Evaluation subsample, and the methods should be noted. The findings presented in this report should be interpreted cautiously in light of these limitations.

Demonstration sample. The DC-M evaluation is based on a nonrepresentative sample of States and districts. The States that applied to participate are not a random probability sample and differ systematically from other States in the nation. Among other characteristics, their interest in participating suggests State-level data systems and interagency relationships conducive to a greater willingness and, likely, a greater ability than other States to implement DC-M. The inclusion of such a small number of States also limits our ability to examine policy changes that affect only a subset of States. For example, the simulation of the ACA provision that shifts school-age children with family incomes between 100 and 133 percent of poverty from S-CHIP to Medicaid affects only two of the demonstration States—the two with only three districts each in the sample. Within these States, the selection of districts was subject to several constraints, as detailed earlier in this appendix. Because of a Congressionally imposed limit on the number of students certified for free and reduced-priced meals in DC-M districts, some of the largest districts—with substantial fractions of the State student populations—had to be excluded from the demonstration and evaluation. In addition, other districts had to be excluded because of their role in another evaluation being conducted by FNS, and one district (New York City) excluded schools without electronic point-of-sale systems from the demonstration sample. Moreover, in two States (Florida and Pennsylvania), very small nonrandom samples of districts had to be selected for the Access Evaluation to maintain compliance with statutory requirements pertaining to federal data collection activities. Because some of these sample exclusions affected States differently, comparisons of results across States are less reliable.

All of these limitations on the selection of the samples within each demonstration State severely limit the ability to define a meaningful universe of districts to which the evaluation districts and findings might generalize.[80] The estimated impacts presented in this report for the States should not be interpreted as indicative of the likely effects of statewide adoption of DC-M. Furthermore, the estimates for the sample of districts pooled across the demonstration States pertain to that specific sample only and do not generalize more broadly to the combined set consisting of those States or to the nation as a whole.

Finally, although the national extrapolations attempt to estimate the potential effects of DC-M if its implementation were expanded nationwide, the Access Evaluation includes only five States—three with very small nonrepresentative samples. The samples in Florida and Pennsylvania include only three districts each, and the sample in New York City includes only 16 community districts in New York City with nonrepresentative samples of schools.[81] Because these samples are so small, more than 95 percent of the total weight given to Access Evaluation

[80] In Kentucky, the results could be interpreted as generalizable to the set of districts that have no schools adopting the Community Eligibility Option and no more than 20 percent of their schools operating under Provision 2 or 3.

[81] As noted earlier, the community districts in New York City are treated as separate districts in the demonstration and analysis.

districts for obtaining the national extrapolations is assigned to the districts from just two States—Kentucky and Illinois—with just over two-thirds of the total weight being assigned to the districts from just one of those States, Illinois. Therefore, if Illinois is atypical in any important way, the national extrapolations could be highly misleading. In any case, with so few States, the national extrapolations are highly imprecise; that is, they have very large margins of error, even when the States and districts are assumed to be random samples, which is an invalid assumption that leads to understatement of the error in the estimates. Furthermore, given the limitations on how the Access Evaluation sample could be selected, there is no basis grounded in statistical sampling theory for generalizing beyond those districts to a broader collection of districts, such as all districts in the nation.

Access Evaluation simulations. In addition to the limitations of the sample, additional limitations pertain to the specific analyses conducted for the Access Evaluation.[82] The Access Evaluation examines potential impacts on certification status only and does not explore participation or cost outcomes. Although simulating DC-M allows us to explore a variety of matching methods and alternative policy scenarios, the simulated outcomes may be different from the results obtained when States and districts themselves conduct DC-M.

Although some aspects of the simulations were designed to conform to the processes actually used in the sample States and districts, we could not replicate their matching processes exactly. For example, as discussed earlier in this appendix, it was not feasible to replicate manual matching procedures that districts may use to resolve partial matches or situations in which a student matches to more than one case in the Medicaid files. In addition, because data collection had to be limited to State agency staff in Illinois and Kentucky, no district-specific variations in matching procedures (such as different matching criteria or automated extension of benefits to other students in the household) in those States could be reflected in the analyses.

There are several limitations related to the data available for the Access Evaluation:

- Although we collected data for all sample districts in most States, Illinois was able to provide data for only 91 percent of sampled districts. The districts for which data were available might differ systematically from nonresponding districts.
- Illinois did not provide data on income in its Medicaid data files, so our simulations are based on the assumption that the State appropriately restricted the file provided. In addition, because Illinois did not include higher-income Medicaid enrollees in the data file, it was necessary to exclude Illinois from the simulations of alternative rules for DC-M; those analyses are thus less precise and less representative of the full demonstration than if Illinois could have been included.
- Not all States and districts in the sample provided every data element needed to simulate all three levels of stringency. In particular, SSN, which is required for a

[82] Later reports of findings from the DC-M study will address some of the limitations of the Access Evaluation. They will expand the set of outcomes examined to include participation in school meals (that is, the number of meals served to students, by certification status); federal reimbursement costs; and administrative costs incurred by States and districts. In addition, later reports will reflect the actual outcomes of DC-M procedures as implemented by the demonstration States and districts.

strong match, was not available in the student enrollment data for Illinois, New York City, and two Pennsylvania districts. Thus, no matches are possible in these States/districts under the strong criteria, and medium matches can only be identified through the use of other data elements. In some other States and districts, SSN was often missing from the student enrollment files, as shown in Table A.2, which also limited the number of matches.

- Student enrollment files were not always available for the specific time points at which States and districts would have conducted their direct certification matching procedures. DC-M results might differ if conducted at different points in time. Moreover, as discussed earlier in this appendix, for some districts (one in Florida and three in Pennsylvania), student enrollment data and Medicaid data were not available for the same months. The misalignment of time periods in these districts could result in a lower match rates than would be found elsewhere. For example, students who transferred out of the school district between the month of the Medicaid data used and the month of the student enrollment data used could not be matched in our simulations but could have been if matching was done in real time.

- Lack of geographic indicators to restrict the Medicaid files in Illinois and New York City to the same school districts as the student enrollment files limited our analysis of reasons why some children receiving Medicaid failed to match to a student in the enrollment file. Because we were not able to geographically align the files in these States (as we did in Florida, Kentucky, and Pennsylvania), match rates in Illinois and New York City are not meaningful, except maybe to compare relative match rates of subgroups within the State.

As discussed earlier in this appendix, the sensitivity analyses required assumptions. In particular, the analyses regarding the potential impact of the ACA on DC-M rely on strong assumptions because implementation of the ACA is still in its early stages. Thus, the results of these analyses should be considered highly speculative.

Finally, although our analysis of the effects of matching stringency simulates DC-M using three different sets of matching criteria, it is beyond the scope of this study to assess which set produces the most accurate results.

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APPENDIX B

SUPPLEMENTAL TABLES RELATED TO SIMULATIONS OF DC-M AS CURRENTLY AUTHORIZED

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This appendix includes supplemental tables for assessing the potential impacts of DC-M as it is being implemented in the demonstration States or districts, including different DC-M variations that can be chosen by States and districts within the guidelines established by FNS. Table B.1a presents the distribution of students by their actual certification status in October 2011 and, for those certified for free meals, the method of certification. This table is based entirely on data provided by the States and districts for this evaluation and reflects the procedures used by each in SY 2011–2012, before the DC-M demonstration began. Table B.1b is structured similarly but shows the distribution of students by certification status and method under simulated DC-M.[83] The impacts of DC-M, such as those presented in Table III.1, are computed as the difference between the numbers in Table B.1a and B.1b. For example, the actual direct certification rate for the pooled sample is shown in Table B.1a as 25.8 percent, and the direct certification rate under DC-M is shown in Table B.1b as 37.5 percent, for an impact of 11.7 percentage points.

Table B.2 tabulates actual certification status and method by the results of simulating DC-M for the pooled sample. The columns in the table correspond to those in Table B.1a, student's actual status without DC-M, and the rows indicate the results of the DC-M simulation (in isolation). The "Direct Certification" column shows, for example, that of the 363,833 students that were certified by direct certification (without DC-M), 65.5 percent (238,447 students) were also identified as eligible for free meals through the DC-M simulation. Later rows in the same column indicate that income and family size information from Medicaid data would suggest that 4.2 percent of directly certified students would qualify for reduced-price meals instead, and an additional 1.8 percent had higher incomes that would qualify them for full-price meals. However, this information would not be used to change the status of students certified under current certification methods (in this column, direct certification by SNAP, TANF, or FDPIR), so DC-M would have no impact on these students. Later columns show that 17.8 percent of students certified to receive reduced-price meals and 8.6 percent of those in the paid category could have been certified for free meals under DC-M. The "Total" column provides the results of the DC-M match and eligibility assessment based on Medicaid information alone (without considering other certification procedures). It shows, for example, that 67.4 percent of all students in the pooled school district enrollment sample were not matched to a child in the Medicaid data, whereas 0.1 percent were matched to records in the Medicaid data files that had insufficient information to determine eligibility. The numbers in Table B.1b can be computed from Table B.2; for example, the total number directly certified in Table B.1b (527,707) equals, from Table B.2, the sum of the number of students directly certified through SNAP/TANF/FDPIR (363,833) and the number who could be certified through DC-M (402,321) minus the overlap of (238,447) students who were both directly certified through usual programs and identified by the DC-M simulation. The structure of Table B2 is replicated in several later appendix tables: B.6, B.7a–e, B.11, B.12, C.1, C.2, C.4, C.6a–d, C.8, and C.11, each focusing on a different subpopulation, procedural contrast, or alternative policy scenario. The results from all of these tables are summarized in the main body of this report.

Table B.3 presents the same information as Table B.2, but reorganized to focus on changes in status. As in Table B.2, the columns in the table correspond to the actual status and method

[83] That is, when the results of the DC-M simulation are combined with the district's actual certification results.

without DC-M. However, the rows in B.3 indicate whether and how DC-M could change the status—or indicate a different level of eligibility that would not result in a change in status. For example, the first row shows that the DC-M simulation confirmed the actual certification status of 65.5 percent of students directly certified under standard methods and 53.6 percent of those certified for free meals. The "Total" column indicates that 23.5 percent of all students' status could be confirmed through DC-M, and 67.4 percent could not be confirmed because they were not matched to a Medicaid record in the simulation. For smaller percentages of students, the Medicaid information matched under DC-M would suggest a change in status—for example, 5.5 percent would become free in the simulation. For 3.5 percent of students, the Medicaid data suggest eligibility for reduced-price or paid meals, but the demonstration would not actually lower the status of any student. The structure of Table B.3 is replicated in later tables B.8a–c, C.3, C.5, C.7 a-d, C.9, and C.12.

Tables B.4a and B.4b present distributions of Access Evaluation districts by the actual and simulated certification rates (B.4a) and simulated impacts (B.4b). For the pooled sample, Table B.4a shows that, for example, 46.8 percent of districts had directly certified less than 20 percent of their students without DC-M, but just 10.1 percent of districts would directly certify less than 20 percent of their students with DC-M. The percentage of districts that had certified less than 20 percent of their students for free meals (including by application or other means) was 18.7 percent without DC-M but 8.1 percent with DC-M. Table B.4b shows that 26.6 percent of districts in the demonstration had a simulated increase in direct certifications of more than 20 percentage points (last column of top panel), and 2.2 percent had a similar increase in the percent of students certified for free meals (last column of middle panel).

Table B.1a. Certification Counts and Percentages Under Current Certification Procedures (without DC-M) for October 2011, by State

Access Evaluation Districts in	Certification Category: Free: Direct Certification #	Direct Certification % (CI)	Other Categorical Eligibility[a] #	Other Categorical Eligibility % (CI)	Income Eligibility from Application #	Income Eligibility from Application % (CI)	Source of Certification Unknown #	Source of Certification Unknown % (CI)	Total Free #	Total Free % (CI)	Reduced-price #	Reduced-price % (CI)	Paid #	Paid % (CI)	Total #	Total %
Florida (3 districts)	67,096	36.9 (±8.1)	9,386	5.2 (±15.9)	26,824	14.8 (±14.9)	0	0 (±0)	103,306	56.8 (±14.5)	13,109	7.2 (±2.2)	65,329	35.9 (±12.4)	181,744	100
Illinois (311 districts)	90,335	15.8 (±1.9)	10,569	1.8 (±0.5)	55,935	9.8 (±1.9)	17,954	3.1 (±1.3)	174,793	30.5 (±2.7)	29,855	5.2 (±0.4)	367,986	64.3 (±3.0)	572,634	100
Kentucky[b] (122 districts)	127,510	28.6 (±0)	15,698	3.5 (±0)	53,786	12.1 (±0)	10,390	2.3 (±0)	207,384	46.5 (±0)	32,141	7.2 (±0)	205,992	46.2 (±0)	445,517	100
New York City (16 districts)	60,168	35.5 (±6.5)	1,602	0.9 (±0.2)	31,331	18.5 (±2.2)	53	0.0 (±0.0)	93,154	54.9 (±6.6)	10,708	6.3 (±1.1)	65,805	38.8 (±5.9)	169,667	100
Pennsylvania (3 districts)	18,724	48.0 (±29.6)	2,277	5.8 (±6.5)	7,202	18.5 (±9.3)	7	0.0 (±0.1)	28,210	72.4 (±35.2)	2,560	6.6 (±7.0)	8,202	21.0 (±34.6)	38,972	100
Pooled Sample	**363,833**	**25.8 (±2.7)**	**39,532**	**2.8 (±0.9)**	**175,078**	**12.4 (±1.5)**	**28,404**	**2.0 (±0.9)**	**606,847**	**43.1 (±3.0)**	**88,373**	**6.3 (±0.4)**	**713,314**	**50.6 (±3.1)**	**1,408,534**	**100.0**

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Confidence interval half-widths are zero for Kentucky because a census of all eligible districts in the state was included in the analyses. That the estimates are free of sampling error does not imply, however, that they are also entirely free of nonsampling error, which can arise from several sources in administrative data.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; SNAP = Supplemental Nutrition Assistance Program; TANF = Temporary Assistance for Needy Families.

Table B.1b. Certification Counts and Percentages With DC-M Simulation Results Added to Current Certification Procedures for October 2011, by State

Access Evaluation Districts in	Certification Category: Free: Direct Certification #	Direct Certification % (CI)	Other Categorical Eligibility[a] #	Other Categorical Eligibility % (CI)	Income Eligibility from Application #	Income Eligibility from Application % (CI)	Source of Certification Unknown #	Source of Certification Unknown % (CI)	Total Free #	Total Free % (CI)	Reduced-price #	Reduced-price % (CI)	Paid #	Paid % (CI)	Total #	Total %
Florida (3 districts)	78,564	43.2 (±5.8)	4,819	2.7 (±8.2)	22,460	12.4 (±11.5)	0	0 (±0)	105,843	58.2 (±13.8)	12,512	6.9 (±1.8)	63,389	34.9 (±12.1)	181,744	100
Illinois (311 districts)	195,092	34.1 (±2.8)	4,155	0.7 (±0.3)	28,643	5.0 (±2.0)	5,380	0.9 (±0.4)	233,270	40.7 (±3.0)	18,006	3.1 (±0.2)	321,358	56.1 (±3.1)	572,634	100
Kentucky[b] (122 districts)	155,207	34.8 (±0)	8,702	2.0 (±0)	43,653	9.8 (±0)	7,011	1.6 (±0)	214,573	48.2 (±0)	30,178	6.8 (±0)	200,766	45.1 (±0)	445,517	100
New York City (16 districts)	75,217	44.3 (±6.2)	1,211	0.7 (±0.1)	23,712	14.0 (±1.7)	37	0.0 (±0.0)	100,177	59.0 (±6.5)	9,812	5.8 (±1.0)	59,678	35.2 (±5.9)	169,667	100
Pennsylvania (3 districts)	23,627	60.6 (±26.4)	1,503	3.9 (±6.0)	5,124	13.1 (±4.1)	4	0.0 (±0.0)	30,258	77.6 (±32.4)	2,126	5.5 (±5.4)	6,588	16.9 (±31.3)	38,972	100
Pooled Sample	**527,707**	**37.5 (±2.4)**	**20,390**	**1.4 (±0.5)**	**123,592**	**8.8 (±1.4)**	**12,432**	**0.9 (±0.4)**	**684,121**	**48.6 (±2.8)**	**72,634**	**5.2 (±0.4)**	**651,779**	**46.3 (±2.9)**	**1,408,534**	**100**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Confidence interval half-widths are zero for Kentucky because a census of all eligible districts in the state was included in the analyses. That the estimates are free of sampling error does not imply, however, that they are also entirely free of nonsampling error, which can arise from several sources in administrative data.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; SNAP = Supplemental Nutrition Assistance Program; TANF = Temporary Assistance for Needy Families.

Table B.2. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation Pooled Sample, October 2011

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	238,447	65.5 (±3.2)	19,142	48.4 (±3.3)	51,486	29.4 (±4.3)	15,972	56.2 (±9.6)	325,047	53.6 (±3.5)	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	402,321	28.6 (±2.0)
Reduced-price (133 to 185 percent of FPL)	15,246	4.2 (±0.6)	1,602	4.1 (±1.0)	7,410	4.2 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	1,926	2.2 (±0.5)	2,404	0.3 (±0.1)	29,305	2.1 (±0.4)
Paid (more than 185 percent of FPL)	6,450	1.8 (±0.4)	1,344	3.4 (±0.7)	7,694	4.4 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	5,882	6.7 (±1.3)	3,905	0.5 (±0.1)	25,919	1.8 (±0.3)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.4 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	103,558	28.5 (±3.4)	17,315	43.8 (±3.5)	107,845	61.6 (±4.6)	11,011	38.8 (±7.1)	239,729	39.5 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	948,921	67.4 (±2.4)
Totals	**363,833**	**100.0**	**39,532**	**100.0**	**175,078**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Illinois did not include students with incomes in the range that would be eligible for reduced-price or paid meals in the data provided for the evaluation, so no Illinois students could fall into these categories in the DC-M simulation results.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.3. Simulated Impact of DC-M on Access, Pooled Sample, October 2011

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Would:	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change	238,447	65.5 (±3.2)	19,142	48.4 (±3.3)	51,486	29.4 (±4.3)	15,972	56.2 (±9.6)	325,047	53.6 (±3.5)	1,926	2.2 (±0.5)	3,905	0.5 (±0.1)	330,878	23.5 (±2.1)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	--	--	15,739	1.1 (±0.1)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	61,535	8.6 (±1.0)	61,535	4.4 (±0.5)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	77,274	5.5 (±0.6)
Suggest Reduced-price (rather than free)[b]	15,246	4.2 (±0.6)	1,602	4.1 (±1.0)	7,410	4.2 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	--	--	--	--	24,975	1.8 (±0.3)
Suggest Reduced-price (rather than paid)[b]	--	--	--	--	--	--	--	--	--	--	--	--	2,404	0.3 (±0.1)	2,404	0.2 (±0.0)
Suggest Paid (rather than free)[b]	6,450	1.8 (±0.4)	1,344	3.4 (±0.7)	7,694	4.4 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	--	--	--	--	16,132	1.1 (±0.2)
Suggest Paid (rather than reduced-price)[b]	--	--	--	--	--	--	--	--	--	--	5,882	6.7 (±1.3)	--	--	5,882	0.4 (±0.1)
Subtotal: Suggest Reduced-price or Paid[b]	21,696	6.0 (±0.9)	2,946	7.5 (±1.7)	15,104	8.6 (±1.8)	1,361	4.8 (±2.8)	41,107	6.8 (±1.0)	5,882	6.7 (±1.3)	2,404	0.3 (±0.1)	49,393	3.5 (±0.6)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.4 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	103,558	28.5 (±3.4)	17,315	43.8 (±3.5)	107,845	61.6 (±4.6)	11,011	38.8 (±7.1)	239,729	39.5 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	948,921	67.4 (±2.4)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	103,690	28.5 (±3.4)	17,444	44.1 (±3.5)	108,488	62.0 (±4.6)	11,071	39.0 (±7.2)	240,693	39.7 (±3.7)	64,826	73.4 (±1.7)	645,470	90.5 (±0.9)	950,989	67.5 (±2.3)
Totals	**363,833**	**100.0**	**39,532**	**100.0**	**175,078**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Illinois did not include students with incomes in the range that would be eligible for reduced-price or paid meals in the data provided for the evaluation, so no Illinois students could fall into these categories in the DC-M simulation results.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.4a. Distribution of Access Evaluation Sample Districts, by Actual October 2011 Certification Rates and Simulated Rates Under DC-M

	Florida (3 districts)		Illinois (311 districts)		Kentucky (122 districts)		New York City (16 districts)		Pennsylvania (3 districts)		Pooled Sample (455 districts)	
Percentage of Students	Actual	Simulated Under DC-M	Actual	Simulated Under DC-M	Actual	Simulated Under DC-M	Actual	Simulated Under DC-M	Actual	Simulated Under DC-M	Actual	Simulated Under DC-M
Directly Certified												
81 to 100	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
61 to 80	0.0	0.0	0.6	6.1	0.0	0.8	12.5	31.3	0.0	66.7	0.9	5.9
41 to 60	0.0	100.0	1.9	36.7	17.2	44.3	37.5	37.5	66.7	0.0	7.7	38.9
21 to 40	100.0	0.0	35.4	44.1	68.0	50.0	43.8	31.3	0.0	33.3	44.6	44.8
0 to 20	0.0	0.0	62.1	12.9	14.8	4.9	6.3	0.0	33.3	0.0	46.8	10.1
Certified for Free Meals												
81 to 100	0.0	0.0	1.0	2.6	0.8	0.8	6.3	12.5	33.3	66.7	1.3	2.9
61 to 80	33.3	33.3	3.9	11.3	16.4	19.7	43.8	50.0	33.3	0.0	9.0	14.9
41 to 60	66.7	66.7	21.9	40.5	63.1	63.1	37.5	37.5	0.0	0.0	33.6	46.4
21 to 40	0.0	0.0	47.3	35.0	16.4	13.1	12.5	0.0	33.3	33.3	37.4	27.7
0 to 20	0.0	0.0	26.0	10.6	3.3	3.3	0.0	0.0	0.0	0.0	18.7	8.1
Certified for Free or Reduced-price Meals												
81 to100	0.0	0.0	1.9	3.9	4.1	4.1	12.5	18.8	66.7	66.7	3.3	4.8
61 to 80	66.7	100.0	8.0	15.8	37.7	44.3	62.5	56.3	0.0	0.0	18.2	25.3
41 to 60	33.3	0.0	31.8	46.0	46.7	41.8	25.0	25.0	0.0	0.0	35.4	43.5
21 to 40	0.0	0.0	40.2	26.4	8.2	7.4	0.0	0.0	33.3	33.3	29.9	20.2
0 to 20	0.0	0.0	18.0	8.0	3.3	2.5	0.0	0.0	0.0	0.0	13.2	6.2

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

Table B.4b. Distribution of Access Evaluation Sample Districts, by Percentage Point Increase in Certification Rates Under DC-M Simulation

Percentage Point Increase Under DC-M Simulation in the Rate of Students	Florida (3 districts)	Illinois (311 districts)	Kentucky (122 districts)	New York City (16 districts)	Pennsylvania (3 districts)	Pooled Sample (455 districts)
Directly Certified						
20.1 or more	0.0	38.9	0.0	0.0	0.0	26.6
15.1 to 20.0	0.0	32.2	2.5	0.0	33.3	22.9
10.1 to 15.0	0.0	22.2	6.6	18.8	66.7	18.0
5.1 to 10.0	100.0	5.8	59.8	75.0	0.0	23.3
0.1 to 5.0	0.0	0.6	31.1	6.3	0.0	9.0
No change	0.0	0.3	0.0	0.0	0.0	0.2
Certified for Free Meals						
20.1 or more	0.0	3.2	0.0	0.0	0.0	2.2
15.1-20.0	0.0	12.5	0.0	0.0	0.0	8.6
10.1 to 15.0	0.0	43.7	0.0	0.0	0.0	29.9
5.1 to 10.0	0.0	37.6	0.0	25.0	33.3	26.8
0.1 to 5.0	100.0	2.6	100.0	75.0	66.7	32.3
No change	0.0	0.3	0.0	0.0	0.0	0.2
Certified for Free or Reduced-price Meals						
20.1 or more	0.0	2.3	0.0	0.0	0.0	1.5
15.1 to 20.0	0.0	3.9	0.0	0.0	0.0	2.6
10.1 to 15.0	0.0	22.8	0.0	0.0	0.0	15.6
5.1 to 10.0	0.0	59.5	0.0	18.8	33.3	41.5
0.1 to 5.0	100.0	10.9	100.0	81.3	66.7	38.2
No change	0.0	0.6	0.0	0.0	0.0	0.4

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

Table B.5. Distribution of Access Evaluation Sample Districts, by State, by Key Thresholds Related to the CEP, Actual October 2011 Direct Certification Rates and Simulated Rates Under DC-M

	Florida (3 districts)		Illinois (311 districts)		Kentucky (122 districts)		New York City (16 districts)		Pennsylvania (3 districts)		Pooled Sample (455 districts)	
Percentage of Students Directly Certified	Actual	Simulated Under DC-M	Actual	Simulated Under DC-M	Actual	Simulated Under DC-M	Actual	Simulated Under DC-M	Actual	Simulated Under DC-M	Actual	Simulated Under DC-M
63 to 100	0.0	0.0	0.6	5.1	0.0	0.0	6.3	25.0	0.0	66.7	0.7	4.8
41 to 62.5	0.0	100.0	1.9	37.9	17.2	45.1	43.8	43.8	66.7	0.0	7.9	40.2
0 to 40	100.0	0.0	97.4	56.9	82.8	54.9	50.0	31.3	33.3	33.3	91.4	54.9

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

Table B.6. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Pooled Sample of Districts with Data for All Three Matching Stringency Levels[a], October 2011

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[b]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Weak Stringency																
Free (133 percent of FPL or less)	140,424	68.9 (±1.0)	13,872	52.5 (±3.1)	17,436	20.9 (±3.0)	3,519	33.9 (±5.8)	175,251	54.1 (±1.2)	2,846	6.2 (±0.7)	8,919	3.3 (±0.5)	187,016	29.1 (±2.0)
Reduced-price (133 to 185 percent of FPL)[c]	13,701	6.7 (±0.3)	1,697	6.4 (±0.7)	6,398	7.7 (±0.8)	751	7.2 (±0.9)	22,547	7.0 (±0.2)	1,767	3.8 (±0.6)	1,797	0.7 (±0.1)	26,111	4.1 (±0.2)
Paid (more than 185 percent of FPL)[c]	6,302	3.1 (±0.6)	1,412	5.3 (±0.4)	7,679	9.2 (±1.1)	657	6.3 (±1.0)	16,050	5.0 (±0.3)	5,935	12.9 (±1.0)	3,890	1.4 (±0.2)	25,875	4.0 (±0.3)
Income Unknown	135	0.1 (±0.0)	131	0.5 (±0.3)	665	0.8 (±0.3)	63	0.6 (±0.3)	994	0.3 (±0.1)	279	0.6 (±0.2)	849	0.3 (±0.1)	2,122	0.3 (±0.1)
No match	43,195	21.2 (±1.2)	9,312	35.2 (±3.6)	51,145	61.4 (±1.4)	5,400	52.0 (±5.1)	109,052	33.7 (±1.2)	35,131	76.4 (±1.8)	258,337	94.4 (±0.8)	402,520	62.5 (±2.4)
Totals	**203,757**	100.0	**26,424**	**100.0**	**83,323**	**100.0**	**10,390**	**100.0**	**323,894**	**100.0**	**45,958**	**100.0**	**273,792**	**100.0**	**643,644**	**100.0**
Medium Stringency																
Free (133 percent of FPL or less)	135,683	66.6 (±2.5)	12,359	46.8 (±1.5)	15,609	18.7 (±1.9)	3,379	32.5 (±6.5)	167,030	51.6 (±2.4)	2,729	5.9 (±0.8)	8,407	3.1 (±0.5)	178,166	27.7 (±1.9)
Reduced-price (133 to 185 percent of FPL)[c]	13,266	6.5 (±0.3)	1,580	6.0 (±0.5)	6,096	7.3 (±1.1)	717	6.9 (±0.7)	21,659	6.7 (±0.3)	1,719	3.7 (±0.7)	1,725	0.6 (±0.1)	25,103	3.9 (±0.2)
Paid (more than 185 percent of FPL)[c]	6,049	3.0 (±0.6)	1,340	5.1 (±0.4)	7,373	8.8 (±1.3)	643	6.2 (±1.0)	15,405	4.8 (±0.3)	5,815	12.7 (±1.1)	3,751	1.4 (±0.2)	24,971	3.9 (±0.3)
Income Unknown	132	0.1 (±0.0)	129	0.5 (±0.2)	643	0.8 (±0.3)	60	0.6 (±0.3)	964	0.3 (±0.1)	274	0.6 (±0.2)	830	0.3 (±0.1)	2,068	0.3 (±0.1)
No Match	48,627	23.9 (±2.7)	11,016	41.7 (±1.3)	53,602	64.3 (±2.5)	5,591	53.8 (±6.0)	118,836	36.7 (±2.7)	35,421	77.1 (±2.0)	259,079	94.6 (±0.7)	413,336	64.2 (±2.2)
Totals	**203,757**	100.0	**26,424**	**100.0**	**83,323**	100.0	**10,390**	100.0	**323,894**	**100.0**	**45,958**	**100.0**	**273,792**	**100.0**	**643,644**	**100.0**

Table B.6 (continued)

Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)																
	Free															
	Direct Certification		Other Categorical Eligibility[b]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Strong Stringency																
Free (133 percent of FPL or less)	109,501	53.7 (±8.2)	5,947	22.5 (±13.4)	11,029	13.2 (±2.8)	2,670	25.7 (±9.7)	129,147	39.9 (±6.9)	2,241	4.9 (±0.9)	6,036	2.2 (±0.3)	137,424	21.4 (±3.4)
Reduced-price (133 to 185 percent of FPL)[c]	10,902	5.4 (±0.8)	927	3.5 (±1.7)	5,008	6.0 (±1.4)	620	6.0 (±0.7)	17,457	5.4 (±0.8)	1,472	3.2 (±0.6)	1,376	0.5 (±0.1)	20,305	3.2 (±0.4)
Paid (more than 185 percent of FPL)[c]	4,551	2.2 (±0.6)	924	3.5 (±1.7)	6,185	7.4 (±1.6)	588	5.7 (±0.9)	12,248	3.8 (±0.6)	4,962	10.8 (±1.2)	3,015	1.1 (±0.2)	20,225	3.1 (±0.4)
Income Unknown	94	0.0 (±0.0)	92	0.3 (±0.2)	448	0.5 (±0.2)	35	0.3 (±0.2)	669	0.2 (±0.1)	201	0.4 (±0.1)	567	0.2 (±0.0)	1,437	0.2 (±0.0)
No Match	78,709	38.6 (±9.3)	18,534	70.1 (±16.7)	60,653	72.8 (±5.3)	6,477	62.3 (±9.7)	164,373	50.7 (±8.3)	37,082	80.7 (±2.4)	262,798	96.0 (±0.6)	464,253	72.1 (±4.2)
Totals	**203,757**	**100.0**	**26,424**	**100.0**	**83,323**	**100.0**	**10,390**	**100.0**	**323,894**	**100.0**	**45,958**	**100.0**	**273,792**	**100.0**	**643,644**	**100.0**

[a] The sample for this table includes only those States and districts that provided the data necessary for matches at all three matching stringency levels: Florida, Kentucky, and one district in Pennsylvania (n = 126 districts). The data files for Illinois, New York, and two districts in Pennsylvania did not include SSNs, which were necessary for the strong stringency match, and thus are excluded from this analysis.

[b] Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[c] Illinois did not include students with incomes in the range that would be eligible for reduced-price or paid meals in the data provided for the evaluation, so no Illinois students could fall into these categories in the DC-M simulation results.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.7a. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Access Evaluation Districts in Florida, October 2011

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Weak Stringency																
Free (133 percent of FPL or less)	44,376	66.1 (±6.8)	5,322	56.7 (±9.0)	5,496	20.5 (±16.8)	0	0	55,194	53.4 (±5.3)	648	4.9 (±5.5)	2,167	3.3 (±2.2)	58,009	31.9 (±4.9)
Reduced-price (133 to 185 percent of FPL)	4,781	7.1 (±0.8)	583	6.2 (±3.3)	1,284	4.8 (±1.9)	0	0	6,648	6.4 (±0.7)	272	2.1 (±2.3)	469	0.7 (±0.6)	7,389	4.1 (±0.8)
Paid (more than 185 percent of FPL)	3,287	4.9 (±1.9)	460	4.9 (±2.2)	1,580	5.9 (±1.3)	0	0	5,327	5.2 (±1.0)	1,016	7.8 (±2.4)	1,145	1.8 (±1.2)	7,488	4.1 (±1.1)
Income Unknown	0	0.0 (±0.0)	3	0.0 (±0.1)	1	0.0 (±0.0)	0	0	4	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	4	0.0 (±0.0)
No Match	14,652	21.8 (±6.9)	3,018	32.2 (±13.6)	18,463	68.8 (±17.7)	0	0	36,133	35.0 (±5.0)	11,173	85.2 (±9.9)	61,548	94.2 (±4.0)	108,854	59.9 (±6.7)
Totals	**67,096**	**100.0**	**9,386**	**100.0**	**26,824**	**100.0**	**0**	**0**	**103,306**	**100.0**	**13,109**	**100.0**	**65,329**	**100.0**	**181,744**	**100.0**
Medium Stringency																
Free (133 percent of FPL or less)	41,080	61.2 (±17.4)	4,567	48.7 (±2.4)	4,364	16.3 (±9.1)	0	0	50,011	48.4 (±14.7)	597	4.6 (±6.0)	1,940	3.0 (±2.0)	52,548	28.9 (±5.2)
Reduced-price (133 to 185 percent of FPL)	4,448	6.6 (±1.7)	514	5.5 (±2.2)	1,093	4.1 (±2.2)	0	0	6,055	5.9 (±1.7)	245	1.9 (±2.8)	425	0.7 (±0.6)	6,725	3.7 (±0.9)
Paid (more than 185 percent of FPL)	3,064	4.6 (±1.5)	407	4.3 (±1.6)	1,390	5.2 (±2.5)	0	0	4,861	4.7 (±0.7)	948	7.2 (±3.6)	1,054	1.6 (±1.1)	6,863	3.8 (±1.0)
Income Unknown	0	0.0 (±0.0)	3	0.0 (±0.1)	0	0.0 (±0.0)	0	0	3	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	3	0.0 (±0.0)
No Match	18,504	27.6 (±18.7)	3,895	41.5 (±4.5)	19,977	74.5 (±10.9)	0	0	42,376	41.0 (±16.5)	11,319	86.3 (±12.2)	61,910	94.8 (±3.7)	115,605	63.6 (±6.9)
Totals	**67,096**	**100.0**	**9,386**	**100.0**	**26,824**	**100.0**	**0**	**0**	**103,306**	**100.0**	**13,109**	**100.0**	**65,329**	**100.0**	**181,744**	**100.0**
Strong Stringency																
Free (133 percent of FPL or less)	24,169	36.0 (±56.5)	1,239	13.2 (±57.5)	2,217	8.3 (±10.8)	0	0	27,625	26.7 (±47.2)	416	3.2 (±6.5)	1,116	1.7 (±2.7)	29,157	16.0 (±26.0)
Reduced-price (133 to 185 percent of FPL)	2,668	4.0 (±5.7)	113	1.2 (±5.4)	609	2.3 (±4.0)	0	0	3,390	3.3 (±5.5)	165	1.3 (±3.3)	250	0.4 (±0.6)	3,805	2.1 (±3.3)
Paid (more than 185 percent of FPL)	1,749	2.6 (±3.3)	97	1.0 (±4.6)	774	2.9 (±4.5)	0	0	2,620	2.5 (±3.9)	575	4.4 (±8.4)	606	0.9 (±1.5)	3,801	2.1 (±3.2)
Income Unknown	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)
No Match	38,510	57.4 (±65.2)	7,937	84.6 (±67.4)	23,224	86.6 (±19.2)	0	0	69,671	67.4 (±56.5)	11,953	91.2 (±18.1)	63,357	97.0 (±4.8)	144,981	79.8 (±32.6)

Table B.7a (continued)

DC-M Simulation Results	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Totals	**67,096**	**100.0**	**9,386**	**100.0**	**26,824**	**100.0**	**0**	**0**	**103,306**	**100.0**	**13,109**	**100.0**	**65,329**	**100.0**	**181,744**	**100.0**

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.7b. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Access Evaluation Districts in Illinois, October 2011

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Weak Stringency																
Free (133 percent of FPL or less)	74,895	82.9 (±7.2)	6,414	60.7 (±8.1)	27,292	48.8 (±12.2)	12,574	70.0 (±4.4)	121,175	69.3 (±9.2)	11,849	39.7 (±1.2)	46,628	12.7 (±1.2)	179,652	31.4 (±3.3)
Reduced-price (133 to 185 percent of FPL)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Paid (more than 185 percent of FPL)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Income Unknown	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
No Match	15,440	17.1 (±7.2)	4,155	39.3 (±8.1)	28,643	51.2 (±12.2)	5,380	30.0 (±4.4)	53,618	30.7 (±9.2)	18,006	60.3 (±1.2)	321,358	87.3 (±1.2)	392,982	68.6 (±3.3)
Totals	**90,335**	**100.0**	**10,569**	**100.0**	**55,935**	**100.0**	**17,954**	**100.0**	**174,793**	**100.0**	**29,855**	**100.0**	**367,986**	**100.0**	**572,634**	**100.0**
Medium Stringency																
Free (133 percent of FPL or less)	64,901	71.8 (±6.3)	5,418	51.3 (±6.9)	22,901	40.9 (±10.4)	10,584	59.0 (±3.7)	103,804	59.4 (±8.0)	10,308	34.5 (±1.2)	38,539	10.5 (±1.0)	152,651	26.7 (±2.8)
Reduced-price (133 to 185 percent of FPL)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Paid (more than 185 percent of FPL)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Income Unknown	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
No Match	25,434	28.2 (±6.3)	5,151	48.7 (±6.9)	33,034	59.1 (±10.4)	7,370	41.0 (±3.7)	70,989	40.6 (±8.0)	19,547	65.5 (±1.2)	329,447	89.5 (±1.0)	419,983	73.3 (±2.8)
Totals	**90,335**	**100.0**	**10,569**	**100.0**	**55,935**	**100.0**	**17,954**	**100.0**	**174,793**	**100.0**	**29,855**	**100.0**	**367,986**	**100.0**	**572,634**	**100.0**
Strong Stringency[b]																
Free (133 percent of FPL or less)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)
Reduced-price (133 to 185 percent of FPL)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Paid (more than 185 percent of FPL)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Income Unknown	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.7b (continued)

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
No Match	90,335	100.0 (±0.0)	10,569	100.0 (±0.0)	55,935	100.0 (±0.0)	17,954	100.0 (±0.0)	174,793	100.0 (±0.0)	29,855	100.0 (±0.0)	367,986	100.0 (±0.0)	572,634	100.0 (±0.0)
Totals	**90,335**	**100.0**	**10,569**	**100.0**	**55,935**	**100.0**	**17,954**	**100.0**	**174,793**	**100.0**	**29,855**	**100.0**	**367,986**	**100.0**	**572,634**	**100.0**

Notes: Illinois did not include a measure of income in the data provided, but restricted the Medicaid data to children whose household incomes were 133 percent of FPL or less. Thus, all cases that matched to student enrollment files are considered to be eligible for free meals under the DC-M simulation.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]The student enrollment files for Illinois did not include the elements required for a strong stringency level match.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.7c. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Access Evaluation Districts in Kentucky, October 2011

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)b	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Weak Stringency																
Free (133 percent of FPL or less)	87,888	68.9 (±0.0)	7,449	47.5 (±0.0)	10,508	19.5 (±0.0)	3,519	33.9 (±0.0)	109,364	52.7 (±0.0)	1,991	6.2 (±0.0)	5,367	2.6 (±0.0)	116,722	26.2 (±0.0)
Reduced-price (133 to 185 percent of FPL)	8,799	6.9 (±0.0)	1,095	7.0 (±0.0)	5,078	9.4 (±0.0)	751	7.2 (±0.0)	15,723	7.6 (±0.0)	1,472	4.6 (±0.0)	1,302	0.6 (±0.0)	18,497	4.2 (±0.0)
Paid (more than 185 percent of FPL)	3,009	2.4 (±0.0)	951	6.1 (±0.0)	6,096	11.3 (±0.0)	657	6.3 (±0.0)	10,713	5.2 (±0.0)	4,918	15.3 (±0.0)	2,742	1.3 (±0.0)	18,373	4.1 (±0.0)
Income Unknown	135	0.1 (±0.0)	128	0.8 (±0.0)	664	1.2 (±0.0)	63	0.6 (±0.0)	990	0.5 (±0.0)	279	0.9 (±0.0)	849	0.4 (±0.0)	2,118	0.5 (±0.0)
No Match	27,679	21.7 (±0.0)	6,075	38.7 (±0.0)	31,440	58.5 (±0.0)	5,400	52.0 (±0.0)	70,594	34.0 (±0.0)	23,481	73.1 (±0.0)	195,732	95.0 (±0.0)	289,807	65.0 (±0.0)
Totals	**127,510**	**100.0**	**15,698**	**100.0**	**53,786**	**100.0**	**10,390**	**100.0**	**207,384**	**100.0**	**32,141**	**100.0**	**205,992**	**100.0**	**445,517**	**100.0**
Medium Stringency																
Free (133 percent of FPL or less)	86,693	68.0 (±0.0)	6,996	44.6 (±0.0)	10,133	18.8 (±0.0)	3,379	32.5 (±0.0)	107,201	51.7 (±0.0)	1,963	6.1 (±0.0)	5,226	2.5 (±0.0)	114,390	25.7 (±0.0)
Reduced-price (133 to 185 percent of FPL)	8,698	6.8 (±0.0)	1,050	6.7 (±0.0)	4,973	9.2 (±0.0)	717	6.9 (±0.0)	15,438	7.4 (±0.0)	1,453	4.5 (±0.0)	1,278	0.6 (±0.0)	18,169	4.1 (±0.0)
Paid (more than 185 percent of FPL)	2,980	2.3 (±0.0)	932	5.9 (±0.0)	5,980	11.1 (±0.0)	643	6.2 (±0.0)	10,535	5.1 (±0.0)	4,866	15.1 (±0.0)	2,694	1.3 (±0.0)	18,095	4.1 (±0.0)
Income Unknown	132	0.1 (±0.0)	126	0.8 (±0.0)	643	1.2 (±0.0)	60	0.6 (±0.0)	961	0.5 (±0.0)	274	0.9 (±0.0)	830	0.4 (±0.0)	2,065	0.5 (±0.0)
No Match	29,007	22.7 (±0.0)	6,594	42.0 (±0.0)	32,057	59.6 (±0.0)	5,591	53.8 (±0.0)	73,249	35.3 (±0.0)	23,585	73.4 (±0.0)	195,964	95.1 (±0.0)	292,798	65.7 (±0.0)
Totals	**127,510**	**100.0**	**15,698**	**100.0**	**53,786**	**100.0**	**10,390**	**100.0**	**207,384**	**100.0**	**32,141**	**100.0**	**205,992**	**100.0**	**445,517**	**100.0**
Strong Stringency																
Free (133 percent of FPL or less)	79,724	62.5 (±0.0)	4,356	27.7 (±0.0)	8,242	15.3 (±0.0)	2,670	25.7 (±0.0)	94,992	45.8 (±0.0)	1,717	5.3 (±0.0)	4,211	2.0 (±0.0)	100,920	22.7 (±0.0)
Reduced-price (133 to 185 percent of FPL)	8,131	6.4 (±0.0)	807	5.1 (±0.0)	4,377	8.1| (±0.0)	620	6.0 (±0.0)	13,935	6.7 (±0.0)	1,295	4.0 (±0.0)	1,098	0.5 (±0.0)	16,328	3.7 (±0.0)
Paid (more than 185 percent of FPL)	2,799	2.2 (±0.0)	826	5.3 (±0.0)	5,411	10.1 (±0.0)	588	5.7 (±0.0)	9,624	4.6 (±0.0)	4,387	13.6 (±0.0)	2,409	1.2 (±0.0)	16,420	3.7 (±0.0)
Income Unknown	94	0.1 (±0.0)	92	0.6 (±0.0)	448	0.8 (±0.0)	35	0.3 (±0.0)	669	0.3 (±0.0)	201	0.6 (±0.0)	567	0.3 (±0.0)	1,437	0.3 (±0.0)
No Match	36,762	28.8 (±0.0)	9,617	61.3 (±0.0)	35,308	65.6 (±0.0)	6,477	62.3 (±0.0)	88,164	42.5 (±0.0)	24,541	76.4 (±0.0)	197,707	96.0 (±0.0)	310,412	69.7 (±0.0)
Totals	**127,510**	**100.0**	**15,698**	**100.0**	**53,786**	**100.0**	**10,390**	**100.0**	**207,384**	**100.0**	**32,141**	**100.0**	**205,992**	**100.0**	**445,517**	**100.0**

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Confidence interval half-widths are zero for Kentucky because a census of all eligible districts in the state was included in the analyses. That the estimates are free of sampling error does not imply, however, that they are also entirely free of nonsampling error, which can arise from several sources in administrative data.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.7d. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Access Evaluation Districts in New York City, October 2011

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Weak Stringency																
Free (133 percent of FPL or less)	22,729	37.8 (±1.7)	391	24.4 (±1.7)	7,619	24.3 (±1.2)	16	30.2 (±10.6)	30,755	33.0 (±1.2)	896	8.4 (±0.9)	6,127	9.3 (±1.6)	37,778	22.3 (±2.0)
Reduced-price (133 to 185 percent of FPL)	1,890	3.1 (±0.5)	21	1.3 (±0.5)	1,263	4.0 (±0.7)	0	0.0 (±0.0)	3,174	3.4 (±0.6)	164	1.5 (±0.4)	637	1.0 (±0.2)	3,975	2.3 (±0.3)
Paid (more than 185 percent of FPL)	403	0.7 (±0.2)	4	0.2 (±0.2)	314	1.0 (±0.3)	1	1.9 (±2.7)	722	0.8 (±0.2)	65	0.6 (±0.1)	145	0.2 (±0.1)	932	0.5 (±0.1)
Income Unknown	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)
No Match	35,146	58.4 (±2.3)	1,186	74.0 (±2.0)	22,135	70.6 (±1.9)	36	67.9 (±10.6)	58,503	62.8 (±1.8)	9,583	89.5 (±1.2)	58,896	89.5 (±1.7)	126,982	74.8 (±2.2)
Totals	**60,168**	**100.0**	**1,602**	**100.0**	**31,331**	**100.0**	**53**	**100.0**	**93,154**	**100.0**	**10,708**	**100.0**	**65,805**	**100.0**	**169,667**	**100.0**
Medium Stringency																
Free (133 percent of FPL or less)	18,896	31.4 (±1.6)	264	16.5 (±1.1)	6,125	19.5 (±1.2)	13	24.5 (±13.6)	25,298	27.2 (±1.0)	753	7.0 (±0.7)	4,689	7.1 (±1.2)	30,740	18.1 (±1.5)
Reduced-price (133 to 185 percent of FPL)	1,507	2.5 (±0.4)	13	0.8 (±0.3)	1,054	3.4 (±0.6)	0	0.0 (±0.0)	2,574	2.8 (±0.5)	136	1.3 (±0.3)	505	0.8 (±0.1)	3,215	1.9 (±0.3)
Paid (more than 185 percent of FPL)	328	0.5 (±0.1)	2	0.1 (±0.1)	271	0.9 (±0.2)	1	1.9 (±2.7)	602	0.6 (±0.2)	54	0.5 (±0.1)	113	0.2 (±0.0)	769	0.5 (±0.1)
Income Unknown	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)
No Match	39,437	65.5 (±2.0)	1,323	82.6 (±1.2)	23,881	76.2 (±2.0)	39	73.6 (±13.5)	64,680	69.4 (±1.6)	9,765	91.2 (±0.9)	60,498	91.9 (±1.4)	134,943	79.5 (±1.6)
Totals	**60,168**	**100.0**	**1,602**	**100.0**	**31,331**	**100.0**	**53**	**100.0**	**93,154**	**100.0**	**10,708**	**100.0**	**65,805**	**100.0**	**169,667**	**100.0**
Strong Stringency[b]																
Free (133 percent of FPL or less)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)
Reduced-price (133 to 185 percent of FPL)	0	0.0 (±0.0))	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)
Paid (more than 185 percent of FPL)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)
Income Unknown	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)
No Match	60,168	100.0 (±0.0)	1,602	100.0 (±0.0)	31,331	100.0 (±0.0)	53	100.0 (±0.0)	93,154	100.0 (±0.0)	10,708	100.0 (±0.0)	65,805	100.0 (±0.0)	169,667	100.0 (±0.0)
Totals	**60,168**	**100.0**	**1,602**	**100.0**	**31,331**	**100.0**	53	**100.0**	93,154	**100.0**	**10,708**	**100.0**	**65,805**	**100.0**	**169,667**	**100.0**

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]The student enrollment files for New York City did not include the elements required for a strong stringency level match.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.7e. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, by Level of Matching Stringency, Access Evaluation Districts in Pennsylvania, October 2011

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	%[b]	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Weak Stringency																
Free (133 percent of FPL or less)	16,588	88.6 (±2.3)	1,766	77.6 (±19.1)	3,441	47.8 (±12.2)	6	85.7	21,801	77.3 (±11.2)	626	24.5 (±9.6)	2,513	30.6 (±52.9)	24,940	64.0 (±34.3)
Reduced-price (133 to 185 percent of FPL)	239	1.3 (±0.3)	31	1.4 (±0.3)	116	1.6 (±1.1)	0	0.0	386	1.4 (±0.1)	88	3.4 (±1.6)	69	0.8 (±0.8)	543	1.4 (±0.3)
Paid (more than 185 percent of FPL)	6	0.0 (±0.1)	2	0.1 (±0.1)	14	0.2 (±0.3)	0	0.0	22	0.1 (±0.0)	4	0.2 (±0.1)	20	0.2 (±0.7)	46	0.1 (±0.1)
Income Unknown	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)
No Match	1,891	10.1 (±2.4)	478	21.0 (±19.3)	3,631	50.4 (±11.3)	1	14.3	6,001	21.3 (±11.1)	1,842	72.0 (±8.7)	5,600	68.3 (±53.6)	13,443	34.5 (±34.4)
Totals	**18,724**	**100.0**	**2,277**	**100.0**	**7,202**	**100.0**	7	**100.0**	**28,210**	**100.0**	**2,560**	**100.0**	**8,202**	**100.0**	**38,972**	**100.0**
Medium Stringency																
Free (133 percent of FPL or less)	15,352	82.0 (±15.2)	1,218	53.5 (±29.2)	2,620	36.4 (±12.5)	3	42.9	19,193	68.0 (±20.0)	495	19.3 (±8.3)	2,146	26.2 (±47.9)	21,834	56.0 (±35.1)
Reduced-price (133 to 185 percent of FPL)	227	1.2 (±0.4)	26	1.1 (±0.2)	89	1.2 (±0.6)	0	0.0	342	1.2 (±0.2)	73	2.9 (±2.4)	58	0.7 (±0.5)	473	1.2 (±0.2)
Paid (more than 185 percent of FPL)	5	0.0 (±0.1)	1	0.0 (±0.1)	13	0.2 (±0.3)	0	0.0	19	0.1 (±0.0)	4	0.2 (±0.1)	15	0.2 (±0.4)	38	0.1 (±0.1)
Income Unknown	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)
No Match	3,140	16.8 (±15.7)	1,032	45.3 (±29.5)	4,480	62.2 (±11.8)	4	57.1	8,656	30.7 (±20.2)	1,988	77.7 (±8.3)	5,983	72.9 (±48.2)	16,627	42.7 (±35.3)
Totals	**18,724**	**100.0**	**2,277**	**100.0**	**7,202**	**100.0**	**7**	**100.0**	**28,210**	**100.0**	**2,560**	**100.0**	**8,202**	**100.0**	**38,972**	**100.0**
Strong Stringency																
Free (133 percent of FPL or less)	5,608	30.0 (±112.1)	352	15.5 (±44.6)	570	7.9 (±34.7)	0	0.0	6,530	23.1 (±88.8)	108	4.2 (±21.2)	709	8.6 (±39.0)	7,347	18.9 (±74.9)
Reduced-price (133 to 185 percent of FPL)	103	0.6 (±2.1)	7	0.3 (±0.9)	22	0.3 (±1.3)	0	0.0	132	0.5 (±1.8)	12	0.5 (±2.4)	28	0.3 (±1.5)	172	0.4 (±1.8)
Paid (more than 185 percent of FPL)	3	0.0 (±0.1)	1	0.0 (±0.1)	0	0.0 (±0.0)	0	0.0	4	0.0 (±0.1)	0	0.0 (±0.0)	0	0.0 (±0.0)	4	0.0 (±0.0)

Table B.7e (continued)

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	%[b]	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Income Unknown	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)	0	0.0 (±0.0)
No Match	13,010	69.5 (±114.2)	1,917	84.2 (±45.6)	6,610	91.8 (±36.1)	7	100.0	21,544	76.4 (±90.7)	2,440	95.3 (±23.5)	7,465	91.0 (±40.5)	31,449	80.7 (±76.7)
Totals	**18,724**	**100.0**	**2,277**	**100.0**	**7,202**	**100.0**	**7**	**100.0**	**28,210**	**100.0**	**2,560**	**100.0**	**8,202**	**100.0**	**38,972**	**100.0**

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Confidence interval half-widths are not presented for the "Source of Certification Unknown" category because only one district in Pennsylvania had any students in that category.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.8a. Simulated Impact of DC-M on Access, Pooled Sample of Districts, Weak Stringency Matching Algorithm

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Would:	#	% (CI)	#	% (CI)	#	%(CI)	#	% (CI)	#	%(CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change	140,424	68.9 (±1.0)	13,872	52.5 (±3.1)	17,436	20.9 (±3.0)	3,519	33.9 (±5.8)	175,251	54.1 (±1.2)	1,767	3.8 (±0.6)	3,890	1.4 (±0.2)	180,908	28.1 (±2.0)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	2,846	6.2 (±0.7)	--	--	2,846	0.4 (±0.1)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	8,919	3.3 (±0.5)	8,919	1.4 (±0.2)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	2,846	6.2 (±0.7)	8,919	3.3 (±0.5)	11,765	1.8 (±0.2)
Suggest Reduced-price (rather than free)[b]	13,701	6.7 (±0.3)	1,697	6.4 (±0.7)	6,398	7.7 (±0.8)	751	7.2 (±0.9)	22,547	7.0 (±0.2)	--	--	--	--	22,547	3.5 (±0.2)
Suggest Reduced-price (rather than paid)[b]	--	--	--	--	--	--	--	--	--	--	--	--	1,797	0.7 (±0.1)	1,797	0.3 (±0.0)
Suggest Paid (rather than free)[b]	6,302	3.1 (±0.6)	1,412	5.3 (±0.4)	7,679	9.2 (±1.1)	657	6.3 (±1.0)	16,050	5.0 (±0.3)	--	--	--	--	16,050	2.5 (±0.2)
Suggest Paid (rather than reduced-price)[b]	--	--	--	--	--	--	--	--	--	--	5,935	12.9 (±1.0)	--	--	5,935	0.9 (±0.1)
Subtotal: Suggest Reduced-price or Paid[b]	20,003	9.8 (±0.9)	3,109	11.8 (±1.0)	14,077	16.9 (±1.9)	1,408	13.6 (±1.7)	38,597	11.9 (±0.3)	5,935	12.9 (±1.0)	1,797	0.7 (±0.1)	46,329	7.2 (±0.4)
Income Unknown	135	0.1 (±0.0)	131	0.5 (±0.3)	665	0.8 (±0.3)	63	0.6 (±0.3)	994	0.3 (±0.1)	279	0.6 (±0.2)	849	0.3 (±0.1)	2,122	0.3 (±0.1)
No Match	43,195	21.2 (±1.2)	9,312	35.2 (±3.6)	51,145	61.4 (±1.4)	5,400	52.0 (±5.1)	109,052	33.7 (±1.2)	35,131	76.4 (±1.8)	258,337	94.4 (±0.8)	402,520	62.5 (±2.4)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	43,330	21.3 (±1.2)	9,443	35.7 (±3.7)	51,810	62.2 (±1.5)	5,463	52.6 (±5.2)	110,046	34.0 (±1.1)	35,410	77.0 (±1.7)	259,186	94.7 (±0.8)	404,642	62.9 (±2.5)
Totals	**203,757**	**100.0**	**26,424**	**100.0**	**83,323**	**100.0**	**10,390**	**100.0**	**323,894**	**100.0**	**45,958**	**100.0**	**273,792**	**100.0**	**643,644**	**100.0**

Note: Data are from October 2011. The sample for this table includes only those States and districts that provided the data necessary for matches at all three matching stringency levels: Florida, Kentucky, and one district in Pennsylvania (n = 126 districts). The data files for Illinois, New York City, and two districts in Pennsylvania did not include SSNs, which were necessary for the strong stringency match, and thus are excluded from this analysis.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Illinois did not include students with incomes in the range that would be eligible for reduced-price or paid meals in the data provided for the evaluation, so no Illinois students could fall into these categories in the DC-M simulation results.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.8b. Simulated Impact of DC-M on Access, Pooled Sample of Districts, Medium Stringency Matching Algorithm

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Would:	#	% (CI)	#	% (CI)	#	%(CI)	#	% (CI)	#	%(CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change	135,683	66.6 (±2.5)	12,359	46.8 (±1.5)	15,609	18.7 (±1.9)	3,379	32.5 (±6.5)	167,030	51.6 (±2.4)	1,719	3.7 (±0.7)	3,751	1.4 (±0.2)	172,500	26.8 (±1.8)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	2,729	5.9 (±0.8)	--	--	2,729	0.4 (±0.1)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	8,407	3.1 (±0.5)	8,407	1.3 (±0.2)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	2,729	5.9 (±0.8)	8,407	3.1 (±0.5)	11,136	1.7 (±0.2)
Suggest Reduced-price (rather than free)[b]	13,266	6.5 (±0.3)	1,580	6.0 (±0.5)	6,096	7.3 (±1.1)	717	6.9 (±0.7)	21,659	6.7 (±0.3)	--	--	--	--	21,659	3.4 (±0.2)
Suggest Reduced-price (rather than paid)[b]	--	--	--	--	--	--	--	--	--	--	--	--	1,725	0.6 (±0.1)	1,725	0.3 (±0.0)
Suggest Paid (rather than free)[b]	6,049	3.0 (±0.6)	1,340	5.1 (±0.4)	7,373	8.8 (±1.3)	643	6.2 (±1.0)	15,405	4.8 (±0.3)	--	--	--	--	15,405	2.4 (±0.2)
Suggest Paid (rather than reduced-price)[b]	--	--	--	--	--	--	--	--	--	--	5,815	12.7 (±1.1)	--	--	5,815	0.9 (±0.1)
Subtotal: Suggest Reduced-price or Paid[b]	19,315	9.5 (±0.8)	2,920	11.1 (±0.8)	13,469	16.2 (±2.4)	1,360	13.1 (±1.7)	37,064	11.4 (±0.4)	5,815	12.7 (±1.1)	1,725	0.6 (±0.1)	44,604	6.9 (±0.4)
Income Unknown	132	0.1 (±0.0)	129	0.5 (±0.2)	643	0.8 (±0.3)	60	0.6 (±0.3)	964	0.3 (±0.1)	274	0.6 (±0.2)	830	0.3 (±0.1)	2,068	0.3 (±0.1)
No Match	48,627	23.9 (±2.7)	11,016	41.7 (±1.3)	53,602	64.3 (±2.5)	5,591	53.8 (±6.0)	118,836	36.7 (±2.7)	35,421	77.1 (±2.0)	259,079	94.6 (±0.7)	413,336	64.2 (±2.2)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	48,759	23.9 (±2.7)	11,145	42.2 (±1.4)	54,245	65.1 (±2.3)	5,651	54.4 (±6.2)	119,800	37.0 (±2.7)	35,695	77.7 (±1.9)	259,909	94.9 (±0.7)	415,404	64.5 (±2.3)
Totals	**203,757**	**100.0**	**26,424**	**100.0**	**83,323**	**100.0**	**10,390**	**100.0**	**323,894**	**100.0**	**45,958**	**100.0**	**273,792**	**100.0**	**643,644**	**100.0**

Note: Data are from October 2011. The sample for this table includes only those States and districts that provided the data necessary for matches at all three matching stringency levels: Florida, Kentucky, and one district in Pennsylvania (n = 126 districts). The data files for Illinois, New York City, and two districts in Pennsylvania did not include SSNs, which were necessary for the strong stringency match, and thus are excluded from this analysis.

Table B.8b.(continued)

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Illinois did not include students with incomes in the range that would be eligible for reduced-price or paid meals in the data provided for the evaluation, so no Illinois students could fall into these categories in the DC-M simulation results.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.8c. Simulated Impact of DC-M on Access, Pooled Sample of Districts, Strong Stringency Matching Algorithm

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Would:	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change	109,501	53.7 (±8.2)	5,947	22.5 (±13.4)	11,029	13.2 (±2.8)	2,670	25.7 (±9.7)	129,147	39.9 (±6.9)	1,472	3.2 (±0.6)	3,015	1.1 (±0.2)	133,634	20.8 (±3.3)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	2,241	4.9 (±0.9)	--	--	2,241	0.3 (±0.1)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	6,036	2.2 (±0.3)	6,036	0.9 (±0.1)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	2,241	4.9 (±0.9)	6,036	2.2 (±0.3)	8,277	1.3 (±0.2)
Suggest Reduced-price (rather than free)[b]	10,902	5.4 (±0.8)	927	3.5 (±1.7)	5,008	6.0 (±1.4)	620	6.0 (±0.7)	17,457	5.4 (±0.8)	--	--	--	--	17,457	2.7 (±0.4)
Suggest Reduced-price (rather than paid)[b]	--	--	--	--	--	--	--	--	--	--	--	--	1,376	0.5 (±0.1)	1,376	0.2 (±0.0)
Suggest Paid (rather than free)[b]	4,551	2.2 (±0.6)	924	3.5 (±1.7)	6,185	7.4 (±1.6)	588	5.7 (±0.9)	12,248	3.8 (±0.6)	--	--	--	--	12,248	1.9 (±0.3)
Suggest Paid (rather than reduced-price)[b]	--	--	--	--	--	--	--	--	--	--	4,962	10.8 (±1.2)	--	--	4,962	0.8 (±0.1)
Subtotal: Suggest Reduced-price or Paid[b]	15,453	7.6 (±1.3)	1,851	7.0 (±3.4)	11,193	13.4 (±2.9)	1,208	11.6 (±1.4)	29,705	9.2 (±1.4)	4,962	10.8 (±1.2)	1,376	0.5 (±0.1)	36,043	5.6 (±0.7)
Income Unknown	94	0.0 (±0.0)	92	0.3 (±0.2)	448	0.5 (±0.2)	35	0.3 (±0.2)	669	0.2 (±0.1)	201	0.4 (±0.1)	567	0.2 (±0.0)	1,437	0.2 (±0.0)
No Match	78,709	38.6 (±9.3)	18,534	70.1 (±16.7)	60,653	72.8 (±5.3)	6,477	62.3 (±9.7)	164,373	50.7 (±8.3)	37,082	80.7 (±2.4)	262,798	96.0 (±0.6)	464,253	72.1 (±4.2)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	78,803	38.7 (±9.3)	18,626	70.5 (±16.6)	61,101	73.3 (±5.2)	6,512	62.7 (±9.9)	165,042	51.0 (±8.3)	37,283	81.1 (±2.4)	263,365	96.2 (±0.6)	465,690	72.4 (±4.2)
Totals	**203,757**	**100.0**	**26,424**	**100.0**	**83,323**	**100.0**	**10,390**	**100.0**	**323,894**	**100.0**	**45,958**	**100.0**	**273,792**	**100.0**	**643,644**	**100.0**

Note: Data are from October 2011. The sample for this table includes only those States and districts that provided the data necessary for matches at all three matching stringency levels: Florida, Kentucky, and one district in Pennsylvania (n = 126 districts). The data files for Illinois, New York City, and two districts in Pennsylvania did not include SSNs, which were necessary for the strong stringency match, and thus are excluded from this analysis.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Illinois did not include students with incomes in the range that would be eligible for reduced-price or paid meals in the data provided for the evaluation, so no Illinois students could fall into these categories in the DC-M simulation results.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.9. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation Using Statewide Medicaid Files, Pooled Sample

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	(CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	241,635	66.4 (±3.1)	20,919	52.9 (±3.6)	53,196	30.4 (±4.3)	16,295	57.4 (±9.2)	332,045	54.7 (±3.5)	15,930	18.0 (±2.4)	63,060	8.8 (±0.9)	411,035	29.2 (±2.0)
Reduced-price (133 to 185 percent of FPL)[b]	15,947	4.4 (±0.6)	1,742	4.4 (±1.0)	7,709	4.4 (±0.9)	759	2.7 (±1.6)	26,157	4.3 (±0.6)	1,957	2.2 (±0.5)	2,576	0.4 (±0.1)	30,690	2.2 (±0.4)
Paid (more than 185 percent of FPL)[b]	7,047	1.9 (±0.5)	1,439	3.6 (±0.7)	7,985	4.6 (±1.0)	663	2.3 (±1.4)	17,134	2.8 (±0.4)	5,989	6.8 (±1.3)	4,075	0.6 (±0.1)	27,198	1.9 (±0.4)
Income Unknown	152	0.0 (±0.0)	147	0.4 (±0.2)	701	0.4 (±0.1)	70	0.2 (±0.2)	1,070	0.2 (±0.1)	300	0.3 (±0.1)	948	0.1 (±0.0)	2,318	0.2 (±0.1)
No Match	99,052	27.2 (±3.4)	15,285	38.7 (±3.7)	105,487	60.3 (±4.7)	10,617	37.4 (±6.6)	230,441	38.0 (±3.8)	64,197	72.6 (±1.7)	642,655	90.1 (±0.9)	937,293	66.5 (±2.4)
Totals	**363,833**	**100.0**	**39,532**	**100.0**	**175,078**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The sample for this table includes only those states where Medicaid files could be restricted geographically to align with the student enrollment files: Florida, Kentucky, and Pennsylvania (n=128 districts). It was not feasible to restrict the Medicaid data files in Illinois and New York City to align with the school districts in the sample, so those states are excluded from this analysis. The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Illinois did not include students with incomes in the range that would be eligible for reduced-price or paid meals in the data provided for the evaluation, so no Illinois students could fall into these categories in the DC-M simulation results.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.10. Summary of Simulated Impacts of DC-M, by State and Timing of Match, Pooled Sample of Districts with Data for Three Points in Time

	Percentage of Students	
	Directly Certified for Free Meals	Total Certified for Free Meals[a]
Florida (2 districts)		
Actual, without DC-M (July/August 2011)	36.2	42.5
Simulated under DC-M		
July/August 2011	41.8	46.7
October 2011	43.7	58.2
January 2012	44.2	59.2
Illinois (311 districts)		
Actual, without DC-M (July/August 2011)	15.3	27.0
Simulated under DC-M		
July/August 2011	31.3	36.8
October 2011	34.1	40.7
January 2012	34.9	41.6
Kentucky (122 districts)		
Actual, without DC-M (July/August 2011)	28.3	45.8
Simulated under DC-M		
July/August 2011	33.9	47.4
October 2011	34.8	48.2
January 2012	35.9	49.1
New York City (16 districts)		
Actual, without DC-M (July/August 2011)	39.1	61.1
Simulated under DC-M		
July/August 2011	45.9	63.8
October 2011	44.3	59.0
January 2012	45.4	63.8
Pennsylvania (1 district)		
Actual, without DC-M (July/August 2011)	48.8	73.3
Simulated under DC-M		
July/August 2011	60.4	78.1
October 2011	64.0	81.0
January 2012	65.5	82.4

Table B.10 (continued)

	Percentage of Students	
	Directly Certified for Free Meals	Total Certified for Free Meals[a]
Pooled Sample (452 districts)		
Actual, without DC-M (July/August 2011)	26.1	40.8
Simulated under DC-M		
July/August 2011	35.9	46.0
October 2011	37.0	47.9
January 2012	37.9	49.2

Notes: One of the three sample districts in Florida and two of the three in Pennsylvania did not provide data for three different points in time during SY 2011–2012. These districts are excluded from this analysis.

The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Including by application, direct certification, or other categorical eligibility.

SY = school year.

Table B.11. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, Pooled Sample of Districts with Data for Three Points in Time[b]

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	(CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
July/August 2011																
Free (133 percent of FPL or less)	193,915	61.4 (±4.5)	10,918	46.0 (±3.6)	29,085	27.2 (±5.4)	15,673	32.7 (±8.3)	249,591	50.5 (±4.2)	11,389	16.6 (±3.6)	51,492	7.9 (±1.1)	312,472	25.8 (±2.1)
Reduced-price (133 to 185 percent of FPL)[c]	14,522	4.6 (±0.9)	1,091	4.6 (±1.2)	5,360	5.0 (±1.2)	1,417	3.0 (±0.9)	22,390	4.5 (±0.8)	1,630	2.4 (±0.6)	2,883	0.4 (±0.2)	26,903	2.2 (±0.5)
Paid (more than 185 percent of FPL)[c]	6,362	2.0 (±0.8)	1,061	4.5 (±1.0)	6,337	5.9 (±1.5)	800	1.7 (±0.8)	14,560	2.9 (±0.7)	5,057	7.4 (±1.7)	4,761	0.7 (±0.4)	24,378	2.0 (±0.5)
Income Unknown	126	0.0 (±0.0)	119	0.5 (±0.2)	621	0.6 (±0.2)	56	0.1 (±0.1)	922	0.2 (±0.1)	264	0.4 (±0.2)	806	0.1 (±0.1)	1,992	0.2 (±0.1)
No Match	100,849	31.9 (±5.1)	10,523	44.4 (±3.2)	65,710	61.3 (±5.7)	30,031	62.6 (±8.0)	207,113	41.9 (±5.0)	50,131	73.2 (±3.0)	588,388	90.8 (±1.3)	845,632	69.8 (±2.6)
Totals	**315,774**	**100.0**	**23,712**	**100.0**	**107,113**	**100.0**	**47,977**	**100.0**	**494,576**	**100.0**	**68,471**	**100.0**	**648,330**	**100.0**	**1,211,377**	**100.0**
October 2011																
Free (133 percent of FPL or less)	226,031	66.2| (±4.1)	15,599	49.3 (±3.9)	50,476	30.0 (±5.2)	15,972	56.2 (±10.0)	308,078	54.1 (±4.1)	15,576	18.4 (±3.6)	60,228	8.7 (±1.2)	383,882	28.5 (±2.2)
Reduced-price (133 to 185 percent of FPL)[c]	14,427	4.2 (±0.8)	1,213	3.8 (±1.0)	7,301	4.3 (±0.9)	717	2.5 (±1.6)	23,658	4.2 (±0.8)	1,873	2.2 (±0.6)	2,328	0.3 (±0.1)	27,859	2.1 (±0.5)
Paid (more than 185 percent of FPL)[c]	5,913	1.7 (±0.7)	1,049	3.3 (±0.8)	7,528	4.5 (±1.2)	644	2.3 (±1.4)	15,134	2.7 (±0.6)	5,731	6.8 (±1.5)	3,781	0.5 (±0.2)	24,646	1.8 (±0.5)
Income Unknown	132	0.0 (±0.0)	126	0.4 (±0.2)	643	0.4 (±0.2)	60	0.2 (±0.2)	961	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.1)	2,065	0.2 (±0.1)
No Match	94,723	27.8 (±4.2)	13,655	43.2 (±3.8)	102,144	60.8 (±5.4)	11,011	38.8 (±7.3)	221,533	38.9 (±4.3)	61,256	72.3 (±3.0)	626,408	90.3 (±1.0)	909,197	67.5 (±2.5)
Totals	**341,226**	**100.0**	**31,642**	**100.0**	**168,092**	**100.0**	**28,404**	**100.0**	**569,364**	**100.0**	**84,710**	**100.0**	**693,575**	**100.0**	**1,347,649**	**100.0**

Table B.11 (continued)

DC-M Simulation Results	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
	#	% (CI)	#	(CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
January 2012																
Free (133 percent of FPL or less)	239,355	68.5 (±4.0)	17,348	49.9 (±4.1)	53,804	31.8 (±5.4)	19,938	48.2 (±9.2)	330,445	55.5 (±4.2)	16,834	18.9 (±3.6)	59,341	8.7 (±1.2)	406,620	29.8 (±2.2)
Reduced-price (133 to 185 percent of FPL)[c]	13,517	3.9 (±0.8)	1,229	3.5 (±0.9)	7,577	4.5 (±1.0)	1,329	3.2 (±1.3)	23,652	4.0 (±0.7)	2,098	2.4 (±0.6)	2,226	0.3 (±0.1)	27,976	21 (±0.5)
Paid (more than 185 percent of FPL)[c]	5,172	1.5 (±0.6)	1,033	3.0 (±0.8)	7,545	4.5 (±1.1)	815	2.0 (±1.0)	14,565	2.4 (±0.6)	6,003	6.7 (±1.6)	3,824	0.6 (±0.2)	24,392	1.8 (±0.5)
Income Unknown	134	0.0 (±0.0)	131	0.4 (±0.2)	669	0.4 (±0.2)	68	0.2 (±0.2)	1,002	0.2 (±0.1)	282	0.3 (±0.1)	850	0.1 (±0.1)	2,134	0.2 (±0.1)
No Match	91,343	26.1 (±4.1)	15,054	43.3 (±4.2)	99,801	58.9 (±5.7)	19,212	46.4 (±7.6)	225,410	37.9 (±4.4)	63,873	71.7 (±2.9)	613,773	90.3 (±1.1)	903,056	66.2 (±2.6)
Totals	**349,521**	**100.0**	**34,795**	**100.0**	**169,396**	**100.0**	**41,362**	**100.0**	**595,074**	**100.0**	**89,090**	**100.0**	**680,014**	**100.0**	**1,364,178**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Three districts (one in Florida and two in Pennsylvania) did not provide data for three different points in time during SY 2011–2012 and are excluded from this analysis.

[c]Illinois did not include students with incomes in the range that would be eligible for reduced-price or paid meals in the data provided for the evaluation, so no Illinois students could fall into these categories in the DC-M simulation results.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B12a. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation with Extension of Benefits to Other Students in the Household Based on Address, Pooled Sample, October 2011

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	236,306	64.9 (±3.4)	18,862	47.7 (±3.8)	50,905	29.1 (±4.3)	15,972	56.2 (±9.6)	322,045	53.1 (±3.6)	15,628	17.7 (±2.4)	61,014	8.6 (±0.9)	398,687	28.3 (±2.0)
Reduced-price (133 to 185 percent of FPL)[b]	15,214	4.2 (±0.6)	1,595	4.0 (±1.0)	7,397	4.2 (±0.8)	717	2.5 (±1.5)	24,923	4.1 (±0.6)	1,924	2.2 (±0.5)	2,390	0.3 (±0.1)	29,237	2.1 (±0.4)
Paid (more than 185 percent of FPL)[b]	6,459	1.8 (±0.4)	1,347	3.4 (±0.7)	7,697	4.4 (±1.0)	644	2.3 (±1.3)	16,147	2.7 (±0.4)	5,883	6.7 (±1.3)	3,907	0.5 (±0.1)	25,937	1.8 (±0.3)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.4 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	105,722	29.1 (±3.7)	17,599	44.5 (±4.1)	108,436	61.9 (±4.6)	11,011	38.8 (±7.1)	242,768	40.0 (±3.9)	64,664	73.2 (±1.7)	645,173	90.4 (±0.9)	952,605	67.6 (±2.4)
Totals	**363,833**	**100.0**	**39,532**	**100.0**	**175,078**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Illinois did not include students with incomes in the range that would be eligible for reduced-price or paid meals in the data provided for the evaluation, so no Illinois students could fall into these categories in the DC-M simulation results.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B12b. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation with No Extension of Benefits to Other Students in the Household, Pooled Sample, October 2011

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	%% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	256,322	70.5 (±3.3)	21,829	55.2 (±3.8)	59,911	34.2 (±4.2)	16,979	59.8 (±7.0)	355,041	58.5 (±3.5)	18,252	20.7 (±1.8)	68,763	9.6 (±0.9)	442,056	31.4 (±2.4)
Reduced-price (133 to 185 percent of FPL)[b]	14,309	3.9 (±0.5)	1,627	4.1 (±1.0)	7,819	4.5 (±0.9)	700	2.5 (±1.4)	24,455	4.0 (±0.6)	2,113	2.4 (±0.5)	2,977	0.4 (±0.1)	29,545	2.1 (±0.4)
Paid (more than 185 percent of FPL)[b]	5,919	1.6 (±0.4)	1,325	3.4 (±0.7)	7,836	4.5 (±1.0)	631	2.2 (±1.3)	15,711	2.6 (±0.4)	5,935	6.7 (±1.3)	4,329	0.6 (±0.2)	25,975	1.8 (±0.4)
Income Unknown	81	0.0 (±0.0)	97	0.2 (±0.1)	457	0.3 (±0.1)	41	0.1 (±0.1)	676	0.1 (±0.0)	224	0.3 (±0.1)	726	0.1 (±0.0)	1,626	0.1 (±0.0)
No Match	87,202	24.0 (±3.7)	14,654	37.1 (±4.6)	99,055	56.6 (±5.0)	10,053	35.4 (±5.0)	210,964	34.8 (±4.1)	61,849	70.0 (±1.5)	636,519	89.2 (±0.9)	909,332	64.6 (±2.9)
Totals	**363,833**	**100.0**	**39,532**	**100.0**	**175,078**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Illinois did not include students with incomes in the range that would be eligible for reduced-price or paid meals in the data provided for the evaluation, so no Illinois students could fall into these categories in the DC-M simulation results.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table B.13. Summary of Simulated Impacts of DC-M on Verifications Required

	Percentage of Students	
	Certified for Free or Reduced-price Meals by Application	Verification Required
Pooled Sample (455 districts)		
Under actual certification procedures	21.5	0.5
Simulated under DC-M	15.4	0.3
Difference	6.1	0.1

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

APPENDIX C

SUPPLEMENTAL TABLES RELATED TO SIMULATIONS OF DC-M UNDER ALTERNATIVE POLICIES

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Table C.1. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation, Pooled Sample without Illinois, October 2011

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	**163,552**	**59.8 (±3.3)**	**12,728**	**43.9 (±2.5)**	**24,194**	**20.3 (±1.8)**	**3,398**	**32.5 (±6.4)**	**203,872**	**47.2 (±2.4)**	**3,890**	**6.6 (±0.9)**	**14,907**	**4.3 (±0.6)**	**222,669**	**26.6 (±2.0)**
Reduced-price (133 to 185 percent of FPL)	15,246	5.6 (±0.5)	1,602	5.5 (±0.7)	7,410	6.2 (±0.8)	717	6.9 (±0.7)	24,975	5.8 (±0.5)	1,926	3.3 (±0.6)	2,404	0.7 (±0.1)	29,305	3.5 (±0.3)
Paid (more than 185 percent of FPL)	6,450	2.4 (±0.5)	1,344	4.6 (±0.5)	7,694	6.5 (±1.1)	644	6.2 (±1.0)	16,132	3.7 (±0.4)	5,882	10.1 (±1.5)	3,905	1.1 (±0.2)	25,919	3.1 (±0.3)
Income Unknown	132	0.0 (±0.0)	129	0.4 (±0.2)	643	0.5 (±0.2)	60	0.6 (±0.3)	964	0.2 (±0.1)	274	0.5 (±0.2)	830	0.2 (±0.1)	2,068	0.2 (±0.1)
No Match	88,118	32.2 (±3.7)	13,160	45.4 (±3.2)	79,202	66.5 (±1.7)	5,631	53.9 (±6.0)	186,111	43.1 (±2.9)	46,546	79.5 (±2.1)	323,282	93.6 (±0.7)	555,939	66.5 (±2.3)
Totals	**273,498**	**100.0**	**28,963**	**100.0**	**119,143**	**100.0**	**10,450**	**100.0**	**432,054**	**100.0**	**58,518**	**100.0**	**345,328**	**100.0**	**835,900**	**100.0**

Note: Illinois is excluded from some analyses because of lack of income data and restriction of the Medicaid data to children in households with incomes at or below 133 percent of poverty; this table parallels Table B.2 but excludes Illinois for comparison with those that follow. The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table C.2. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation Based on Net Income, Pooled Sample without Illinois

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	169,093	61.8 (±3.4)	13,195	45.6 (±3.0)	25,755	21.6 (±2.0)	3,510	33.6 (±6.5)	211,553	49.0 (±2.5)	4,240	7.2 (±1.0)	15,575	4.5 (±0.6)	231,368	27.7 (±2.0)
Reduced-price (133 to 185 percent of FPL)	11,232	4.1 (±0.4)	1,374	4.7 (±0.7)	7,065	5.9 (±1.0)	695	6.7 (±0.9)	20,366	4.7 (±0.5)	2,053	3.5 (±0.8)	2,117	0.6 (±0.1)	24,536	2.9 (±0.3)
Paid (more than 185 percent of FPL)	4,923	1.8 (±0.4)	1,105	3.8 (±0.5)	6,478	5.4 (±0.9)	554	5.3 (±0.8)	13,060	3.0 (±0.3)	5,405	9.2 (±1.3)	3,524	1.0 (±0.2)	21,989	2.6 (±0.3)
Income Unknown	132	0.0 (±0.0)	129	0.4 (±0.2)	643	0.5 (±0.2)	60	0.6 (±0.3)	964	0.2 (±0.1)	274	0.5 (±0.2)	830	0.2 (±0.1)	2,068	0.2 (±0.1)
No Match	88,118	32.2 (±3.7)	13,160	45.4 (±3.2)	79,202	66.5 (±1.7)	5,631	53.9 (±6.0)	186,111	43.1 (±2.9)	46,546	79.5 (±2.1)	323,282	93.6 (±0.7)	555,939	66.5 (±2.3)
Totals	**273,498**	**100.0**	**28,963**	**100.0**	**119,143**	**100.0**	**10,450**	**100.0**	**432,054**	**100.0**	**58,518**	**100.0**	**345,328**	**100.0**	**835,900**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district. Illinois is excluded from these analyses because of lack of income data and restriction of the Medicaid data to children in households with incomes at or below 133 percent of poverty. Data are from October 2011.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width, FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table C.3. Simulated Impact of DC-M Based on Net Income, Pooled Sample without Illinois

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change	169,093	61.8 (±3.4)		45.6 (±3.0)	25,755		3,510	33.6 (±6.5)		49.0 (±2.5)	2,053	3.5 (±0.8)	3,524	1.0 (±0.2)	217,130	26.0 (±2.1)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	4,240	7.2 (±1.0)	--	--	4,240	0.5 (±0.1)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	15,575	4.5 (±0.6)	15,575	1.9 (±0.2)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	4,240	7.2 (±1.0)	15,575	4.5 (±0.6)	19,815	2.4 (±0.3)
Suggest Reduced-price (rather than free)	11,232	4.1 (±0.4)	1,374	4.7 (±0.7)	7,065	5.9 (±1.0)	695	6.7 (±0.9)	20,366	4.7 (±0.5)	--	--	--	--	20,366	2.4 (±0.2)
Suggest Reduced-price (rather than paid)	--	--	--	--	--	--	--	--	--	--	--	--	2,117	0.6 (±0.1)	2,117	0.3 (±0.0)
Suggest Paid (rather than free)	4,923	1.8 (±0.4)	1,105	3.8 (±0.5)	6,478	5.4 (±0.9)	554	5.3 (±0.8)	13,060	3.0 (±0.3)	--	--	--	--	13,060	1.6 (±0.2)
Suggest Paid (rather than reduced-price)	--	--	--	--	--	--	--	--	--	--	5,405	9.2 (±1.3)	--	--	5,405	0.6 (±0.1)
Subtotal: Suggest Reduced-price or Paid	16,155	5.9 (±0.6)	2,479	8.6 (±1.2)	13,543	11.4 (±1.9)	1,249	12.0 (±1.6)	33,426	7.7 (±0.8)	5,405	9.2 (±1.3)	2,117	0.6 (±0.1)	40,948	4.9 (±0.5)
Income Unknown	132	0.0 (±0.0)	129	0.4 (±0.2)	643	0.5 (±0.2)	60	0.6 (±0.3)	964	0.2 (±0.1)	274	0.5 (±0.2)	830	0.2 (±0.1)	2,068	0.2 (±0.1)
No Match	88,118	32.2 (±3.7)	13,160	45.4 (±3.2)	79,202	66.5 (±1.7)	5,631	53.9 (±6.0)	186,111	43.1 (±2.9)	46,546	79.5 (±2.1)	323,282	93.6 (±0.7)	555,939	66.5 (±2.3)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	88,250	32.3 (±3.7)	13,289	45.9 (±3.3)	79,845	67.0 (±1.6)	5,691	54.5 (±6.1)	187,075	43.3 (±2.8)	46,820	80.0 (±2.0)	324,112	93.9 (±0.7)	558,007	66.8 (±2.3)
Totals	**273,498**	**100.0**	**28,963**	**100.0**	**119,143**	**100.0**	**10,450**	**100.0**	**432,054**	**100.0**	**58,518**	**100.0**	**345,328**	**100.0**	**835,900**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district. Illinois is excluded from these analyses because of lack of income data and restriction of the Medicaid data to children in households with incomes at or below 133 percent of poverty. Data are from October 2011.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width, FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table C.4. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation If Medicaid Enrollment Conferred Categorical Eligibility, Pooled Sample without Illinois

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	185,381	67.8 (±3.7)	15,805	54.6 (±3.2)	39,944	33.5 (±1.7)	4,819	46.1 (±6.0)	245,949	56.9 (±2.9)	11,972	20.5 (±2.1)	22,047	6.4 (±0.7)	279,968	33.5 (±2.3)
Reduced-price (133 to 185 percent of FPL)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)
Paid (more than 185 percent of FPL)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)
Income Unknown	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)	0	0.0 (±0)
No Match	88,117	32.2 (±3.7)	13,158	45.4 (±3.2)	79,199	66.5 (±1.7)	5,631	53.9 (±6.0)	186,105	43.1 (±2.9)	46,546	79.5 (±2.1)	323,281	93.6 (±0.7)	555,932	66.5 (±2.3)
Totals	**273,498**	**100.0**	**28,963**	**100.0**	**119,143**	**100.0**	**10,450**	**100.0**	**432,054**	**100.0**	**58,518**	**100.0**	**345,328**	**100.0**	**835,900**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district. Illinois is excluded from these analyses because of lack of income data and restriction of the Medicaid data to children in households with incomes at or below 133 percent of poverty. Data are from October 2011.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width, FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table C.5. Simulated Impact of DC-M if Medicaid Enrollment Conferred Categorical Eligibility, Pooled Sample without Illinois

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Would:	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change	185,381	67.8 (±3.7)	15,805	54.6 (±3.2)	39,944	33.5 (±1.7)	4,819	46.1 (±6.0)	245,949	56.9 (±2.9)	0	0 (±0)	0	0 (±0)	245,949	29.4 (±2.2)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	11,972	20.5 (±2.1)	--	--	11,972	1.4 (±0.2)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	22,047	6.4 (±0.7)	22,047	2.6 (±0.2)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	11,972	20.5 (±2.1)	22,047	6.4 (±0.7)	34,019	4.1 (±0.3)
Suggest Reduced-price (rather than free)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	--	--	--	--	0	0 (±0)
Suggest Reduced-price (rather than paid)	--	--	--	--	--	--	--	--	--	--	--	--	0	0 (±0)	0	0 (±0)
Suggest Paid (rather than free)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	--	--	--	--	0	0 (±0)
Suggest Paid (rather than reduced-price)	--	--	--	--	--	--	--	--	--	--	0	0 (±0)	--	--	0	0 (±0)
Subtotal: Suggest Reduced-price or Paid	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)
Income Unknown	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)	0	0 (±0)
No Match	88,117	32.2 (±3.7)	13,158	45.4 (±3.2)	79,199	66.5 (±1.7)	5,631	53.9 (±6.0)	186,105	43.1 (±2.9)	46,546	79.5 (±2.1)	323,281	93.6 (±0.7)	555,932	66.5 (±2.3)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	88,117	32.2 (±3.7)	13,158	45.4 (±3.2)	79,199	66.5 (±1.7)	5,631	53.9 (±6.0)	186,105	43.1 (±2.9)	46,546	79.5 (±2.1)	323,281	93.6 (±0.7)	555,932	66.5 (±2.3)
Totals	**273,498**	**100.0**	**28,963**	**100.0**	**119,143**	**100.0**	**10,450**	**100.0**	**432,054**	**100.0**	**58,518**	**100.0**	**345,328**	**100.0**	**835,900**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district. Illinois is excluded from these analyses because of lack of income data and restriction of the Medicaid data to children in households with incomes at or below 133 percent of poverty. Data are from October 2011.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width, FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table C.6a. Certification Counts and Percentages Under DC-SNAP Performance Standard of 80% and DC-M Simulation, Pooled Sample

	Certification Category (without DC-M) Assuming DC-SNAP Performance Standard of 95% Is Met															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	241,284	65.5 (±3.2)	19,142	48.4 (±3.3)	48,649	28.5 (±4.3)	15,972	56.2 (±9.6)	325,047	53.6 (±3.5)	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	402,321	28.6 (±2.0)
Reduced price (133 to 185 percent of FPL)	15,246	4.1 (±0.6)	1,602	4.1 (±1.0)	7,410	4.3 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	1,926	2.2 (±0.5)	2,404	0.3 (±0.1)	29,305	2.1 (±0.4)
Paid (more than 185 percent of FPL)	6,450	1.8 (±0.4)	1,344	3.4 (±0.7)	7,694	4.5 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	5,882	6.7 (±1.3)	3,905	0.5 (±0.1)	25,919	1.8 (±0.3)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.4 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	105,050	28.5 (±3.4)	17,315	43.8 (±3.5)	106,353	62.3 (±4.6)	11,011	38.8 (±7.1)	239,729	39.5 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	948,921	67.4 (±2.4)
Totals	**368,162**	**100.0**	**39,532**	**100.0**	**170,749**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district. DC-SNAP estimates in this table are also a simulation, under the assumption that the pooled sample has achieved the 80 percent certification rate among SNAP-participant children that is the initial performance standard required under HHFKA.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level, HHFKA = Healthy, Hunger-Free Kids Act of 2010; SNAP = Supplemental Nutrition Assistance Program; TANF = Temporary Assistance for Needy Families.

Table C.6b. Certification Counts and Percentages Under DC-SNAP Performance Standard of 90% and DC-M Simulation, Pooled Sample

	Certification Category (without DC-M) Assuming DC-SNAP Performance Standard of 90% Is Met															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	247,401	65.5 (±3.2)	19,142	48.4 (±3.3)	42,532	26.3 (±4.3)	15,972	56.2 (±9.6)	325,047	53.6 (±3.5)	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	402,321	28.6 (±2.0)
Reduced-price (133 to 185 percent of FPL)	15,246	4.0 (±0.6)	1,602	4.1 (±1.0)	7,410	4.6 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	1,926	2.2 (±0.5)	2,404	0.3 (±0.1)	29,305	2.1 (±0.4)
Paid (more than 185 percent of FPL)	6,450	1.7 (±0.4)	1,344	3.4 (±0.7)	7,694	4.8 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	5,882	6.7 (±1.3)	3,905	0.5 (±0.1)	25,919	1.8 (±0.3)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.4 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	108,266	28.7 (±3.4)	17,315	43.8 (±3.5)	103,137	63.9 (±4.6)	11,011	38.8 (±7.1)	239,729	39.5 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	948,921	67.4 (±2.4)
Totals	**377,495**	**100.0**	**39,532**	**100.0**	**161,416**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district. DC-SNAP estimates in this table are also a simulation, under the assumption that the pooled sample has achieved the 90 percent certification rate among SNAP-participant children that is the intermediate performance standard required under HHFKA. Data are from October 2011.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level, HHFKA = Healthy, Hunger-Free Kids Act of 2010; SNAP = Supplemental Nutrition Assistance Program; TANF = Temporary Assistance for Needy Families.

Table C.6c. Certification Counts and Percentages Under DC-SNAP Performance Standard of 95% and DC-M Simulation, Pooled Sample

	Certification Category (without DC-M) Assuming DC-SNAP Performance Standard of 95% Is Met															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	253,666	65.5 (±3.2)	19,142	48.4 (±3.3)	36,267	23.9 (±4.3)	15,972	56.2 (±9.6)	325,047	53.6 (±3.5)	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	402,321	28.6 (±2.0)
Reduced-price (133 to 185 percent of FPL)	15,246	3.9 (±0.6)	1,602	4.1 (±1.0)	7,410	4.9 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	1,926	2.2 (±0.5)	2,404	0.3 (±0.1)	29,305	2.1 (±0.4)
Paid (more than 185 percent of FPL)	6,450	1.7 (±0.4)	1,344	3.4 (±0.7)	7,694	5.1 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	5,882	6.7 (±1.3)	3,905	0.5 (±0.1)	25,919	1.8 (±0.3)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.4 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	111,561	28.8 (±3.4)	17,315	43.8 (±3.5)	99,842	65.7 (±4.6)	11,011	38.8 (±7.1)	239,729	39.5 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	948,921	67.4 (±2.4)
Totals	**387,055**	**100.0**	**39,532**	**100.0**	**151,856**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district. DC-SNAP estimates in this table are also a simulation, under the assumption that the pooled sample has achieved the 95 percent certification rate among SNAP-participant children that is the ultimate performance standard required under HHFKA. Data are from October 2011.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level, HHFKA = Healthy, Hunger-Free Kids Act of 2010; SNAP = Supplemental Nutrition Assistance Program; TANF = Temporary Assistance for Needy Families.

Table C.6d. Certification Counts and Percentages Under DC-SNAP Performance Standard of 100% and DC-M Simulation, Pooled Sample

	Certification Category (without DC-M) Assuming DC-SNAP Performance Standard of 100% Is Met															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	264,459	65.5 (±3.2)	19,142	48.4 (±3.3)	25,474	18.8 (±4.3)	15,972	56.2 (±9.6)	325,047	53.6 (±3.5)	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	402,321	28.6 (±2.0)
Reduced-price (133 to 185 percent of FPL)	15,246	3.8 (±0.6)	1,602	4.1 (±1.0)	7,410	5.5 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	1,926	2.2 (±0.5)	2,404	0.3 (±0.1)	29,305	2.1 (±0.4)
Paid (more than 185 percent of FPL)	6,450	1.6 (±0.4)	1,344	3.4 (±0.7)	7,694	5.7 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	5,882	6.7 (±1.3)	3,905	0.5 (±0.1)	25,919	1.8 (±0.3)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.5 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	117,236	29.1 (±3.4)	17,315	43.8 (±3.5)	94,167	69.6 (±4.6)	11,011	38.8 (±7.1)	239,729	39.5 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	948,921	67.4 (±2.4)
Totals	**403,523**	**100.0**	**39,532**	**100.0**	**135,388**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district. DC-SNAP estimates in this table are also a simulation, under the assumption that the pooled sample has achieved a 100 percent certification rate among SNAP-participant children. Data are from October 2011.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level, HHFKA = Healthy, Hunger-Free Kids Act of 2010; SNAP = Supplemental Nutrition Assistance Program; TANF = Temporary Assistance for Needy Families.

Table C.7a. Simulated Impact of DC-M on Access, Under DC-SNAP Performance Standard of 80%, Pooled Sample

	Certification Category (without DC-M) Assuming DC-SNAP Performance Standard of 80% Is Met															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Would:	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change	241,284		19,142	48.4 (±3.3)	48,649	28.5 (±4.3)	15,972	56.2 (±9.6)	325,047	53.6 (±3.5)	1,926	2.2 (±0.5)	3,905	0.5 (±0.1)	330,878	23.5 (±2.1)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	--	--	15,739	1.1 (±0.1)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	61,535	8.6 (±1.0)	61,535	4.4 (±0.5)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	77,274	5.5 (±0.6)
Suggest Reduced-price (rather than free)	15,246	4.1 (±0.6)	1,602	4.1 (±1.0)	7,410	4.3 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	--	--	--	--	24,975	1.8 (±0.3)
Suggest Reduced-price (rather than paid)	--	--	--	--	--	--	--	--	--	--	--	--	2,404	0.3 (±0.1)	2,404	0.2 (±0.0)
Suggest Paid (rather than free)	6,450	1.8 (±0.4)	1,344	3.4 (±0.7)	7,694	4.5 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	--	--	--	--	16,132	1.1 (±0.2)
Suggest Paid (rather than reduced-price)	--	--	--	--	--	--	--	--	--	--	5,882	6.7 (±1.3)	--	--	5,882	0.4 (±0.1)
Subtotal: Suggest Reduced-price or Paid	21,696	5.9 (±0.9)	2,946	7.5 (±1.7)	15,104	8.8 (±1.8)	1,361	4.8 (±2.8)	41,107	6.8 (±1.0)	5,882	6.7 (±1.3)	2,404	0.3 (±0.1)	49,393	3.5 (±0.6)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.4 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	105,050	28.5 (±3.4)	17,315	43.8 (±3.5)	106,353	62.3 (±4.6)	11,011	38.8 (±7.1)	239,729	39.5 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	948,921	67.4 (±2.4)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	105,182	28.6 (±3.4)	17,444	44.1 (±3.5)	106,996	62.7 (±4.6)	11,071	39.0 (±7.2)	240,693	39.7 (±3.7)	64,826	73.4 (±1.7)	645,470	90.5 (±0.9)	950,989	67.5 (±2.3)
Totals	**368,162**	**100.0**	**39,532**	**100.0**	**170,749**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; SNAP = Supplemental Nutrition Assistance Program; TANF = Temporary Assistance for Needy Families.

Table C.7b. Simulated Impact of DC-M on Access, Under DC-SNAP Performance Standard of 90%, Pooled Sample

	Certification Category (without DC-M) Assuming DC-SNAP Performance Standard of 90% Is Met															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Would:	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change		65.5 (±3.2)	19,142	48.4 (±3.3)	42,532	26.3 (±4.3)	15,972	56.2 (±9.6)	325,047	53.6 (±3.5)	1,926	2.2 (±0.5)	3,905	0.5 (±0.1)	330,878	23.5 (±2.1)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	--	--	15,739	1.1 (±0.1)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	61,535	8.6 (±1.0)	61,535	4.4 (±0.5)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	77,274	5.5 (±0.6)
Suggest Reduced-price (rather than free)	15,246	4.0 (±0.6)	1,602	4.1 (±1.0)	7,410	4.6 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	--	--	--	--	24,975	1.8 (±0.3)
Suggest Reduced-price (rather than paid)	--	--	--	--	--	--	--	--	--	--	--	--	2,404	0.3 (±0.1)	2,404	0.2 (±0.0)
Suggest Paid (rather than free)	6,450	1.7 (±0.4)	1,344	3.4 (±0.7)	7,694	4.8 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	--	--	--	--	16,132	1.1 (±0.2)
Suggest Paid (rather than reduced-price)	--	--	--	--	--	--	--	--	--	--	5,882	6.7 (±1.3)	--	--	5,882	0.4 (±0.1)
Subtotal: Suggest Reduced-price or Paid	21,696	5.7 (±0.9)	2,946	7.5 (±1.7)	15,104	9.4 (±1.8)	1,361	4.8 (±2.8)	41,107	6.8 (±1.0)	5,882	6.7 (±1.3)	2,404	0.3 (±0.1)	49,393	3.5 (±0.6)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.4 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	108,266	28.7 (±3.4)	17,315	43.8 (±3.5)	103,137	63.9 (±4.6)	11,011	38.8 (±7.1)	239,729	39.5 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	948,921	67.4 (±2.4)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	108,398	28.7 (±3.4)	17,444	44.1 (±3.5)	103,780	64.3 (±4.6)	11,071	39.0 (±7.2)	240,693	39.7 (±3.7)	64,826	73.4 (±1.7)	645,470	90.5 (±0.9)	950,989	67.5 (±2.3)
Totals	**377,495**	**100.0**	**39,532**	**100.0**	**161,416**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; SNAP = Supplemental Nutrition Assistance Program; TANF = Temporary Assistance for Needy Families.

Table C.7c. Simulated Impact of DC-M on Access, Under DC-SNAP Performance Standard of 95%, Pooled Sample

	Certification Category (without DC-M) Assuming DC-SNAP Performance Standard of 95% Is Met															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Would:	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change	253,666	65.5 (±3.2)	19,142	48.4 (±3.3)	36,267	23.9 (±4.3)	15,972	56.2 (±9.6)	325,047	53.6 (±3.5)	1,926	2.2 (±0.5)	3,905	0.5 (±0.1)	330,878	23.5 (±2.1)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	--	--	15,739	1.1 (±0.1)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	61,535	8.6 (±1.0)	61,535	4.4 (±0.5)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	77,274	5.5 (±0.6)
Suggest Reduced-price (rather than free)	15,246	3.9 (±0.6)	1,602	4.1 (±1.0)	7,410	4.9 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	--	--	--	--	24,975	1.8 (±0.3)
Suggest Reduced-price (rather than paid)	--	--	--	--	--	--	--	--	--	--	--	--	2,404	0.3 (±0.1)	2,404	0.2 (±0.0)
Suggest Paid (rather than free)	6,450	1.7 (±0.4)	1,344	3.4 (±0.7)	7,694	5.1 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	--	--	--	--	16,132	1.1 (±0.2)
Suggest Paid (rather than reduced-price)	--	--	--	--	--	--	--	--	--	--	5,882	6.7 (±1.3)	--	--	5,882	0.4 (±0.1)
Subtotal: Suggest Reduced-price or Paid	21,696	5.6 (±0.9)	2,946	7.5 (±1.7)	15,104	9.9 (±1.8)	1,361	4.8 (±2.8)	41,107	6.8 (±1.0)	5,882	6.7 (±1.3)	2,404	0.3 (±0.1)	49,393	3.5 (±0.6)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.4 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	111,561	28.8 (±3.4)	17,315	43.8 (±3.5)	99,842	65.7 (±4.6)	11,011	38.8 (±7.1)	239,729	39.5 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	948,921	67.4 (±2.4)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	111,693	28.9 (±3.4)	17,444	44.1 (±3.5)	100,485	66.2 (±4.6)	11,071	39.0 (±7.2)	240,693	39.7 (±3.7)	64,826	73.4 (±1.7)	645,470	90.5 (±0.9)	950,989	67.5 (±2.3)
Totals	**387,055**	**100.0**	**39,532**	**100.0**	**151,856**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; SNAP = Supplemental Nutrition Assistance Program; TANF = Temporary Assistance for Needy Families.

Table C.7d. Simulated Impact of DC-M on Access, Under DC-SNAP Performance Standard of 100%, Pooled Sample

	Certification Category (without DC-M) Assuming DC-SNAP Performance Standard of 100% Is Met															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Would:	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change	264,459	65.5 (±3.2)	19,142	48.4 (±3.3)	25,474	18.8 (±4.3)	15,972	56.2 (±9.6)	325,047	53.6 (±3.5)	1,926	2.2 (±0.5)	3,905	0.5 (±0.1)	330,878	23.5 (±2.1)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	--	--	15,739	1.1 (±0.1)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	61,535	8.6 (±1.0)	61,535	4.4 (±0.5)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	77,274	5.5 (±0.6)
Suggest Reduced-price (rather than free)	15,246	3.8 (±0.6)	1,602	4.1 (±1.0)	7,410	5.5 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	--	--	--	--	24,975	1.8 (±0.3)
Suggest Reduced-price (rather than paid)	--	--	--	--	--	--	--	--	--	--	--	--	2,404	0.3 (±0.1)	2,404	0.2 (±0.0)
Suggest Paid (rather than free)	6,450	1.6 (±0.4)	1,344	3.4 (±0.7)	7,694	5.7 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	--	--	--	--	16,132	1.1 (±0.2)
Suggest Paid (rather than reduced-price)	--	--	--	--	--	--	--	--	--	--	5,882	6.7 (±1.3)	--	--	5,882	0.4 (±0.1)
Subtotal: Suggest Reduced-price or Paid	21,696	5.4 (±0.9)	2,946	7.5 (±1.7)	15,104	11.2 (±1.8)	1,361	4.8 (±2.8)	41,107	6.8 (±1.0)	5,882	6.7 (±1.3)	2,404	0.3 (±0.1)	49,393	3.5 (±0.6)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.5 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	117,236	29.1 (±3.4)	17,315	43.8 (±3.5)	94,167	69.6 (±4.6)	11,011	38.8 (±7.1)	239,729	39.5 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	948,921	67.4 (±2.4)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	117,368	29.1 (±3.4)	17,444	44.1 (±3.5)	94,810	70.0 (±4.6)	11,071	39.0 (±7.2)	240,693	39.7 (±3.7)	64,826	73.4 (±1.7)	645,470	90.5 (±0.9)	950,989	67.5 (±2.3)
Totals	**403,523**	**100.0**	**39,532**	**100.0**	**135,388**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; SNAP = Supplemental Nutrition Assistance Program; TANF = Temporary Assistance for Needy Families.

Table C.8. Certification Counts and Percentages Under Current Certification Procedures and DC-M Simulation Under ACA Medicaid Eligibility Rules, Pooled Sample

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	0	65.5 (±3.2)	19,142	48.4 (±3.3)	55,758	31.8 (±4.3)	15,972	56.2 (±9.6)	329,319	54.3 (±3.5)	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	406,593	28.9 (±2.0)
Reduced-price (133 to 185 percent of FPL)	15,246	4.2 (±0.6)	1,602	4.1 (±1.0)	7,410	4.2 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	1,926	2.2 (±0.5)	2,404	0.3 (±0.1)	29,305	2.1 (±0.4)
Paid (more than 185 percent of FPL)	6,450	1.8 (±0.4)	1,344	3.4 (±0.7)	7,694	4.4 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	5,882	6.7 (±1.3)	3,905	0.5 (±0.1)	25,919	1.8 (±0.3)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.4 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	103,558	28.5 (±3.4)	17,315	43.8 (±3.5)	103,573	59.2 (±4.6)	11,011	38.8 (±7.1)	235,457	38.8 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	944,649	67.1 (±2.4)
Totals	**363,833**	**100.0**	**39,532**	**100.0**	**175,078**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district. This table adds to the DC-M totals an estimate of the number of S-CHIP participants in Florida and Pennsylvania with incomes from 100 to 133 percent of the FPL, who would be transferred to Medicaid under the ACA if these states decide to expand Medicaid. In the other Access Evaluation states, Medicaid already covers school-age children in this income range. These estimates are based on the 2011 American Community Survey, adjusted for under-reporting of health insurance, but also adjusted based on the assumption that this group is as likely to be covered by DC-SNAP as the baseline DC-M group. Although we do not know what the previous certification status of these children would be, we make the strong assumption here that before implementation of the ACA, all would have been certified for free meals by household application, because the S-CHIP program is not part of the Medicaid data system. Other assumptions could be tested for the final report. We also assume that the pre-DC-M distribution (column totals) would be unchanged under the ACA.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; ACA = Affordable Care Act; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; S-CHIP = separate Children's Health Insurance Program; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table C.9. Simulated Impact of DC-M on Access Under ACA Medicaid Eligibility Rules, Pooled Sample

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Under ACA Rules Would:	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change	238,447	65.5 (±3.2)	19,142	48.4 (±3.3)	55,758	31.8 (±4.3)	15,972	56.2 (±9.6)	329,319	54.3 (±3.5)	1,926	2.2 (±0.5)	3,905	0.5 (±0.1)	335,150	23.8 (±2.1)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	--	--	15,739	1.1 (±0.1)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	61,535	8.6 (±1.0)	61,535	4.4 (±0.5)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	15,739	17.8 (±2.5)	61,535	8.6 (±1.0)	77,274	5.5 (±0.6)
Suggest Reduced-price (rather than free)	15,246	4.2 (±0.6)	1,602	4.1 (±1.0)	7,410	4.2 (±0.8)	717	2.5 (±1.5)	24,975	4.1 (±0.6)	--	--	--	--	24,975	1.8 (±0.3)
Suggest Reduced-price (rather than paid)	--	--	--	--	--	--	--	--	--	--	--	--	2,404	0.3 (±0.1)	2,404	0.2 (±0.0)
Suggest Paid (rather than free)	6,450	1.8 (±0.4)	1,344	3.4 (±0.7)	7,694	4.4 (±1.0)	644	2.3 (±1.3)	16,132	2.7 (±0.4)	--	--	--	--	16,132	1.1 (±0.2)
Suggest Paid (rather than reduced-price)	--	--	--	--	--	--	--	--	--	--	5,882	6.7 (±1.3)	--	--	5,882	0.4 (±0.1)
Subtotal: Suggest Reduced-price or Paid	21,696	6.0 (±0.9)	2,946	7.5 (±1.7)	15,104	8.6 (±1.8)	1,361	4.8 (±2.8)	41,107	6.8 (±1.0)	5,882	6.7 (±1.3)	2,404	0.3 (±0.1)	49,393	3.5 (±0.6)
Income Unknown	132	0.0 (±0.0)	129	0.3 (±0.2)	643	0.4 (±0.1)	60	0.2 (±0.2)	964	0.2 (±0.1)	274	0.3 (±0.1)	830	0.1 (±0.0)	2,068	0.1 (±0.1)
No Match	103,558	28.5 (±3.4)	17,315	43.8 (±3.5)	103,573	59.2 (±4.6)	11,011	38.8 (±7.1)	235,457	38.8 (±3.7)	64,552	73.0 (±1.7)	644,640	90.4 (±0.9)	944,649	67.1 (±2.4)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	103,690	28.5 (±3.4)	17,444	44.1 (±3.5)	104,216	59.5 (±4.6)	11,071	39.0 (±7.2)	236,421	39.0 (±3.7)	64,826	73.4 (±1.7)	645,470	90.5 (±0.9)	946,717	67.2 (±2.3)
Totals	**363,833**	**100.0**	**39,532**	**100.0**	**175,078**	**100.0**	**28,404**	**100.0**	**606,847**	**100.0**	**88,373**	**100.0**	**713,314**	**100.0**	**1,408,534**	**100.0**

Note: The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each Access Evaluation State or district. This table adds to the DC-M totals an estimate of the number of S-CHIP participants in Florida and Pennsylvania with incomes from 100 to 133 percent of the FPL, who would be transferred to Medicaid under ACA if these states decide to expand Medicaid. In the other Access Evaluation states, Medicaid already covers school-age children in this income range. These estimates are based on the 2011 American Community Survey, adjusted for under-reporting of health insurance, but also adjusted based on the assumption that this group is as likely to be covered by DC-SNAP as the baseline DC-M group. Although we do not know what the previous certification status of these children would have been, we make the strong assumption here that, before implementation of the ACA, all would have been certified for free meals by household application, because the S-CHIP program is not part of the Medicaid data system. We also assume that the pre-DC-M distribution (column totals) would be unchanged under the ACA.

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; ACA = Affordable Care Act; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; S-CHIP = separate Children's Health Insurance Program; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table C.10. Actual and Extrapolated National Certification Counts and Percentages Under Current Certification Procedures (without DC-M)

	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligible via Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	%
Actual, Based on SY 2011–2012 VSR Data[b]	10,462,303	23.6	1,595,334	3.6	6,150,016	13.9	127,014	0.3	18,334,667	41.3	3,076,212	6.9	22,941,031	51.7	44,351,910	100.0
Extrapolation Based on DC-M Data	10,612,852	25.4 (±13.5)	1,235,988	3.0 (±1.5)	5,506,751	13.2 (±3.5)	817,753	2.0 (±1.7)	18,173,344	43.5 (±15.7)	2,711,372	6.5 (±1.5)	20,876,961	50.0 (±17.1)	41,761.677	100.0
Difference	**-0.8%**	**-1.8**	**22.7%**	**0.6**	**10.4%**	**0.6**	**-539.3%**	**-1.7**	**1.3%**	**-2.3**	**12.1%**	**0.4**	**9.5%**	**1.8**	**6.3%**	**0.0**

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

[b]Including all public school districts operating the NSLP, excluding residential programs and districts that participated in the Community Eligibility Option or in which more than 20 percent of schools participated in Provision 2 or Provision 3. The Paid category was computed by subtracting the sum of the total number of students certified for free and reduced-price meals from the total number of students in schools operating the NSLP. The Source of Certification Unknown category was computed by subtracting the sum of the prior three categories from the Total Free; the majority of these (109,711 students) are in Provision 2 and Provision 3 schools.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; NSLP = National School Lunch Program; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families; VSR = verification summary report (FNS Form 742).

Table C.11. National Extrapolations of Certification Counts and Percentages Under DC-M Simulation

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Simulation Results	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Free (133 percent of FPL or less)	6,943,694	65.4 (±19.1)	618,303	50.0 (±14.0)	1,658,561	30.1 (±23.1)	452,937	55.4 ±45.0)	9,673,495	53.2 (±16.7)	489,812	18.1 (±27.6)	1,854,337	8.9 (±9.1)	12,017,644	28.8 ±6.0)
Reduced-price (133 to 185 percent of FPL)	448,091	4.2 (±4.7)	47,064	3.8 (±5.3)	225,646	4.1 (±6.6)	21,483	2.6 (±8.5)	742,284	4.1 (±5.4)	58,047	2.1 (±3.5)	73,191	0.4 (±0.7)	873,523	2.1 (±3.4)
Paid (more than 185 percent of FPL)	188,838	1.8 (±2.3)	40,199	3.3 (±4.8)	233,706	4.2 (±8.2)	19,326	2.4 (±7.6)	482,070	2.7 (±3.9)	177,978	6.6 (±12.3)	115,697	0.6 (±1.2)	775,745	1.9 (±3.4)
Income Unknown	3,923	0.0 (±0.1)	4,087	0.3 (±0.7)	19,347	0.4 (±0.9)	1,707	0.2 (±0.7)	29,064	0.2 (±0.4)	8,361	0.3 (±0.7)	24,481	0.1 (±0.3)	61,905	0.1 (±0.4)
No Match	3,028,306	28.5 (±18.0)	526,333	42.6 (±6.7)	3,369,491	61.2 (±12.6)	322,300	39.4 (±28.2)	7,246,430	39.9 (±13.6)	1,977,175	72.9 (±15.8)	18,809,255	90.1 (±7.1)	28,032,860	67.1 (±3.9)
Totals	**10,612,852**	**100.0**	**1,235,988**	**100.0**	**5,506,751**	**100.0**	**817,753**	**100.0**	**18,173,344**	**100.0**	**2,711,372**	**100.0**	**20,876,961**	**100.0**	**41,761,677**	**100.0**

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; FPL = federal poverty level; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

Table C.12. National Extrapolations of Simulated Impact of DC-M on Access

	Certification Category Under SY 2011–2012 Certification Procedures (without DC-M)															
	Free															
	Direct Certification		Other Categorical Eligibility[a]		Income Eligibility from Application		Source of Certification Unknown		Total Free		Reduced-price		Paid		Total	
DC-M Would:	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)	#	% (CI)
Produce No Change	6,943,694	65.4 (±19.1)	618,303	50.0 (±14.0)	1,658,561	30.1 (±23.1)	452,937	55.4 (±45.0)	9,673,495	53.2 (±16.7)	58,047	2.1 (±3.5)	115,697	0.6 (±1.2)	9,847,239	23.6 (±4.0)
Change Reduced-price to Free	--	--	--	--	--	--	--	--	--	--	489,812	18.1 (±27.6)	0	0.0 (±0)	489,812	1.2 (±1.5)
Change Paid to Free	--	--	--	--	--	--	--	--	--	--	--	--	1,854,337	8.9 (±9.1)	1,854,337	4.4 (±5.9)
Subtotal: Change to Free	--	--	--	--	--	--	--	--	--	--	489,812	18.1 (±27.6)	1,854,337	8.9 (±9.1)	2,344,149	5.6 (±7.4)
Suggest Reduced-price (rather than free)	448,091	4.2 (±4.7)	47,064	3.8 (±5.3)	225,646	4.1 (±6.6)	21,483	2.6 (±8.5)	742,284	4.1 (±5.4)	--	--	--	--	742,284	1.8 (±2.9)
Suggest Reduced-price (rather than paid)	--	--	--	--	--	--	--	--	--	--	--	--	73,191	0.4 (±0.7)	73,191	0.2 (±0.3)
Suggest Paid (rather than free)	188,838	1.8 (±2.3)	40,199	3.3 (±4.8)	233,706	4.2 (±8.2)	19,326	2.4 (±7.6)	482,070	2.7 (±3.9)	--	--	--	--	482,070	1.2 (±2.0)
Suggest Paid (rather than reduced-price)	--	--	--	--	--	--	--	--	--	--	177,978	6.6 (±12.3)	--	--	177,978	0.4 (±0.9)
Subtotal: Suggest Reduced-price or Paid	636,930	6.0 (±6.8)	87,264	7.1 (±10.1)	459,352	8.3 (±14.6)	40,809	5.0 (±16.1)	1,224,354	6.7 (±9.3)	177,978	6.6 (±12.3)	73,191	0.4 (±0.7)	1,475,524	3.5 (±6.0)
Income Unknown	3,923	0.0 (±0.1)	4,087	0.3 (±0.7)	19,347	0.4 (±0.9)	1,707	0.2 (±0.7)	29,064	0.2 (±0.4)	8,361	0.3 (±0.7)	24,481	0.1 (±0.3)	61,905	0.1 (±0.4)
No Match	3,028,306	28.5 (±18.0)	526,333	42.6 (±6.7)	3,369,491	61.2 (±12.6)	322,300	39.4 (±28.2)	7,246,430	39.9 (±13.6)	1,977,175	72.9 (±15.8)	18,809,255	90.1 (±7.1)	28,032,860	67.1 (±3.9)
Subtotal: Could Not Determine Eligibility Based on Medicaid Data	3,032,228	28.6 (±18.0)	530,421	42.9 (±6.8)	3,388,838	61.5 (±12.7)	324,007	39.6 (±28.9)	7,275,494	40.0 (±13.5)	1,985,535	73.2 (±16.0)	18,833,736	90.2 (±7.4)	28,094,765	67.3 (±3.7)
Totals	**10,612,852**	**100.0**	**1,235,988**	**100.0**	**5,506,751**	**100.0**	**817,753**	**100.0**	**18,173,344**	**100.0**	**2,711,372**	**100.0**	**20,876,961**	**100.0**	**41,761,677**	**100.0**

[a]Other Categorical Eligibility includes students who were not directly certified but submitted an application with a SNAP, TANF, or FDPIR case number, and those certified for free meals based on participation in certain other programs, including Head Start and Even Start, the Migrant Education Program (MEP), and programs under the Runaway and Homeless Youth Act (RHYA). Homeless children, as defined by the McKinney-Vento Homeless Assistance Act, and foster children are also considered categorically eligible for free school meals.

CI = 95 percent confidence interval half-width; FDPIR = Food Distribution Program on Indian Reservations; SNAP = Supplemental Nutrition Assistance Program; SY = school year; TANF = Temporary Assistance for Needy Families.

APPENDIX D

SUPPLEMENTAL TABLES ON REASONS FOR MATCH FAILURE AND INDETERMINATE INCOME

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Table D.1. Matched and Unmatched Medicaid Cases, by Percentage with Missing Data Element, October 2011

Access Evaluation Districts in	Number of Records	Percentage with Missing Data Element						
		SSN	First Name	Last Name	DOB	Gender	Parent Name	Address
Florida								
Matched records	63,110	0.0*	0.0	0.0	0.0	0.0*	0.0	0.0*
Unmatched records	47,085	0.1	0.0	0.0	0.0	0.0*	0.0	0.0
Kentucky								
Matched records	146,610	0.0	0.0	0.0	0.0	0.0	3.3	0.0*
Unmatched records	139,434	0.0	0.0	0.0	0.0	0.0	6.2	0.0
Pennsylvania								
Matched records	12,728	0.2	0.0	0.0	0.0	0.0	100.0[a]	0.0
Unmatched records	22,118	0.7	0.0	0.0	0.0	0.0	100.0[a]	0.0
Illinois								
Matched records	173,827	0.5	0.0	0.0	0.0	0.0	2.7	0.0*
Unmatched records	962,425	0.9	0.0	0.0	0.0	0.0	3.0	0.0*
New York City								
Matched records	36,672	100.0[a]	0.0	0.0	0.0	0.0	100.0[a]	0.0
Unmatched records	372,324	100.0[a]	0.0	0.0	0.0	0.0	100.0[a]	0.0

Note: This table includes children ages 4 to 19 as of September 1, 2011. The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each demonstration State or district.

[a]A value of 100 percent indicates that the data element was not included in the files that the State or district provided for the evaluation. However, these data elements may be available to State or district staff.

* = Less than 0.05 percent.

DOB = date of birth; SSN = Social Security number.

Table D.2. Match Rates for Medicaid Children by Characteristic, October 2011

	Matching Stringency Level				
	Medium			Weak	
	Florida (n = 110,195)	Kentucky (n = 286,044)	Pennsylvania (n = 34,846)	Illinois[a] (n = 1,136,252)	New York City[a] (n = 408,996)
Age					
4 or 5	27.8	21.1	12.1	10.1	2.5
6–9	65.7	60.9	36.0	18.3	4.4
10–14	67.7	62.0	54.6	18.2	9.0
15–19	54.5	46.8	30.7	11.5	18.1
Gender					
Male	57.3	50.6	37.5	15.6	9.0
Female	57.2	51.9	35.4	15.0	8.9
Missing	62.5	n.a.	n.a.	n.a.	n.a.
Gross Family Income (Percentage of Federal Poverty Level)					
0% to 133%	58.9	50.0	36.5	--[b]	9.1
134% to 185%	54.6	55.4	38.0	--[b]	8.8
More than 185%	50.1	55.8	29.2	--[b]	6.8
Unknown	57.1	45.0	50.0	--[b]	n.a.

Note: This table includes children age 4 to 19 as of September 1, 2011. The DC-M simulation results reported in this table are based on the level of matching stringency that most closely aligns with the matching process used by each demonstration State or, in Florida and Pennsylvania, district. Pennsylvania is listed under "medium" stringency level because that aligns with the process used by two of the three sample districts in that State, but a "strong" stringency level is used in the third district.

[a]Match rates in Illinois and New York City are not meaningful because we are not able to restrict the Medicaid files to children residing in Access Evaluation districts. However, relative comparisons of match rates within the State may still be informative.

[b]Illinois did not provide income data.

n.a. = No sample data in this category.

Table D.3. Percentage of Medicaid Children with Missing Poverty Status Data Elements

	Percentage with Missing Data Element				
	Florida (n=110,195)	Kentucky (n=286,044)	Pennsylvania (n=34,846)	New York City (n=408,996)	Pooled Sample (n=840,081)
Child's Family Poverty Level Is Indeterminate	0.0*	1.6	0.0*	0.0	0.6
Family size missing	0.0	1.6	0.0	0.0	0.6
Family income missing	0.0*	0.0	0.0*	0.0	0.0*
Earned income missing	0.0*	0.0	0.0*	0.0	0.0*
Unearned income missing	0.0*	0.0	0.0*	0.0	0.0*
Both earned and unearned income missing	0.0*	0.0	0.0*	0.0	0.0*
Both family size and family income missing	0.0	0.0	0.0	0.0	0.0

Notes: This table includes children age 4 to 19 as of September 1, 2011. To determine poverty level, we compared reported income with the federal poverty guidelines for the child's family size. Illinois is excluded from this table because the State was not able to provide income data. Row categories are not mutually exclusive.

* = Less than 0.05 percent.

Table D.4. Percentage of Medicaid Children with Unknown Poverty Status, by Characteristic

Characteristic	Percentage with Unknown Poverty Status				
	Florida (n = 110,195)	Kentucky (n = 286,044)	Pennsylvania (n = 34,846)	New York City (n = 408,996)	Pooled Sample (n = 840,081)
All Children	0.0*	1.6	0.0*	0.0	0.6
Age					
4 or 5	0.0	0.8	0.0	0.0	0.3
6–9	0.0	1.5	0.0	0.0	0.5
10–14	0.0*	1.9	0.0*	0.0	0.7
15–19	0.0*	2.0	0.0	0.0	0.6
Gender					
Male	0.0*	1.7	0.0*	0.0	0.6
Female	0.0*	1.6	0.0*	0.0	0.5
Missing	0.0	n.a.	n.a.	n.a.	0.0

Note: This table includes children ages 4 to 19 as of September 1, 2011. To determine poverty level, we compare reported income with the federal poverty guidelines for the child's family size. Illinois is excluded from this table because the State was not able to provide income data.

* = Less than 0.05 percent.

n.a. = No sample data in this category.

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