



Commonwealth of Massachusetts
Office of the State Auditor
Suzanne M. Bump

Making government work better

Official Audit Report – Issued December 18, 2014

The Department of Elementary and Secondary Education's Oversight of Charter Schools

For the period July 1, 2009 through June 30, 2013





Commonwealth of Massachusetts
Office of the State Auditor
Suzanne M. Bump

Making government work better

December 18, 2014

Secretary Matthew Malone
Massachusetts Executive Office of Education
One Ashburton Place, Room 1403
Boston, MA 02108

Commissioner Mitchell Chester
Massachusetts Department of Elementary and Secondary Education
75 Pleasant Street
Malden, MA 02148

Dear Secretary Malone and Commissioner Chester:

I am pleased to provide this performance audit of the Department of Elementary and Secondary Education's (DESE's) oversight of the Commonwealth's charter school system. This report details the audit objectives, scope, methodology, findings, and recommendations for the audit period, July 1, 2009 through June 30, 2013. My audit staff discussed the contents of this report with management of DESE, and their comments are reflected in this report.

Since our audit identified a need for improvements to certain controls over data systems maintained jointly by DESE and the Executive Office of Education (EOE), I am submitting this report to both agencies for appropriate follow-up action.

I would also like to express my appreciation to both DESE and EOE for the cooperation and assistance provided to my staff during the audit.

Sincerely,

A handwritten signature in blue ink, appearing to read "SMB", written over a light blue circular stamp.

Suzanne M. Bump
Auditor of the Commonwealth

cc: Margaret McKenna, Chair, Massachusetts Board of Elementary and Secondary Education

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

OVERVIEW OF AUDITED AGENCY 5

AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY 12

DETAILED AUDIT RESULTS AND FINDINGS WITH AUDITEE’S RESPONSE 17

- 1. The Department of Elementary and Secondary Education’s charter school waitlist information is not accurate..... 17**
- 2. DESE has not developed an effective process to ensure the dissemination and replication of charter school best practices to other Massachusetts public schools..... 23**
- 3. Key student and educator data for charter schools and sending districts may not be reliable, and data systems lack adequate data security controls..... 31**
 - a. School and district data reported to DESE may not be reliable. 32**
 - b. DESE’s data security controls were deficient..... 35**
- 4. DESE renewed school charters in an inconsistent manner. 44**

OTHER MATTERS 50

GLOSSARY 61

EXECUTIVE SUMMARY

Over the past two decades, charter schools, which operate under the oversight of the Board of Elementary and Secondary Education (BESE) and the Department of Elementary and Secondary Education (DESE), have become a key component of the Commonwealth's education reform efforts. This is particularly true of Commonwealth charter schools, the category of charter schools that are fully independent of local school districts. Taxpayer funding, including tuition payments and other funding, associated with Commonwealth charter schools is expected to exceed \$516 million for fiscal year 2014. Cumulative state funding since the first charter schools opened in 1996 will then total approximately \$4.3 billion. The role and success of these charter schools in fulfilling legislatively established educational purposes have been the subject of extensive public debate since provisions for the establishment of charter schools were first included in the Massachusetts Education Reform Act of 1993.

This audit examines aspects of DESE's oversight of the charter school system and certain matters relevant to the fulfillment of statutory purposes and requirements, including those related to student waitlists, student and educator data, development and dissemination of replicable innovative best practices, and attainment of academic and demographic profiles comparable to those of the school districts from which charter schools draw their students.

Summary of Findings

- Charter school waitlist information maintained by DESE is not accurate. A lack of accurate waitlist information may result in ineffective planning and oversight, as well as policymaking consequences such as an inaccurate assessment of demand when charter school approval, renewal, or expansion applications are considered and when the Legislature makes decisions on changes to existing limitations on the number of charter schools.
- As a condition of charter renewal, charter schools are required to document that they have provided innovative programs, best practices, and models for replication in public schools to DESE and sending districts. DESE is required to facilitate dissemination of this type of information and provide technical assistance in replicating successful programs. However, documentation of the development, dissemination, and replication of innovative practices is limited, and DESE has not adequately documented that it has facilitated these practices, nor has it taken action to broadly disseminate charter school innovative best practice information itself since 2009. As a result, charter schools may not be fulfilling their statutory purpose of stimulating the development of innovative public education programs and providing models for replication in other public schools. Further, DESE may be inappropriately renewing the charters of schools where these programs, practices, and models for replication have not been developed.

- DESE does not ensure the reliability of data submitted to it by schools and districts. Without sufficient oversight and monitoring by DESE of the accuracy of schools' reported data, there is an increased risk that unreliable or inaccurate data will be used by DESE, other state agencies, the Legislature, researchers, parents, and others in their decision-making.
- DESE and the Executive Office of Education have inadequate controls over data security in DESE's Student Information Management System (SIMS) and Education Personnel Information Management System (EPIMS) data collection systems. Specifically, controls are not adequate with regard to password settings, session locks, detection of inappropriate use, policy documentation related to information security, system configuration changes, security training for system users, and auditing of access security control. These deficiencies impair DESE's ability to ensure the confidentiality, integrity, and availability of data collected and maintained in SIMS and EPIMS and heighten the risk of data loss, alteration, or unauthorized use.
- During our audit period, DESE was inconsistent in its decisions regarding whether to impose conditions for some school charter renewals. Inconsistency in charter renewal decisions can cause multiple problems: charter schools may not clearly understand expectations, schools may be missing the opportunity to receive important feedback, parents may be misinformed about schools' performance, and children may receive substandard academic programs.

Recommendations

- DESE should gather all waitlist information required by law, including student addresses, telephone numbers, and birthdates, in order to develop and maintain accurate consolidated waitlists. If DESE determines that privacy/child protection considerations warrant special security measures to protect statutorily mandated information, it should enhance its data privacy protection measures.
- DESE should take the measures necessary to ensure that charter schools notify it within 30 days when vacancies are filled and that it uses this information to update its waitlists.
- DESE and BESE should consider modifying the recently amended 603 Code of Massachusetts Regulations 1.05 to fully prohibit the use of rolling waitlists and require that each student reconfirm prior applications to maintain a spot on the waitlist.
- DESE should develop options for more efficient and accurate waitlist processing. These might include the use of a single consolidated waitlist at DESE with a standardized software system developed and distributed by DESE for use in processing online applications for families wishing to enroll a child in school.
- DESE should consider routinely conducting some type of verification of waitlist information.
- In collaboration with charter and district schools, DESE should establish detailed guidance regarding standards and expectations for the development, dissemination, and replication of innovative programs and best practices.

- During the charter renewal process, DESE should ensure that charter schools meet all the requirements for the development of innovative programs and best practices and should establish corrective action requirements for charter schools that do not effectively fulfill this statutory purpose.
- DESE should develop policies and procedures for the verification of charter schools' reported data. Such procedures could include a program of on-site data verification similar to the one it has already piloted, as well as a system to ensure that corrective action is taken when problems are identified. DESE should continually adjust its data verification and data quality programs to reflect common data issues that are uncovered. Other recommendations related to data reliability are presented in the Detailed Audit Results and Findings section of this report.
- DESE should consistently apply its performance criteria in the charter renewal process, including requiring schools to meet the measures of success shown in their Accountability Plans. If DESE feels that other important factors not reflected in charter schools' Accountability Plans influence the renewal status of a charter, these factors should be formally identified and explained in guidelines so schools better understand DESE's expectations.

Other Matters

Unaudited DESE data (which our audit found to be of undetermined reliability) on student demographics and educator qualifications indicate the following:

- In 2010, the Legislature amended Chapter 71, Section 89(e), of the Massachusetts General Laws to ensure equal opportunity and promote academic and demographic comparability of charter schools to sending districts. Under this statute, a charter school must have a plan to recruit and retain high-needs students who are limited English proficient (also called English-language learners, or ELLs), those who are classified as needing special education, those who qualify for free and reduced-price lunch, those who are at risk of dropping out of school or have dropped out of school, or other at-risk students who should be targeted to eliminate academic achievement gaps between socioeconomic groups. DESE data indicate that some Commonwealth charter schools appear to have made some progress in attaining academic and demographic profiles comparable to those of sending districts. However, profiles for many charter schools remain less than comparable to those of sending districts for student population groups such as ELLs, students with disabilities, and students from families with incomes below 130% of the poverty level.
- The lack of comparability between charter schools and sending districts presents significant barriers to any attempt to determine whether the higher Massachusetts Comprehensive Assessment System performance at certain charter schools is attributable to demographic differences or whether innovative practices have produced positive outcomes.
- Operating under different statutory requirements, charter schools have lower percentages of licensed teachers than traditional public schools. Additionally, charter school teacher salary levels average 75% of those at sending districts.

- Based on data on charter school enrollment levels, payment arrangements and trends, operating results, and financial position, charter schools generally appear to be in sound financial condition.

Conclusions

For the most part, DESE has implemented effective internal controls over the monitoring of Commonwealth charter schools in the areas tested. In addition, DESE has addressed all the findings in our prior audit that were followed up on during this audit. However, our audit identified issues with certain aspects of DESE's administration of charter schools, including the following:

- The reliability and accuracy of charter school information in DESE's data systems are questionable.
- The extent to which the charter school system has provided a successful mechanism for developing and disseminating replicable innovation models is not determinable.
- DESE was inconsistent in its decisions regarding whether to impose conditions for school charter renewal.

Further, based on unaudited information we were able to obtain and analyze during our audit, we noted that improvement might still be needed in addressing concerns regarding inadequate representation of high-needs student populations.

OVERVIEW OF AUDITED AGENCY

Background

Chapter 15 of the Massachusetts General Laws created the Department of Elementary and Secondary Education (DESE) within the Executive Office of Education (EOE) under the supervision of the Board of Elementary and Secondary Education (BESE) and EOE. DESE is responsible for providing quality education to all students and preparing them to succeed after high school.

The Massachusetts Education Reform Act of 1993 and Chapter 71, Section 89, of the General Laws authorized the creation of charter schools. Section 89 grants BESE the authority to approve charter schools for renewable five-year terms for the following purposes:

(i) to stimulate the development of innovative programs within public education; (ii) to provide opportunities for innovative learning and assessments; (iii) to provide parents and students with greater options in selecting schools within and outside their school districts; (iv) to provide teachers with a vehicle for establishing schools with alternative, innovative methods of educational instruction and school structure and management; (v) to encourage performance-based educational programs; (vi) to hold teachers and school administrators accountable for students' educational outcomes; and (vii) to provide models for replication in other public schools.

BESE has final authority over charter school regulations (603 Code of Massachusetts Regulations 1.00), charter approval, renewal, and revocation decisions, but it delegates most operational responsibilities to the DESE commissioner and the DESE Office of Charter Schools and School Redesign.¹

Massachusetts law provides for two types of charter schools:

- (1) Commonwealth charter schools, established as freestanding government entities fully independent of traditional local school districts. A Commonwealth charter school operates independently of a school committee and is managed by a board of trustees.
- (2) Horace Mann charter schools, which operate under the approval and cooperation of the school committee and, in most instances, the local collective bargaining unit in the district in which the school is located.

Commonwealth charter schools predominate, accounting for approximately 88% of charter schools and more than 90% of charter school enrollment.

¹ Formerly known as the Charter School Office.

Charter School Funding and Cost Trends Since 2005

The cost of operating the charter school system within Massachusetts has increased dramatically since 2005, rising 29.6% from an average per-pupil cost of \$11,706 during fiscal year 2005 to a projected \$15,174 during fiscal year 2014.

Funding arrangements differ for Commonwealth and Horace Mann charter schools. Horace Mann charter schools are funded through budgetary agreements established with their sponsoring public school districts (also called “sending districts”). As provided for by Chapter 71, Section 89(ff), of the General Laws, Commonwealth charter schools are paid tuition rates based on the sending district’s average net school spending per student as calculated for the Commonwealth’s Chapter 70 local educational aid program,² with adjustments to factor out retiree costs and costs for out-of-district special education. DESE is responsible for calculating tuition rates using the statutorily established method and for administering tuition payments and certain associated sending district reimbursements. Using a “money follows the student” approach, the Commonwealth makes tuition payments (Chapter 70 aid) directly to Commonwealth charter schools, with corresponding reductions to each student’s sending district’s local aid payments. For fiscal year 2014, tuition payments to Commonwealth charter schools are projected to exceed \$408 million for nearly 32,000 students. As is the case for traditional public schools, these charter schools also receive additional state funding for grants and other special purposes. This additional state funding to Commonwealth charter schools is expected to total approximately \$33 million for fiscal year 2014.³

Commonwealth charter school tuition is paid directly by the state. In addition, beginning in fiscal year 1999, Chapter 46 of the Acts and Resolves of 1997 authorized several charter school aid programs, including aid for charter school tuition and aid for first-year pupils entering public charter schools from private school or home school. Pursuant to Chapter 46, which was amended by Chapter 12 of the Acts of 2010, the partial tuition reimbursement aid to the sending district is calculated on a student-by-student basis, tapering to zero over a six-year period, with reimbursement

² Chapter 70 of the General Laws establishes the major program of state aid to the Commonwealth’s municipalities to support their operation of public elementary and secondary schools. In addition to providing state aid to support school operations, it also establishes minimum spending requirements for each school district and minimum requirements for each municipality’s share of school costs. According to DESE’s website, “the goal of the Chapter 70 formula is to ensure that every district has sufficient resources to meet its foundation budget spending level, through an equitable combination of local property taxes and state aid.”

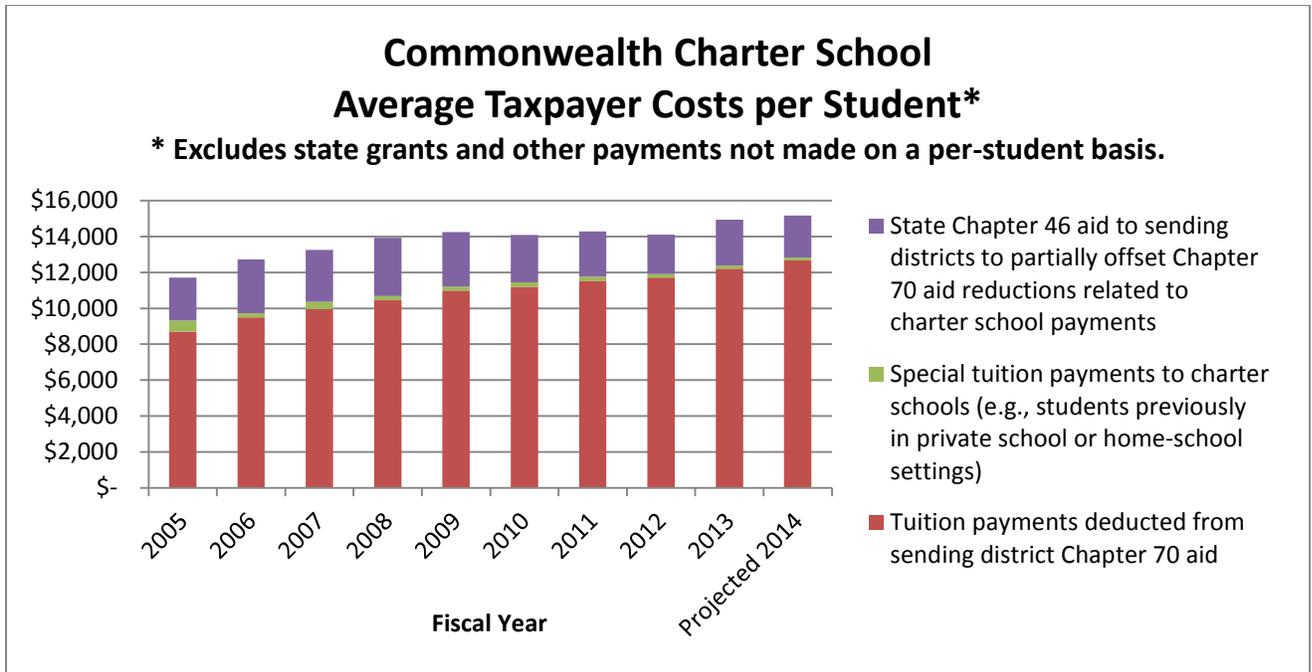
³ Source: Massachusetts Comptroller’s Commonwealth Information Warehouse expenditure data. Approximately 97% of that funding was paid by DESE, with remaining amounts provided by other state agencies.

aid equal to 100% of the student's tuition for the first year of charter school enrollment and only 25% for each of the following five years. The reimbursement aid process also includes a fixed payment component (currently \$893 per student per year) to offset a facility-cost-related tuition supplement incorporated into the tuition rate paid to the charter school and deducted from the sending district's Chapter 70 aid. DESE refers to the resulting unreimbursed portion of the Chapter 70 aid reduction associated with Commonwealth charter school tuition payments as the net cost to the sending district. The Chapter 46 reimbursement aid process is further complicated by annual state budget appropriation limits established by the Legislature. If the statewide appropriation for a given fiscal year is only sufficient to pay for 80% of the amounts that should be paid pursuant to the Chapter 46 formula, then the payments to each sending district are reduced accordingly on a prorated basis.

DESE projects that nearly \$75 million in associated Chapter 46 aid will be paid to sending districts, bringing total payments associated with Commonwealth charter schools to more than \$516 million. The cumulative amount of these payments since the first charter schools were opened in 1996 is expected to exceed \$4.26 billion by the end of fiscal year 2014. That total does not include direct federal grants received by some charter schools; the value of indirect local government support, such as the transportation of students to and from school; and related benefits received from sending districts. Charter schools often also receive additional support from private grants and contributions.

The Commonwealth charter school payment system also includes special tuition provisions for students entering charter schools from private school or home school, whose first-year tuition payments are made directly by the Commonwealth without corresponding reductions to sending district Chapter 70 aid. However, those special tuition payments are insignificant in terms of total system expenditures.

The following chart displays consolidated system-wide average per-student Commonwealth charter school tuition and related Chapter 46 sending district reimbursement amounts, from the amount for fiscal year 2005 through the projected amount for fiscal year 2014.



In practice, the amounts up to and including the green band, which include the additional special tuition payments, are the amounts received by charter schools, while the top band for Chapter 46 reimbursement aid goes to sending districts. The cumulative total (\$15,174 projected for fiscal year 2014) is the overall average per-student tuition and related cost to state and local government. The add-on per-student expense to taxpayers of the Chapter 46 reimbursement aid has varied, from 18.3% (projected 2014) to 30.7% (2006) of the total payments made directly to charter schools.

The \$15,174 total per student for tuition and related payments excludes additional taxpayer-supported amounts that are not related to tuition and are not paid on a per-student basis, such as state and federal grants paid directly or indirectly to Commonwealth charter schools, the value of indirect local government support such as the transportation of students to and from school, and facility subsidization through various tax-exempt financing arrangements. The total also excludes support provided to charter schools from nongovernmental sources such as private contributions and grants, as well as miscellaneous income such as interest on investments.

Charter School Enrollment

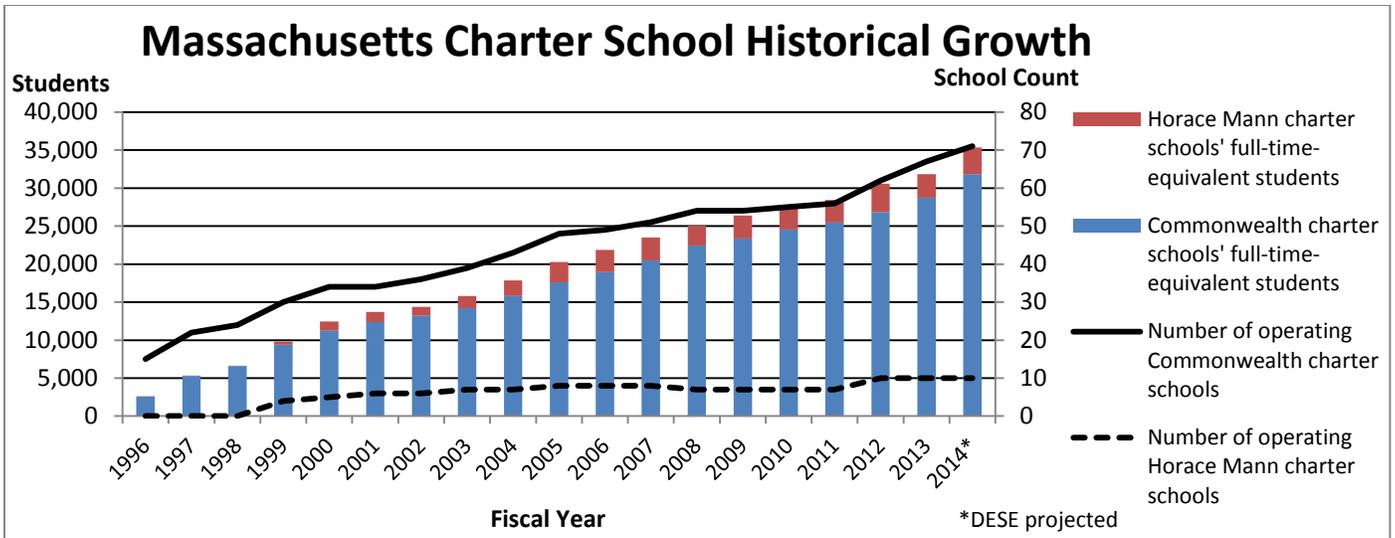
In April 2013, DESE reported that for the September 2013 start of the 2013–2014 school year (fiscal year 2014), more than 35,000 children had been pre-enrolled⁴ to attend 81 Massachusetts charter schools. Of those schools, 71 were Commonwealth charter schools, with 31,997 students,⁵ and 10 were Horace Mann charter schools, with 3,356 students. An additional 53,492 children were reported to have been placed on charter school waitlists used to fill vacancies that arise as students leave during the school year. The stated waitlist count, which included approximately 3,100 children waitlisted for Horace Mann charter schools, was not an unduplicated count because at that time an unknown number of students had each applied to multiple charter schools and been counted as separate entries each time.

Although charter schools are approved with established enrollment limits for each school, many schools operate at less than their DESE-authorized capacity during their initial five-year charter period and even during subsequent charter renewal periods, often phasing in grade levels over a multiyear period or leaving certain vacancies unfilled when students leave. Actual authorized enrollment capacity for already-operating Massachusetts charter schools is approximately 44,000 students.

The following chart shows the historical growth in enrollment in the Massachusetts charter school system since the first schools opened in 1996.

⁴ Although not all pre-enrolled children actually attend, the pre-enrollment count reasonably reflects actual enrollment. Statewide actual charter school enrollment for the 2012–2013 school year was approximately 98% of that year's pre-enrollment total.

⁵ DESE develops estimates for multiple purposes, and projected counts are not always precisely the same. For example, the above tuition projections were based on a DESE estimate of 31,828 Commonwealth charter school students for fiscal year 2014.



Although charter schools have been established across the Commonwealth, these schools still serve less than 4% of the Massachusetts student population and are mostly located in Boston and other urban areas. Twenty-one Commonwealth charter schools and six Horace Mann charter schools account for 12.3% and 3.8%, respectively, of Boston’s 61,910-student population.

Charter Approval and Renewal Process

Initial charter school approval by DESE and BESE involves a three-stage Letter of Intent, Prospectus, and Application process, through which Accountability Plans are established for each school, with specific mutually agreed-upon standards by which success will be evaluated.

After initial approval, DESE monitors charter schools through a system of periodic data and report submissions and the use of on-site visits conducted using teams of both DESE employees and external educational professionals. Charter renewal at the end of each five-year charter period is contingent on DESE/BESE approval of charter renewal applications and satisfactory results of site visits and other DESE monitoring activities. According to DESE, the decision to renew a charter is based on three areas of inquiry: academic program success, organizational viability, and faithfulness to the terms of the charter. Chapter 71, Section 89(dd), of the General Laws states that the renewal approval process for Commonwealth charter schools must require the schools to document the provision of educational program models for replication and best practices to the commissioner of

DESE and to other public schools in the district where the charter school is located.⁶ BESE is required to consider innovations that have been successfully implemented by the charter school and the evidence that supports the effectiveness of these practices. BESE is also required to consider student academic achievement progress; whether the school has met its obligations and commitments under the charter; the extent to which the school has followed its recruitment and retention plan; and annual attrition⁷ of students. BESE may also establish probation or other operating conditions on charter schools as needed, or revoke a charter at any time before its five-year period expires. When DESE managers determine that renewal without use of probation or other conditions is appropriate, BESE routinely delegates the formal renewal determination to the DESE commissioner.

As of August 2013, 243 formal final applications had been filed for school charters since 1994, and 102 charters had been approved. Two approved charters were for schools that had not opened as of the end of our audit period. Since 1994, 5 charter schools have surrendered their charters before opening, and 14 more have closed through voluntary charter surrender, revocation, or charter nonrenewal. As a result, 81 charter schools remained active at the end of the 2012–2013 school year, including 1 on probation and at least 8 subject to various conditional approval requirements. Subsequently, 1 Commonwealth charter school (the Spirit of Knowledge Charter School in Worcester) voluntarily surrendered its charter and closed at the end of October 2013.

⁶ Separate statutory provisions applicable to Horace Mann charter schools make the school committee of the sponsoring sending district responsible for disseminating the charter school's innovative practices to other public schools within the district.

⁷ Students not returning for a new school year, for any reason other than graduation, to a school in which they were enrolled and were expected to return for the new year.

AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY

In accordance with Chapter 11, Section 12, of the Massachusetts General Laws, the Office of the State Auditor has conducted a performance audit of certain activities of the Department of Elementary and Secondary Education (DESE) related to its administration of charter schools for the period July 1, 2009 through June 30, 2013.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Our audit objectives were as follows:

- To determine whether DESE complied with Chapter 71, Section 89(n), of the General Laws, which requires DESE to maintain consolidated charter school waitlist data for the purpose of determining the number of individual students in each municipality seeking admission to charter schools.
- To examine DESE's process for ensuring that charter schools fulfill statutory purposes and requirements pertaining to developing innovative programs and models for replication in public schools.
- To assess the reliability and accuracy of student and educator data relevant to DESE's oversight of the charter school system.
- To examine DESE's oversight and monitoring of Commonwealth charter schools during the various phases of a five-year charter term, from application for a charter to the conclusion of a charter through renewal or closure, and to determine whether DESE ensured that Commonwealth charter schools complied with selected statutory requirements.
- To determine whether DESE had addressed findings and recommendations from our prior audit (No. 2000-4070-3) that were significant within context of the current audit objectives.

To accomplish our objectives, we reviewed the internal controls DESE had established and implemented over certain aspects of its operations. The purpose of this review was to obtain an understanding, and evaluate the effectiveness, of DESE's control environment with regard to its oversight and monitoring of charter schools, the consolidation of waitlist information submitted by charter schools, and the accuracy and reliability of pertinent school data on DESE's website. We also reviewed applicable laws, rules, and regulations and held discussions with officials from DESE, the Executive Office of Education (EOE), charter schools, public school districts, and other

stakeholders such as professional and education reform organizations. We used these assessments and discussions to plan and perform our audit testing.

To examine the extent to which DESE is ensuring that statutory purposes and requirements pertaining to charter school innovation and best practices are fulfilled, we held discussions with DESE officials and other stakeholders such as professional and education reform organizations; gathered and reviewed available information pertaining to educational innovation and charter schools; analyzed annual reports submitted by charter schools, minutes of meetings of the Board of Elementary and Secondary Education (BESE), various files, and webpage documentation maintained by DESE; and administered an online survey questionnaire, soliciting input from charter school and school district administrators across the Commonwealth. In this survey, we solicited responses from 277 public school districts and 63 Commonwealth charter schools. Forty-five (16.25%) of the public school districts and 19 (30.16%) of the Commonwealth charter schools responded to some or all survey items. One of the school districts did not reply to questions related to innovation / best practices and is therefore excluded from counts referred to on that topic. We consolidated and analyzed the resulting information from all sources.

To test the accuracy of waitlist data maintained by DESE, we analyzed summary waitlist count information gathered by DESE in March 2013, student-specific listings gathered in May 2013, the methodology used by DESE to consolidate that information into a central waitlist, and the content of that consolidated list, as well as the content of DESE's published July 2013 report on the consolidated waitlist. We conducted the analysis using a version of DESE's automated data consolidation methodology that had been further enhanced by the Office of the State Auditor's data analytics specialists to identify duplicate entries that might have been missed by the DESE methodology. We supplemented this analysis by direct examination of all entries to identify any that might have been missed by the automated matching process. We also examined student-specific information on the waitlist to determine whether entries contained all required data elements. Further, we examined DESE's process for updating the consolidated waitlist, compared updated data to the original data, and noted any anomalies in updated waitlist information for certain charter schools. We also analyzed charter schools' responses to questions in our online survey about the practice of rolling forward waitlist entries from prior years without reconfirming the students' continued desire to enroll. We concluded that DESE's compiled charter school waitlist did not contain all statutorily required student information. In addition, it is overstated because of

unidentified duplicate entries, the practice of rolling forward entries from prior years' waitlists, and data submission errors by charter schools.

To assess the reliability and accuracy of key student and educator data on DESE's website, we analyzed internal controls over two systems that collect school data in accordance with the requirements of DESE detailed in Chapter 69, Section 1(l), of the General Laws: the Student Information Management System (SIMS) and Education Personnel Information Management System (EPIMS).⁸ SIMS collects student-level data that are used to meet state⁹ and federal reporting requirements and that inform policy and programmatic decisions. EPIMS collects demographic and work assignment data on public-school educators to enable Massachusetts to meet federal educator qualification reporting requirements. Because the data from these two systems are supplied by individual public (district and charter) schools, we also analyzed how DESE ensures that schools are recording reliable and accurate information. This analysis included a review of a pilot audit program in which DESE tested the data entry of 10 volunteer schools for accuracy, as well as a review of DESE's Massachusetts Data Quality Program.¹⁰ We concluded that the reliability of the data was indeterminate because of missing or inadequate security controls at DESE and EOE. Additionally, DESE's oversight and monitoring of data controls maintained by district schools were insufficient to ensure that the information reported by the schools was accurate and reliable. However, we determined that the data used to support our testing of DESE's oversight and monitoring of Commonwealth charter schools, from the application phase to the conclusion of the charter through renewal or closure, were adequate, as the data were successfully traced back to numerous sources of hardcopy documentation.

Except as noted, the data appearing in the Other Matters section of this report represent information maintained by DESE that has been reviewed for consistency with other available sources, such as the Commonwealth's accounting system, but has not been audited. We deemed the data adequate for the purpose of limited informational presentation in our report.

⁸ Two additional data collection systems existed but were not included in our data reliability test: Student Course Schedule and the School Safety and Discipline Report.

⁹ Chapter 71, Section 89(kk), of the General Laws states, "The commissioner shall collect data on the racial, ethnic and socio-economic make-up of the student enrollment of each charter school in the commonwealth. The commissioner shall also collect data on the number of students enrolled in each charter school who have individual education plans . . . and those requiring English language learners programs."

¹⁰ The Massachusetts Data Quality Program is designed to provide training and resources to data collectors for the purpose of developing quality data.

To test DESE's oversight and monitoring of Commonwealth charter schools from the application phase to the conclusion of the charter through renewal or closure, we analyzed a non-statistical¹¹ sample of 5 applications for prospective charter schools that DESE had rejected,¹² 4 Commonwealth charter schools that closed for various reasons,¹³ and 10 currently active Commonwealth charter schools.¹⁴ These samples were judgmentally chosen, and therefore the results cannot be projected to their respective populations. We reviewed documentation to support DESE's communication with the public regarding applications, evaluation of applications, and reasoning for rejecting prospective charter schools. We also analyzed documentation related to closed and currently active Commonwealth charter schools to determine whether DESE was consistent, effective, and fair in its oversight and monitoring of charter schools; this documentation included BESE documents and meeting minutes, memorandums issued by the DESE commissioner, correspondence and approvals from DESE to the charter schools, charter school Accountability Plans, DESE site visit reports, annual reports,¹⁵ reports created to inform and support charter renewal decisions, investigations, and charter school closing procedures.

We concluded that for the most part, DESE had implemented effective internal controls over the monitoring of Commonwealth charter schools in the areas tested. In addition, DESE has addressed all the findings in our prior audit that were followed up on during this audit. However, our audit identified issues with certain aspects of DESE's administration of charter schools, including the following:

- The reliability and accuracy of charter school information in DESE's data systems are questionable.

¹¹ We used auditor judgment to select the size of samples, as their respective populations were small, not exceeding 59 schools.

¹² We selected a random sample of 5 rejected applications out of a population of 15 rejected charter applications for the charter application cycles from 2010–2011 through 2012–2013.

¹³ A total of 5 Commonwealth charter schools closed during fiscal years 2010–2013; we selected 4 of these schools for testing, as our office had recently audited the 5th school.

¹⁴ We chose the sample of 10 active charter schools from a population of 59 schools, based on a list of charter schools detailed by DESE as of October 2013, that included only Commonwealth charter schools that had been operating for three years or more. We separated the population of 59 into two groups: schools that had renewed their charters (52 out of 59) and schools in their first charter term (7 out of 59). We then assigned a judgmental sample size to each group, resulting in a sample of 8 schools that had renewed their charters (we further specified that this sample included 4 schools on conditions or probation and 4 schools in good standing) and 2 schools in their first charter term. Each group's sample selection was chosen at random.

¹⁵ Annual reports included audited financial statements of the charter schools, financial disclosure forms completed by charter schools' boards of trustees, and reports submitted by charter schools to DESE that detailed the schools' operations from the prior school year and plans for the current school year.

- The extent to which the charter school system has provided a successful mechanism for developing and disseminating replicable innovation models is not determinable.
- DESE was inconsistent in its decisions regarding whether to impose conditions for school charter renewal.

Further, based on unaudited information we were able to obtain and analyze during our audit, we noted that improvement might still be needed in addressing concerns such as inadequate representation of high-needs student populations and the adequacy of charter schools' teacher qualifications.

DETAILED AUDIT RESULTS AND FINDINGS WITH AUDITEE'S RESPONSE

Audit Findings

1. The Department of Elementary and Secondary Education's charter school waitlist information is not accurate.

Charter school waitlist information maintained by the Department of Elementary and Secondary Education (DESE) is not accurate. Waitlist counts by municipality are significantly overstated because DESE did not gather information, such as student home addresses and telephone numbers, that is needed to identify individual students who are placed on multiple school waitlists. In addition, the majority of charter school waitlists contain unknown numbers of potentially outdated student names that the schools rolled forward from prior years without verifying continued desire for enrollment. DESE has also not enforced the statutory requirement that charter schools report filled vacancies to DESE within 30 days after they occur so that it can update its waitlist information. A lack of accurate waitlist information may result in ineffective planning and oversight, as well as policymaking consequences such as an inaccurate assessment of demand when charter school approval, renewal, or expansion applications are considered and when the Legislature makes decisions on changes to existing limitations on the number of charter schools.

Authoritative Guidance

According to Chapter 71, Section 89(n), of the Massachusetts General Laws, as amended by Chapter 12, Section 7, of the Acts of 2010, individual charter schools must maintain admission waitlists of students who applied to charter schools but were not admitted. Charter schools must periodically submit waitlist information to DESE. In order to be useful, this information must reflect students who are currently seeking admission, which would entail DESE verifying that students who have previously applied for placement are still interested. The law states that DESE "shall maintain a consolidated waitlist for each municipality in order to determine the number of individual students in each municipality seeking admission to charter schools." The consolidated waitlist maintained by DESE is to be developed from charter school data submissions which, by law, must include each student's name, home address, telephone number, grade level, and "other information the department deems necessary."

The same section also states, “Within 30 days of a vacancy being filled, the charter school shall send the name of the student filling such vacancy to [DESE] for the purposes of the department updating its waitlist.”

Audit Testing and Results

Charter school enrollment operates through lotteries conducted for each grade level by individual schools. Students seeking admission must register before lottery deadlines. When the number of students seeking admission exceeds the number of available openings, a lottery for the coming school year must be completed no later than March 15.¹⁶ Students not awarded admission through the lottery are waitlisted, and waitlists are then used to fill vacancies as they occur before and during the school year.

DESE did not establish a consolidated waitlist system until May 2013, when it announced that Commonwealth and Horace Mann charter schools would be required to submit student-specific waitlist detail for the 2013–2014 school year by May 24, 2013. DESE obtained data from 65 of 71 Commonwealth charter schools and 7 of 10 Horace Mann charter schools during the May 2013 data submission process. According to DESE, 7 schools did not have waitlists and 2 were unable to provide information in the format requested.

Before that change, DESE gathered and published summary waitlist totals by municipality once per year, in March. However, these published data presented only total counts of the number of waitlisted students from each municipality for each charter school, with no adjustment to produce unduplicated counts for thousands of students who each applied to more than one charter school. DESE had no way to produce the required consolidated information, since it had not required charter schools to submit identifying information for individual students. The unadjusted March 2013 counts of 53,492 students statewide, including 27,919 for Boston, contained an unknown number of duplications involving students who had applied to multiple charter schools. Those counts were the only DESE waitlist data available for estimating charter school demand before

¹⁶ The March 15 deadline is established in 603 Code of Massachusetts Regulations 1.05(3)(c), which requires that each charter school conclude its principal enrollment process (which includes conducting a lottery when the number of applicants exceeds the number of available openings) by March 15 each year.

DESE issued a waitlist report in July 2013.¹⁷ That report stated that the consolidated waitlist covered an unduplicated count of 40,376 students, including 16,864 Boston students.¹⁸

In 2013, DESE required charter schools to submit updated waitlist information for the current (2013–2014) school year by December 6.

We analyzed both the initial (May 2013) data submission process and the December 2013 update process and determined the following:

- DESE did not gather student home addresses and telephone numbers as authorized by statute, citing student privacy considerations. DESE only required submission of first, middle, and last names; the grade level sought for enrollment; city/town of residence; and birthdates, which are used to facilitate identification of students included on the waitlists of multiple charter schools. However, without home addresses and telephone numbers, the submitted data may not be adequate to identify cases where an individual student has been placed on the waitlists of multiple charter schools. We determined that DESE's unduplicated counts were significantly overstated and included at least 2,342 probable duplicate entries that DESE had not identified, including 2,074 entries for students residing in Boston. The 2,342 probable duplicates included both waitlist entries for the same child at multiple schools and internal duplicate entries for the same child within a single school's waitlist.¹⁹
- DESE's waitlist compilation process did not use a software application that contained format and edit controls designed to provide uniform data, avoid duplication, and facilitate comparison of entries across multiple charter school waitlists. Instead, DESE simply gathered spreadsheet-type submissions from charter schools and consolidated this information using an automated process that DESE's Charter School Waitlist Matching Process document states is designed to "err on the side of having more duplicates than inappropriately deciding that two different students are the same student."
- DESE's waitlist included entries where required information such as first names, birthdates, or codes identifying municipalities where students live was missing, as well as situations where variations in name spelling raised the possibility that entries might be for the same student. Had DESE gathered the statutorily required student home addresses and telephone numbers and required that deficiencies such as blank or conflicting birthdates and grade levels be corrected, the process of matching entries across multiple charter school waitlists would likely have resulted in lower unduplicated counts.

¹⁷ Massachusetts Department of Elementary and Secondary Education, *Report on Charter School Waitlists*, July 2013, <http://www.doe.mass.edu/charter/news/2013/waitlist.pdf>.

¹⁸ The DESE report gave an unduplicated count of 16,864 for Boston and a separate unduplicated count of 484 for "No Town Code," which we determined had been entered by a charter school located in Boston and therefore probably represented students from Boston, bringing the adjusted DESE Boston count to 17,348.

¹⁹ Our analysis identified more than 300 cases, involving 34 charter schools, where individual students appeared to have two or more separate entries on a charter school's waitlist, causing the waitlist size to be overstated and increasing those students' chance of being selected in the lottery process.

- The data file DESE provided to us for audit did not reconcile to waitlist counts stated in DESE's public waitlist report. Report counts for 77 municipalities differed from the actual number of entries appearing in the data file provided by DESE. Variances existed for both duplicated and unduplicated counts, with variances for individual municipalities ranging from under-counts of as many as 59 students to over-counts of as many as 239 students.²⁰
- We estimated that unduplicated counts taken at the end of the lottery process in March 2013 should have been no more than 38,034 students (with 14,800 from Boston), as opposed to the 40,376 unduplicated count reported by DESE. However, even that adjusted count was significantly overstated to an extent that could not be quantified because, as DESE managers subsequently told us, a majority of charter schools roll forward waitlist entries from prior years that may no longer be applicable. They noted that students could remain on a school's waitlist for several years, but stated that they could not estimate the number of students involved. On March 25, 2014, DESE promulgated a change to 603 Code of Massachusetts Regulations (CMR) 1.05 (10)(a) including the provision "Schools shall maintain waitlists only for the school year for which the students applied, provided that a charter school may choose to maintain any waitlists that were established prior to March 31, 2014 until such waitlists are exhausted, provided that such maintenance is clearly articulated in the school's enrollment policy approved by the Department."
- We gathered online survey response information²¹ from 16 charter schools about the practice of rolling entries forward from one year to the next. Eight confirmed that they engaged in the practice. Seven reported the numbers involved, and 1 school, with a total waitlist of 2,940, simply responded "Everyone who had not yet been enrolled." The practice of rolling forward waitlist information without updating it for accuracy accounted for 10,794 (80.9%) of 13,341 waitlist entries for just those 8 schools. The lowest percentage of entries that had been rolled forward for any of the 7 schools that reported specific numbers was 67.6%. One of the 8, which had reported 2,366 rolled-forward entries, noted that it had subsequently discontinued the practice.

Examination of the DESE waitlist updating process determined the following:

- Contrary to the previously cited statutory provisions, during our audit period DESE's waitlist process did not require charter schools to submit updated information within 30 days after filling a vacancy. Instead, DESE simply required charter schools to provide a single data update more than six months later. For example, updated waitlist data for the 2013–2014 school year were not gathered until January 2014 (with a cutoff date of December 6, 2013). No updated data were gathered during the six months after the original May 2013 data submission process, even though data should have been gathered on an ongoing basis within 90 days of the date when individual vacancies were filled.
- DESE's waitlist data updated as of December 6, 2013 was incomplete; it only covered 69 of the 72 charter schools that originally submitted data in May, plus 4 additional schools (reporting a

²⁰ For example, the report listed 4,053 duplicated count and 3,798 unduplicated count entries for Springfield, whereas the actual waitlist entries produced counts of 4,069 and 3,808, respectively.

²¹ This was done as part of the online survey discussed in more detail in Finding 2.

total of 458 students) not included on the original waitlist. Data were absent for 6 other schools. The data totaled 47,383 entries, including 22,933 for Boston students,²² before consolidation by DESE. In addition, DESE's methodology for consolidating waitlist data and identifying duplicate entries had not changed, and the pattern of data entry problems and missed duplicates persisted for the updated list.

- The count for the updated data appears to be inflated because of erroneous submissions by multiple charter schools. Specifically, 15 charter schools reported a combined total increase of 1,624 students on their waitlists. Our analysis of waitlist information posted on the websites of 2 of these charter schools, together accounting for 858 of the increases, showed that both rolled forward waitlists from prior years and both had submitted waitlist information for the 2014–2015 school year rather than the required updated information for 2013–2014.

Subsequent Information Provided by DESE about Waitlists for the 2014–2015 School Year

On May 23, 2014, DESE gave us waitlist reports covering the initial waitlist information for the 2014–2015 school year.²³ The reports gave a duplicated count of 58,906 and an unduplicated count of 44,876 for the year. However, DESE did not provide underlying data for the 2014–2015 waitlist report or any evidence that the waitlist deficiencies and inaccuracies described in our audit results had been corrected.

Reasons for Waitlist Deficiencies

The significant deficiencies we identified occurred because essential control procedures were not implemented: DESE did not enforce statutory submission requirements; it allowed the waitlist system to operate in a decentralized, non-uniform manner; and it did not adequately ensure that charter schools conformed to waitlist operational and recordkeeping requirements.

Recommendations

- DESE should gather all waitlist information required by law, including student addresses, telephone numbers, and birthdates, in order to develop and maintain accurate consolidated waitlists. If DESE determines that privacy/child protection considerations warrant special security measures to protect statutorily mandated information, it should enhance its data privacy protection measures.

²² The 22,933 Boston count includes 518 entries with blank town-of-residence municipality codes for a Boston-located school, which we believe can reasonably be treated as Boston student listings. DESE later issued a written report on the updated waitlist with somewhat different totals: a statewide duplicated count of 47,385, including 22,191 for Boston, and an unduplicated statewide count of 38,342, including 15,464 for Boston.

²³ DESE now has charter school waitlist reports and associated information posted on its website at <http://www.doe.mass.edu/charter/enrollment/>.

- DESE should take the measures necessary to ensure that charter schools notify it within 30 days when vacancies are filled and that it uses this information to update its waitlists.
- DESE and the Board of Elementary and Secondary Education (BESE) should consider modifying the recently amended 603 CMR 1.05 to fully prohibit the use of rolling waitlists and require that each student reconfirm prior applications to maintain a spot on the waitlist.
- DESE should develop options for more efficient and accurate waitlist processing. These might include use of a single consolidated waitlist at DESE with a standardized software system developed and distributed by DESE for use in processing online applications for families wishing to enroll a child in school.
- DESE should consider routinely conducting some type of verification of waitlist information.

Auditee's Response

The unduplicated waitlist count reported by DESE was 40,376; after nearly a year of intensive work, the report identified 38,034, a difference of less than six percent. From a policy standpoint, this is not a statistically significant difference, as waitlist counts can never be more than a rough approximation of charter school demand. The major reason why waitlist data can never be 100% accurate is that there is no cost or obligation associated with applying to a charter school. As a result, many students apply even if they are not yet sure they want to attend. There are likely many hundreds of students on the waitlist who would not accept an offer of admission if it were given to them.

The report states that DESE is not collecting all of the information required by statute. This is not correct, as the statute gives DESE the discretion to determine what data is needed to provide reasonable results. We are currently updating the waitlist data every six months. Implementation of a monthly reporting requirement as specified in the statute has been delayed because it would require a very high level of effort on the part of schools and would redirect Department resources with little significant corresponding benefit. Legislation is pending to rectify this issue.

The report also notes correctly that the practice of some charter schools of rolling waitlists from year to year creates additional uncertainty in the reported waitlist number. However, it is important to note that until recently, this practice was permitted. The Board of Elementary and Secondary Education (BESE) amended the charter school regulations last spring to phase out the rolling of waitlists from year-to-year. See 603 CMR 1.05(a) ("Schools shall maintain waitlists only for the school year in which the students applied, provided that a charter school may choose to maintain any waitlists established prior to March 31, 2014 until such waitlists are exhausted."). The recent actions by the BESE to phase out the practice was primarily motivated by the desire to increase access to charter schools for new students in a community.

Auditor's Reply

We acknowledge that there is no guarantee that students who appear on a charter school waitlist will ultimately attend the school. However, the law states that DESE "shall maintain a consolidated waitlist for each municipality in order to determine the number of individual students in each municipality seeking admission to charter schools." For much of our audit period, DESE had not taken the measures necessary to ensure, as far as possible, that its charter school waitlist information

was accurate, nor was it maintaining a consolidated waitlist as required by statute. DESE did not establish a consolidated waitlist system until May 2013.

In its response, DESE asserts that it has the discretion to determine what data charter schools need to provide in order for it to be able to maintain an accurate waitlist. While DESE does have some discretion in this area, Chapter 71, Section 89(n), of the General Laws requires the submission of certain information: "In addition to the names of students, the school shall supply to the department each student's home address, telephone number, grade level and other information the department deems necessary." As noted in our report, DESE did not gather student home addresses and telephone numbers as authorized by statute, citing student privacy considerations. However, without home addresses and telephone numbers, the submitted data may not be adequate to identify cases where an individual student has been placed on the waitlists of multiple charter schools.

Finally, we acknowledge that during our audit period the practice of allowing charter schools to roll their waitlists forward from year to year was permitted. As stated in our report and in DESE's response, BESE amended the charter school regulations to phase out the rolling forward of waitlists from year to year to increase access to charter schools for new students in a community. We believe that this amendment was an important step in ensuring the accuracy of the information being provided to DESE by charter schools, but we again suggest that DESE consider implementing all of our recommendations on this issue.

2. DESE has not developed an effective process to ensure the dissemination and replication of charter school best practices to other Massachusetts public schools.

As a condition of charter renewal, charter schools are required to document that they have provided innovative programs, best practices, and models for replication in public schools to DESE and sending districts. DESE is required to facilitate dissemination of successful innovation programs of charter schools and provide technical assistance to other school districts in replicating such programs. However, documentation of the development, dissemination, and replication of innovative practices is limited. In addition, though it is required by law to facilitate this process, DESE has not adequately documented that it has done so and has not taken action to broadly disseminate charter school innovative best practice information itself since 2009. As a result, charter schools may not be fulfilling their statutory purpose of stimulating the development of innovative public education programs and providing models for replication in other public schools. Further,

DESE may be inappropriately renewing the charters of schools where these programs, practices, and models for replication have not been developed.

Authoritative Guidance

Chapter 71, Section 89, of the General Laws states,

- (b) The purposes of establishing charter schools are: (i) to stimulate the development of innovative programs within public education . . . and (vii) to provide models for replication in other public schools. . . .*
- (e) The board shall establish the information needed in an application for the approval of a charter school; provided that the application shall include, but not be limited to, a description of . . . plans for disseminating successes and innovations of the charter school to other non-charter public schools. . . .*
- (r) . . . The commissioner [of DESE] shall facilitate the dissemination of successful innovation programs of charter schools and provide technical assistance for other school districts to replicate such programs. Each charter school shall collaborate with its sending district on the sharing of innovative practices. . . .*
- (dd) . . . a commonwealth charter shall not be renewed unless the board of trustees of the charter school has documented in a manner approved by [BESE] that said commonwealth charter school has provided models for replication and best practices to the commissioner and to other public schools in the district where the charter school is located.*

Version 3.1 of the DESE Charter School Performance Criteria, revised May 2014, requires that “the school [provide] innovative models for replication and best practices to other public schools in the district where the charter school is located.” It identifies factors that DESE should consider in deciding whether to renew a school’s charter:

The Department will also consider efforts made by the charter school to disseminate innovative models for replication and best practices to other schools, districts, and organizations beyond the district where the charter school is located. There are multiple forums and activities through which a charter school may disseminate, including but not limited to:

- *partnerships with other schools implementing key successful aspects of the charter school’s program,*
- *active participation in district turnaround efforts,*
- *sharing resources or programs developed at the charter school,*
- *hosting other educators at the charter school, and*
- *presenting at professional conferences about its innovative school practices.*

Audit Testing and Results

We examined available DESE documentation such as annual reports from all charter schools for fiscal years 2011 and 2012, as well as other reports of DESE site visits and charter renewal records. We also interviewed DESE managers, charter school and school district managers, and education reform advocates. In addition, we used an online survey of charter school and school district administrators to obtain supplemental information regarding their innovative programs and best practices.

The information we obtained indicated that there was little consistency in the type of activity characterized by charter schools as innovative programs or best practices, terms not defined by statute or in DESE's regulations. In many cases, claimed best practice activity was as simple as "Student actors presented several public performances . . . in collaboration with [a community theater]." In other cases, only minimal detail was provided: "Shared best practices and instructional methods focused on the dynamic use of student assessment data to inform all areas of instruction with other educators in Massachusetts and beyond." Although 15 of 17²⁴ charter school respondents to the online survey reported that they had developed innovative programs, only 2 of the 44 school districts that responded on this topic indicated they had successfully implemented an innovative program or model for replication from a charter school. In part, this condition appeared to involve disagreement regarding what constitutes "innovation." Several charter school respondents described their best practices as including community service and internship programs; foreign exchange programs; teacher-generated curriculum; and use of the Montessori philosophy, method, and practice of teaching. But as one district superintendent stated, "Most of the ideas that are touted as innovations at charter schools are not new to the traditional public schools."

Innovations cited by charter schools were also often not of great interest to school districts for various reasons. School district respondents most frequently expressed a desire to obtain information regarding innovations involving science, technology, engineering, and math curriculums and project-based learning. But only project-based learning was included in the top five innovations described by charter school respondents.

²⁴ Two of the 19 responding charter schools were newly established and could not reasonably have been expected to have fully developed and implemented innovative programs at the time they responded to the survey.

Further, our survey results indicate an absence of established communication arrangements among charter schools, school districts, and DESE. Thirty-two of 44 responding public school districts reported that they had not received information about innovative programs or best practices in charter schools. Thirty-four reported that DESE had not made them aware of charter school models for replication and innovative programs, and only one reported having implemented an innovative program²⁵ developed by a charter school and disseminated by DESE. Ten of the 19 responding charter schools said DESE did not provide guidance in determining what an innovative practice is and how to disseminate it (4 left the question blank), and 7 reported that DESE did not provide feedback on the dissemination of innovative practices included in their annual reports (5 left the question blank).

Our survey indicated that the most frequent recipient of any information concerning innovative practices was DESE as opposed to district schools, with that communication most frequently being just through the submission of the school's required annual report. Only 10 of 19 charter school respondents reported engaging in face-to-face dissemination, and as shown in the next table, that dissemination did not usually involve the charter school's sending district or other traditional Massachusetts public schools.

Charter School Survey Responses on Face-to-Face Dissemination of Innovative Practices

	Development* of Innovative Practices Reported	Innovation Reported but Not Face-to-Face Dissemination	Face-to-Face Dissemination with Massachusetts Traditional Public Schools and Others	Face-to-Face Dissemination Only with Others
School Count	15	5	4**	6***

* Two of the 19 were recently established, and development of innovative practices would not be expected. Two others reported that they had not developed innovative practices.

** Three of the 4 that reported meetings with Massachusetts traditional public schools also reported meetings with DESE.

*** One of the 6 reported face-to-face meetings only with DESE. Two reported it with DESE and other educational entities such as colleges, private schools, and out-of-state schools. The remaining 3 reported face-to-face dissemination only with educational entities other than DESE and Massachusetts traditional public schools.

Only 4 of 19 charter school respondents reported that they disseminated information through direct face-to-face meetings with sending districts and other public schools. The same 4 also reported direct face-to-face dissemination with other educational institutions such as educational organizations, colleges, private schools, and out-of-state schools, while 5 other charter schools

²⁵ That innovation was a staff evaluation model involving new and/or improved methodologies.

reported holding such face-to-face meetings only with educational institutions other than Massachusetts public schools. Of the 9 that reported face-to-face meetings with schools or other institutions, 5 also reported face-to-face dissemination meetings with DESE. A 10th charter school reported that it had engaged in face-to-face dissemination only with DESE. None of the remaining 9 charter school respondents reported any face-to-face dissemination of innovative practices.

DESE attributed the absence of formal dissemination of charter schools' innovative practices after 2009 to a lack of funding, which had previously been received through grants, but DESE indicated that activity would soon resume because of new federal grant funding. The associate commissioner for Charter Schools and School Redesign also stated,

The Department's facilitation of the dissemination of innovative best practices that have evolved out of the MA charter sector has shifted to be broader and more systemic, rather than focused on an individual school or project. This is in keeping with a theme that Commissioner Chester has sounded since he arrived in 2008 re: "breaking down the dividing wall" between charters and districts. In particular, many of the most prominent systemic reforms—including expanded learning time, innovation schools, and school turnaround (Level 4/Level 5) initiatives—are explicitly derived from their inception or borrow heavily from charter school best practices in the areas of use of expanded instructional time, staffing design, use of data to inform instruction, autonomy over school policies and hiring, school schedules, and high-dosage tutoring, among many others. . . . Most importantly, the Department actively facilitates and supports ongoing conversations within and between both the charter and traditional public sectors through active engagement with member associations, district, and school leaders. Examples include ongoing conversations with many charter schools re: the state's turnaround efforts and support of District-Charter Compacts in several cities.

While the initiatives mentioned by the associate commissioner were sometimes referred to in the audit evidence we obtained, participation across charter schools and sending districts was generally limited, and one charter school director stated,

I understand and appreciate the concept of sharing innovation or best practices, but the mechanisms for doing this are quite limited or nonexistent. Out of respect for other schools, one cannot presume to know what might be beneficial, let alone productive. There's an artificiality imbedded in the concept and waiting for an invitation is not working either. Under the Boston Compact in Year 1, we participated in a writing process workshop and even presented in a panel at the final presentation but sustaining the workshop meetings was difficult. Time and natural connections seem to curtail much developing.

Twenty-nine of 44 districts responding to the survey, and 12 of 19 charter schools, said that in addition to the absence of established communication arrangements, there were barriers to district-charter relationships, such as a lack of time and money. One superintendent elaborated: "The emphasis on standardized testing, the number of additional state mandated (and unfunded)

initiatives, and the understanding that the state is not funding Chapter 70 at an adequate level leaves most districts short of both the financial capability and time to adequately address new and innovative programs.” High costs associated with initiatives such as extending school days were also cited. Charter school respondents also commonly perceived traditional public schools as uninterested in collaboration and vice versa; some respondents cited the competitive nature of their relationships with public schools. Some school district administrators also noted that, because demographics at charter schools and those at their sending districts are not comparable, innovations and strategies that may be appropriate and successful for the charter school may not be appropriate for the sending district.

Concerns regarding the impact of innovation and dissemination activity were also raised by a November 2012 report²⁶ from the Donahue Institute at the University of Massachusetts, which analyzed grants DESE provided to charter schools to carry out dissemination. Even with added funding, the report concluded,

Overall, there was little evidence that the grant initiatives as a whole were successful in supporting long-lasting change in educational practice and improved student academic achievement at target schools. Six of the nine grantees reported that their target school adopted at least some aspects of the practice being shared during the grant period, but only three grantees reported that use of the shared practice continued beyond the grant period. Four grantees attempted to track the status of student academic achievement during the grant period. Of those, three documented some level of academic improvement. However, such efforts were generally limited in scope and difficult to link to the specific practices being disseminated, particularly within the short time frame of the grant funding. Only one of the nine grantees reported that their target school had demonstrated both academic progress and continued use of the dissemination practice after the grant period.

The previously cited statutory language requires that a school’s charter be renewed only if the school demonstrates that it has provided models for replication and best practices to sending districts and DESE. Our review of BESE meeting records did not identify any instances where adverse action related to inadequate innovation practices had been taken for any of the 48 charter school renewals processed during the four-year period covered by our audit. During our audit, we reviewed the charter renewal documentation for 8 of these 48 charter schools. We found that there was no documentation by DESE or BESE that they had considered the adequacy of best-practice development and dissemination activity as part of the charter renewal process. Inadequate

²⁶ UMass Donahue Institute Research and Evaluation Group, University of Massachusetts, *Charter School Dissemination Grants in Massachusetts: Successes, Challenges and Recommendations*, November 2012, http://www.charterschoolcenter.org/sites/default/files/ESE%20CSO%20Dissemination%20Final%20Full%20Report%2012-12_0.pdf.

compliance with innovation-related statutory requirements had never been raised and had never resulted in denial of renewal or imposition of renewal conditions for any of the schools.

Reasons for Inadequate Assurance That Innovative Best Practices Are Being Developed, Disseminated, and Replicated

Laws, regulations, and DESE performance criteria guidelines do not clearly define standards for what constitutes innovative programs or best practices. In the absence of clear standards and expectations, the statutory mandate that a school charter not be renewed without documentation of the provision to DESE and sending districts of models for replication and best practices is difficult to enforce because of the vagueness of the statutory language or other guidance.

As discussed above, our survey respondents and interviewees also attributed the problems identified by our audit work to issues beyond DESE's control, such as resource limitations, the competitive nature of the relationship between charter and public schools, and difficulty in extrapolating charter school successes to public school districts. However, DESE does have the ability to provide guidance; resources; facilitation; and enforcement, including renewal conditions or even nonrenewal of charters, to ensure that charter schools are developing replicable innovative programs and best practices that could be used by sending districts and other public schools in the Commonwealth. It was not providing these things during our audit period, nor was it prioritizing activity needed to meet the statutorily mandated facilitation role, which is obligatory whether or not DESE has dedicated federal grant funding to disseminate information itself.

Recommendations

- In collaboration with charter and district schools, DESE should establish detailed guidance regarding standards and expectations for the development, dissemination, and replication of innovative programs and best practices.
- During the charter renewal process, DESE should ensure that charter schools meet all the requirements for the development of innovative programs and best practices and should establish corrective action requirements for charter schools that do not effectively fulfill this statutory purpose.

Auditee's Response

As the report noted, this is primarily due to vague statutory language that is beyond the DESE's control. DESE provided substantial evidence relating to the dissemination and replication of best practices, which was not included in the report. To cite just a few:

- *Ten successful charter schools have replicated their practices by opening one or more additional schools.*
- *A number of charter schools have received federal grants through DESE to document innovative practices. Information developed under these grants has been made available on the DESE website and in printed materials.*
- *DESE recently awarded approximately \$1.2 million in additional dissemination grants to three high quality proposals to disseminate best practices in Boston, Lawrence, and Salem.²⁷*
- *Charter schools were among the first to demonstrate the impact of expanded learning time on student achievement, leading to the creation of a Commonwealth grant program to assist district schools in offering more instructional time.*
- *A number of groups and individuals who operate charter schools are now engaging with districts to assist in turnaround efforts in underperforming district schools. . . .*
- *Lessons learned in the charter school sector are helping to inform DESE's operation of underperforming district schools that have been placed under state receivership.*

The report focuses on a very narrow definition of dissemination, where charter schools engage directly with district schools in their neighborhood. Although there have been some examples of such cooperation, the heated public debates over charter schools have left many district educators unable or unwilling to engage directly with charter schools. It is a high priority for DESE to help break down those barriers, and it is a topic we frequently discuss when meeting with charter and district leaders. We will continue our efforts in that direction.

The Board takes seriously its responsibility to consider a charter school's dissemination activities during the charter renewal process. Dissemination is one of the ten major elements in DESE's Charter School Performance Criteria, and every Summary of Review provided to the Board during the renewal process includes documentation related to the school's dissemination efforts. At the same time it should also be noted that renewal decisions are based on an overall review of a school's performance, not on any one particular criterion.

Auditor's Reply

The Office of the State Auditor (OSA) does not dispute that charter schools in Massachusetts are providing value to public education in a number of ways, including, as DESE points out, assisting underperforming schools and providing information on the effect of expanded learning time. However, as noted in our report, we found that DESE could do more to meet its obligation to ensure the effective dissemination of best practices and models of replication. This is supported by the survey results reported in our finding.

²⁷ *The Department will be seeking additional federal support for dissemination efforts as part of its next application to USED for Charter Schools Program funds in early 2015. We anticipate continuing to support projects that will have measurable, systemic impact on student achievement in traditional district public schools.*

We acknowledge that the statute uses somewhat vague terms such as “successes and innovations” and “best practices,” terms not defined by statute or by DESE regulations. We suggest that DESE consider adding language to its regulations to address this.

Chapter 71, Section 89(e)(xvi), of the General Laws states that the board must require charter schools to have “plans for disseminating successes and innovations of the charter school to other non-charter public schools.” Furthermore, Chapter 71, Section 89(dd), states that Commonwealth charters shall not be renewed unless the school has documented to BESE that it has “provided models for replication and best practices to the commissioner and to other public schools **in the district where the charter school is located**” [emphasis added]. Similarly, DESE’s Annual Report Guidelines 2012–2013 state on p. 5, “Describe how your school has provided innovative models for replication and best practices to other public schools in the district where your charter school is located.” However, our reviews of charter school annual reports, information published by DESE, and the results of our survey revealed that schools stated that they had disseminated successes and innovations to entities other than public schools just as often as, or more often than, they did with public schools in their sending districts.

Further, our review of BESE meeting records did not identify any instances where adverse action related to inadequate innovation practices had been taken for any of the 48 charter school renewals processed during the four-year period covered by our audit. While we recognize that it is only one factor that DESE considers during the charter renewal process, it appears that this requirement is not given equal weight, since we did see conditions placed on charter school renewals for a variety of other reasons, including concerns related to academic progress, board governance, and enrollment exceeding prescribed limitations

Therefore, we again recommend that DESE consider establishing detailed guidance regarding standards and expectations for the development, dissemination, and replication of innovative programs and best practices and corrective action requirements for charter schools that do not effectively fulfill this statutory purpose.

3. Key student and educator data for charter schools and sending districts may not be reliable, and data systems lack adequate data security controls.

Key student and educator data submitted to DESE by charter schools and school districts may not be reliable and accurate. Successful oversight of the charter school system and of the

implementation of education reform in the Commonwealth is dependent on the accuracy of these data, which are also used for federal and state reporting requirements, policy and programmatic decision-making, and educational research.

These data include information on student demographics, enrollment status, and attendance maintained in DESE's Student Information Management System (SIMS) and information on educator qualifications, work assignments, and demographics as part of its Education Personnel Information Management System (EPIMS). Data from both systems are linked to data from other sources such as Massachusetts Comprehensive Assessment System (MCAS)²⁸ results through an information warehouse system known as Edwin Analytics.

DESE is required by law to gather and maintain these data and does so with IT support from the Executive Office of Education (EOE), delegating responsibility for generating much of the data to the Commonwealth's school districts and charter schools. In conjunction with EOE, DESE is responsible for establishing internal control systems to ensure the reliability and security of data maintained at the state level. DESE and EOE data security controls over SIMS and EPIMS do not comply with state Information Technology Division (ITD) requirements. This creates risks of loss, alteration, or unauthorized use of data, as well as the risk that data that are used to make high-stakes decisions may be unreliable and inaccurate.

a. School and district data reported to DESE may not be reliable.

DESE does not ensure the reliability of data submitted to it by all schools, including charter schools and districts. DESE's Audit Compliance unit initiated limited pilot audit work at nine districts and one charter school to address data reliability during fiscal year 2013. Its audit results raise the possibility that significant reliability issues may exist for these data but do not provide an adequate sample to determine the extent of data reliability problems on a statewide basis. Without sufficient oversight and monitoring by DESE of the accuracy of schools' reported data, there is an increased risk that unreliable or inaccurate data will be used by DESE, other state agencies, the Legislature, researchers, parents, and others for what DESE described in its audit reports as "high-stakes decision making."

²⁸ The primary standardized testing system used by the Commonwealth to measure student educational achievement.

Authoritative Guidance

Chapter 69, Section 1(I), of the General Laws states,

The commissioner is authorized and directed to gather information . . . for the purposes of evaluating individual public schools, school districts, and the efficacy and equity of state and federal mandated programs. All information filed pursuant to this section shall be filed in the manner and form prescribed by the department.

The board shall establish and maintain a data system to collect information from school districts for the purpose of assessing the effectiveness of district evaluation systems in assuring effective teaching and administrative leadership in the public schools. . . .

Each school district shall maintain individual records on every student and employee. . . . Said records shall conform to the parameters established by the department.

Consistently with this responsibility of maintaining a data system, which inherently requires that system data be reliable, DESE has emphasized the critical nature of the data it gathers. As stated in reports issued by the DESE Audit Compliance unit,

Student data provides critical information to school leaders, parents, and the public. The Massachusetts Department of Elementary and Secondary Education (the Department) utilizes this data to measure the success of the State to raise learning standards for all students.

School districts report student data to document their success in meeting State standards. . . . This information is disseminated to the public through the State's school district statistics published each year. This data is an important part of the Massachusetts Department of Elementary and Secondary Education's efforts to raise learning standards for all students. . . .

The Massachusetts Department of Elementary and Secondary Education's current data verification system includes a series of complex business/validation rules that verify the accuracy of each data element prior to acceptance by the Department and certification by each local superintendent. However there is room to significantly improve the quality of the data entered at the source, and it is increasingly important to do this. As we implement a more integrated data system, it will increasingly be used to target and evaluate the impact of investments to improve instruction and related systems and to inform high stakes decisions. Hence, the data must be of the highest quality.

Current Practices

As part of its data quality control measures, DESE has established detailed data definition specifications (e.g., what constitutes “low income,” what counts as a “day of attendance”). DESE also uses three additional methods to manage the quality of school-reported data. One of these methods is the Massachusetts Data Quality Program, initiated on June 6, 2012, which provides training and resources to schools for the purpose of developing quality data. School

districts and charter schools are required to attend the training; as of December 26, 2013, 106 out of 408 school districts in Massachusetts had participated. However, DESE does not ensure that the standards presented by the training are actually implemented at participating schools.

DESE also performs data validation checks, which compare current data to previous data submitted by school districts to identify entries that fall outside an identified range and therefore represent a possible error. When errors are identified by the data validation checks, the data are sent back to the school districts for possible correction and resubmission to DESE. These validation checks do not verify reported data with source documentation; they only identify possible clerical errors. Therefore, data could fall within an identified range and still be inaccurate.

The third method is a recently implemented data audit pilot program conducted by DESE's Audit Compliance unit. Between May 2012 and August 2013, DESE issued 10 reports on data audits of charter and district public schools that volunteered for the pilot program. The DESE audits were conducted to test the accuracy of a sample of 16 types of data (e.g., Free Lunch Eligibility Status). One Commonwealth charter school and 9 traditional public school districts participated in the pilot program. Each was tested for compliance on 6 to 13 of the selected data elements, which included Low Income, English Language Learner, and Special Education, as well as other information. Conclusions detailed in the audit reports indicated significant error rates for the schools audited: 9 out of the 10 schools had error rates of 20% or higher for at least one data element, and 5 out of the 10 schools had error rates of 50% or higher for at least one data element, as defined by DESE. Although the data audit program performs the important function of reconciling school-reported data to source documentation to determine the accuracy of data, the program is only in a small-scale, pilot phase and has not been formally implemented at all schools. Moreover, the high error rates reported in the 10 audits raises uncertainty about the accuracy and reliability of data reported by all schools, whether charter schools or traditional public schools.

Reasons for Lack of Oversight and Monitoring of School-Reported Data

While DESE electronically collects SIMS student and EPIMS educator data from charter schools and school districts, it has not established any formal policies or procedures to verify the accuracy of this information. Rather, DESE relies on local schools and district superintendents

to confirm the accuracy of school-reported data. It requires that underlying supporting documentation be retained at the charter school, but does not routinely conduct on-site audits to review these records. DESE managers told us that schools and districts “own” the data and that, in DESE’s view, responsibility for ensuring data reliability and accuracy rests with district superintendents and charter school executive directors rather than with DESE.

Recommendations

- DESE should develop policies and procedures for the verification of charter schools’ reported data. Such procedures could include a program of on-site data verification similar to the one it piloted, as well as a system to ensure that corrective action is taken when problems are identified.
- DESE should continually adjust its data verification and data quality programs to reflect common data issues that are uncovered.

b. DESE’s data security controls were deficient.

DESE and EOE have inadequate controls over data security in DESE’s SIMS and EPIMS data collection systems. Specifically, controls are not adequate with regard to password settings, session locks, detection of inappropriate use, policy documentation related to information security, system configuration changes, security training for system users, and auditing of access security control. These deficiencies impair DESE’s ability to ensure the confidentiality, integrity, and availability of data collected and maintained in SIMS and EPIMS and heighten the risk of data loss, alteration, or unauthorized use.

The establishment of information security controls related to DESE’s operations falls under the purview of both DESE and EOE. Based on an informal agreement between the two entities, EOE has the overarching responsibility of establishing information technology infrastructure, such as hardware, software, and networks, and DESE is responsible for systems more specifically related to and used by schools.

Authoritative Guidance

ITD’s Enterprise Information Security Policy and associated Access Control Standards apply to executive department agencies of the Commonwealth, including DESE. Section 6.1 of ITD’s Enterprise Access Control Policy states,

Secretariats and their respective Agencies must have access policies and procedures in effect to manage access to information and application system functions in accordance with both Enterprise and Secretariat and Agency policies. These policies and procedures must reflect the Enterprise Access Control Standards. All applications should follow current generally accepted control practices as promoted by respected security organizations including, but not limited to those published by The International Organization for Standardization (ISO), The National Institute of Standards & Technology (NIST), and The SysAdmin, Audit, Network, Security Institute (SANS), etc. Best practices such as these should form the basis of these policies and procedures.

Additional applicable guidance provisions are presented in association with individual deficiencies described below.

i. DESE has no formalized security training policy for individuals with SIMS and EPIMS access.

DESE does not have a program to provide ongoing security training to users of SIMS and EPIMS. As a result, both DESE users and external users such as school and district employees may be unaware of recent security issues that could affect the integrity of the system's data.

ITD's Enterprise Staff Information Technology Security Policy states,

Secretariats and their respective agencies are required to provide appropriate awareness training and regular updates. . . . In addition, the Information Security Officer (ISO), in collaboration with the Human Resource Training staff . . . will develop other security trainings as required. Security related trainings will be continuously evaluated and updated to meet the changing needs of the organization's information security requirements.

This issue occurred because management has not implemented the requirements outlined in ITD's Enterprise Staff Information Technology Security Policy.

ii. DESE has no formalized audit policy regarding access security controls.

DESE does not have policies and procedures to guide the process of auditing user activity on SIMS and EPIMS. Therefore, management may be unable to ensure the timely detection of unauthorized behavior in the systems.

National Institute of Standards and Technology (NIST) Special Publication 800-53, *Security and Privacy Controls for Federal Information Systems and Organizations*, is referred to in the previously mentioned ITD Enterprise Access Control Policy. Section AU-1 of the NIST publication requires that organizations maintain "a formal, documented audit and

accountability policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance. . . .”

This issue occurred because DESE does not maintain a process or policy for maintaining updated lists for school and district SIMS and EPIMS users. Rather, DESE allows individual district schools to independently manage their user access.

iii. EOE does not have a SIMS and EPIMS information security policy.

For the SIMS and EPIMS data collection systems included in our testing, EOE does not maintain an information security policy. Therefore, there is an increased risk that the data collected in SIMS and EPIMS are improperly protected and may be unreliable.

ITD’s Enterprise Information Security Policy states,

Agencies are required to adopt and document a comprehensive information security policy. . . .

Agencies are required to review the adopted Information Security Policy annually at a minimum. . . . Agencies are encouraged to review their Information Security Policy on a more frequent basis particularly if significant changes occur within their organization that may have an impact on the effectiveness of the policy.

This issue occurred because EOE uses a checklist related to the Governor’s Executive Order 504, regarding the security and confidentiality of personal information, in place of an information security policy.

iv. EOE documentation of the process for changing system configurations is not adequate.

EOE does not maintain a formal configuration management policy and could not provide evidence of testing and approval verifications for 10 configuration changes to SIMS and EPIMS during the period July 2013 through January 2014. A lack of documented testing and approval verifications indicates that the risk for unauthorized changes to the systems is high and that the integrity of systems’ data could be compromised.

ITD’s Enterprise IT Acquisitions Security Policy states,

All IT solution acquisitions, development, and deployments [i.e., changes to system configuration] must maintain security documentation that includes, but is not limited to the following subject areas:

- *Security objectives and related controls*
- *System maintenance procedures / patching processes*
- *System recovery procedures*
- *Embedded security features*
- *Data classification*
- *Vulnerability/risk assessment*

This issue occurred because EOE does not have policies requiring documentation of testing and approvals in this area.

v. EOE session lock controls need improvement.

EOE locks user sessions only after 60 minutes of inactivity. Such a prolonged lockout interval could create an opportunity for an unauthorized individual to access and change data.

ITD's Enterprise Access Control Security Standards require a "lockout period after a maximum of 15 minutes of inactivity for devices with access to sensitive systems. Devices in less physically secure environments must have a lower time out interval."

This issue occurred because EOE did not review the user session setting requirements of ITD's Enterprise Access Control Security Standards.

vi. EOE maintains password settings that are less secure than those required by DESE policy.

EPIMS and SIMS password complexity settings maintained by EOE were less strict than DESE requires. EPIMS and SIMS require a minimum of six characters rather than eight, do not require a minimum alphanumeric component, and do not require that any characters be uppercase. Noncompliance with password security requirements increases the risk of unauthorized individuals gaining access to the system.

DESE's Acceptable Use of Technology Resources Policy, which conforms to minimum password complexity requirements prescribed by ITD, states that passwords "must be a minimum of eight characters and contain numbers and both uppercase and lowercase letters."

DESE did not provide us with a consistent explanation of why it did not adhere to the minimum password requirements prescribed by ITD's Enterprise Access Control Security Standards and its established policy.

vii. EOE maintains insufficient controls to detect unusual or abnormal user activity.

EOE does not perform periodic reviews of audit logs of activity in SIMS. This increases the risk that EOE will be unable to detect unusual or abnormal security activity that may affect the integrity of the system's data.

Section 6.3.1 of ITD's Enterprise Access Control Security Standards states,

At a minimum, access and event logging must be available for regular reviews as required to meet regulatory requirements and security objectives. Recommended best practice is daily review and real-time monitoring.

This issue occurred because EOE does not maintain formal policies and procedures that require its information security officer to conduct periodic reviews of audit logs.

Recommendations

- DESE management should ensure the implementation of a security training policy and program as required by the ITD policy.
- DESE should create policies and procedures that refer to NIST and define the roles and responsibilities of staff and management regarding auditing of system activity to protect against unauthorized behavior and/or security breaches.
- EOE should create an information security policy providing an overview of SIMS and EPIMS security requirements and defining system user roles and responsibilities. EOE should ensure that the policy is approved and signed by appropriate officials and reviewed at least annually.
- EOE should develop a system configuration management policy that addresses how system changes are developed, tested, evaluated, approved, and documented before deployment.
- EOE should review all applicable policy standards and ensure that system user session settings satisfy the requirements of the ITD standard and that users are locked out after a maximum of 15 minutes of inactivity.
- EOE and DESE should work together to adopt and implement a password complexity policy that complies with the requirements of ITD's Enterprise Controls Standard.

- EOE should establish a formal policy requiring the information security officer to periodically review audit logs, with specific procedures to be followed when adverse user behavior is detected.

DESE's Response

This particular finding is based on a very limited, non-random data quality review conducted by DESE's audit staff. DESE independently initiated reviews of data quality because these issues are a high priority. Reports from these reviews have been issued and corrective actions are being taken to both correct the data and the reasons behind the errors. An expanded schedule of data quality reviews is planned for the upcoming school year. Data training sessions are also being planned for all district staff responsible for data collection.

As the report notes, DESE has an extensive program of data edits and validations. In recent years DESE has taken steps to improve the quality of the data that is collected by maintaining detailed information on individual students and educators, rather than the just summary totals that were collected in years past. The Executive Office of Education (EOE) is also working to improve the data collection process through implementation of the Schools Interoperability Framework (SIF) technology and by making available a standardized student information system for districts' use.

Massachusetts was recently given an above average grade for the collection and reporting of high-quality education data by the U.S. Chamber of Commerce Foundation. This rating further reflects DESE's efforts to maintain reliably accurate education data.

It is of great significance and should be noted that DESE collects more than one hundred million data elements every year from public schools. Each of these schools has their own protocols and internal controls for ensuring the accuracy of the data they collect from parents and teachers. With more than 1,800 public schools in the Commonwealth, it would take an enormous amount of resources for us to independently verify even a portion of the data submitted each year. It is not clear that the benefits of more direct state involvement in local district data collection would be worth the costs. . . .

We agree that many of the data systems in use at DESE are legacy systems that require upgrading to meet all current ITD standards. . . . [EOE is undertaking work] to address these issues. This includes the implementation of a new Federated Single-Sign-on (FSSO) application which will allow districts to terminate an employee's access to both local and state data systems simultaneously.

EOE's Response

The audit report identifies several areas of deficiencies in data security controls and incorrectly assumes that the Executive Office of Education (EOE) has a greater role in managing data security at the Department of Elementary and Secondary Education (ESE) than it actually does.

Also, the report states inaccurate conclusions about the authority of state agencies over locally controlled districts and schools. . . . EOE seeks to clarify past and present practices in all three areas and to explain how continued technology investment can address the issues raised in the report.

Security Access Management Tools and Practices

As a result of Executive Order 510, information technology (IT) functions were consolidated at the secretariat level in EOE, with certain exceptions. For example, the development and management of ESE's data collection systems is a shared responsibility between ESE and EOE. Per statute, ESE's Education Data Services unit manages the data collections process from local school districts and is responsible for security access management. We agree that many of ESE's legacy systems do not meet current ITD security standards. As described below, EOE has a number of projects underway to upgrade these systems which should be noted in your report. The recent consolidation of ESE's human resources office into the secretariat HR office will also allow improvements in security training for ESE staff. Finally, the Governor has filed legislation to transfer the remaining data functions within ESE to EOE, which will provide additional opportunities to bring ESE's systems up to date.

In addition to extending best practices required by the Commonwealth's ITD Security Policies, EOE has made significant investments and worked for some time to replace and rewrite the legacy security software. ESE's legacy product, which is undergoing remediation/enhancement work, lacks sophistication to efficiently create user-friendly audit logs. Logs can be, and have been, produced for use in Access Management when requested, but not with the necessary frequency to meet the ITD Security Policies and Standards.

EOE obtained emergency bond funding to replace the legacy software for authentication. The new software introduced true roles-based security for ESE to use internally as well as with the schools. EOE implemented the ITD standard for this upgrade, the IBM Tivoli product suite, in July 2013. Further work is continuing to rewrite the legacy "Directory Admin" software to enable improved audit logs. In addition, the latest version of the IBM Security Access Manager with Web application protection (X-Force Protocol Analysis Module) will be deployed to detect and protect against vulnerabilities such as cross-site scripting, SQL injection and other threats. This extensive work, coupled with the management of transferred staff to understand and effectively use these logs and reports, will create the robust and efficient security tools and process needed to address legitimate concerns raised by the report about the system's audit capability and user access controls.

Local Government Control and Executive Branch Authority

Implementation of new security software and processes will conform ESE's Access Management to the Commonwealth's ITD Security Access Management policy, which we understand includes National Institute of Standards and Technology (NIST) requirements. However, the issues raised with regard to the school/district access to SIMS/EPIMS cannot be completely resolved without statutory language providing EOE with clear and unambiguous authority over practices and technology products in the districts that could impact security and integrity of data.

It has been both EOE's and ESE's understanding that it has no legal or legislative authority to control, direct and monitor school/district operations in this area. Currently, several thousand municipal school employees have Security Access administered by ESE's Education Data Services unit. Enforcing security practices such as provisioning/de-provisioning and monitoring the movement and termination of employees not under the control of any branch of state government, is unenforceable and would require additional staff for the state to assume that responsibility. There are approximately 80,000 staff members employed by municipal governments who will need access to the new application services built by EOE on ESE's behalf for the federal Race to the Top grant. A ten-fold increase in municipalities using these Executive branch-supplied services is not scalable with the legacy software and processes. EOE agrees that this is a risk and has developed two solutions to resolve it.

Solution 1: District Federated Single-Sign-on (FSSO)

In planning for the inclusion of an additional 70,000 educators, EOE developed as part of the IBM Tivoli implementation, a capability for Federated Single-Sign-on (FSSO) at the district level. The capability is currently being tested and is slated for deployment in the 2014-15 academic year. This will allow for the automatic provision/de-provision access to EOE applications services in the security portal, including SIMS and EPIMS, when teachers and staff are provisioned/de-provisioned in their local Student Information System (L-SIS). In this process school staff will lose access to their local system and the state system simultaneously. Because no additional action would be required by the local organization, it will mitigate the risk that a terminated employee could retain access to state systems.

Additionally, EOE has prepared Security Agreements and documentation for districts to sign attesting compliance with the Commonwealth's Security Access Policy. The burden of running/managing audit reports supplied by EOE's new security software will be transferred to municipal staff so that there will be an auditable process at the district level. The issue of who has the authority to audit and enforce local compliance will be resolved by clearly delegating to the districts in the new Security Agreements the responsibility to conduct and document the periodic reviews of access, as well as enforce the session lock-out and password complexity requirements in the L-SIS.

Solution 2: ITD/EOE Provided Centralized Student Information System

EOE recognizes that municipalities and schools often lack staffing and resources to effectively operate secure data processing environments and that some districts and charter schools do not have their own L-SIS to take advantage of the new FSSO capability. To remedy this, and to offer an alternative to a L-SIS for those districts who want to reduce their cost and operational burden, EOE/ITD have procured and now offer a software as a service (SaaS) solution, a centralized SIS (C-SIS) running in the state data center. When a district or charter school uses this service, EOE/ITD can provide the self-provisioning offered in Solution 1 as well as eliminate another third-party software product (L-SIS). In this arrangement, EOE/ITD has total control over all aspects of the environment and therefore has the authority to compel and audit compliance belongs to EOE/ITD. Because EOE/ITD is in effect selling a service, the cost of audit activity can be built into the subscription cost paid by the district or charter school.

Sun-Setting Legacy Data Collection Process

As part of the Race to the Top initiative, the Commonwealth received a federal grant to support the replacement of the legacy data collection process with the new Student Interoperability Framework (SIF) technology that EOE is implementing. In this architecture, users enter data into the district's system (L-SIS) and it is automatically encrypted and transferred to a new EOE front-end software system, where the data is validated. The EOE system continually checks the data, rejecting and reporting incorrect transactions and correct transactions to pass to the next level of back-end, cross-validation. District staff must use the reports of rejected transactions to correct the data in the local source system where it originated. The data validations process repeats until the data is correct. In addition to these new validations in the process, the legacy code has been rewritten and no longer requires district access to EPIMS or SIMS to certify a collection submission, which further reduces the risk of inappropriate access to data. EOE's stated goal is to have all districts on SIF by June 2015, however, because EOE and ESE are not parties to the contract between the L-SIS vendor and the district or charter school, we lack the authority to compel L-SIS vendors to ready their software systems for SIF transactions.

Alignment of ITD Timeout and Password Policies

The findings regarding non-alignment of session lock controls and complexity of passwords has been mitigated. EOE has implemented the required standards in the network and application security access area.

System Configuration Management Documentation

While Software Quality Assurance testing is performed before code changes are submitted to the Release Management process, EOE agrees with the report's finding that the documentation of this activity is not adequate. EOE is mitigating the finding that sufficient configuration management documentation is not in place for application and systems changes by the inclusion of the remaining application code and scripts into the new IBM Rational Tool set. EOE has implemented the entire development suite of tools to track requirements, automate the generation of test data, record test results and produce reports to satisfy the requirement. The work to use the tools to satisfy this finding should be completed in fewer than 60 days. . . .

From the beginning of IT Consolidation, EOE has made and will continue to make the necessary investments to replace the legacy software and processes needed for ESE to perform its administrative and oversight functions within the established policies for secure practice.

EOE wishes to note that it has made every effort to acquire and utilize funding from multiple sources including federal grants, capital and operations appropriations, during a time when its IT budget was slashed by 25% amid the recent economic downturn. Additionally, EOE has made great strides transforming the legacy environment into 21st century services, and expects to complete this work in this fiscal year.

Auditor's Reply

Contrary to what DESE asserts in its response, this finding is not based on a very limited, non-random data quality review conducted by DESE's audit staff. Rather, it is based on a comprehensive assessment of DESE's data quality control system for this information. Our assessment identified a number of problems: DESE is not ensuring that the data standards presented by its trainings are actually being implemented, and its validation checks are only being used to identify possible clerical errors, not to verify reported data with source documentation to ensure its accuracy. Further, our report states that the audits in question were part of a limited pilot program of charter and district public schools that volunteered for the pilot program. However, even though this pilot program was limited, DESE still found significant error rates for the schools audited. In OSA's opinion, although the sample was limited, the high error rates raise significant doubt about the accuracy and reliability of data reported by all schools, whether charter schools or traditional public schools.

In its response, DESE noted that it "collects more than one hundred million data elements every year from public schools. . . . it would take an enormous amount of resources . . . to independently verify even a portion of the data." OSA agrees that it would take a significant effort for DESE to

verify all of the data, and therefore we recommended that DESE expand its pilot Data Quality Audit program and implement as-needed updates (based on the results of the data audits) to its existing data verification and data quality programs. DESE's response indicates that it has already taken steps to implement these recommendations.

EOE asserts that our audit incorrectly assumes that EOE has a larger role in data security management at DESE than it actually has. Our understanding of EOE's role over data security at DESE is based on Chapter 6A, Section 14A(c), of the General Laws, which states that the secretary of education shall "manage all information technology resources within the departments [of Early Education and Care, Elementary and Secondary Education, and Higher Education] including, but not limited to, all resources necessary to implement a longitudinal data system to coordinate the collection and analysis of educational data from prekindergarten programs through higher education and oversee the departments' compliance with all standards and policies of the information technology division." While we acknowledge that EOE cannot compel local schools to implement data controls, it should establish its own controls to monitor information that the schools submit in order to better ensure its integrity.

Based on DESE's response, both DESE and BESE are taking measures to update existing systems and add new ones in order to meet ITD standards. These measures are appropriate and will mitigate some of our concerns, but we again encourage DESE and BESE to consider implementing all of our recommendations on this issue.

4. DESE renewed school charters in an inconsistent manner.

During our audit period, DESE was inconsistent in its decisions regarding whether to impose conditions for some school charter renewals. DESE renewed the charters for three Commonwealth charter schools without imposing renewal conditions, though the schools had not adequately documented academic program success in accordance with plans they were required to follow to demonstrate academic success. In contrast, DESE imposed renewal conditions on two other schools that met a similar or higher percentage of their academic program success measures. Inconsistency in charter renewal decisions can cause multiple problems:

- Charter schools may not clearly understand DESE's expectations of their academic performance.

- Schools may not receive the important feedback provided by conditions, which are designed to outline areas of concern a charter school needs to address to meet standards and improve operations.
- Parents may be misinformed about whether a school is meeting certain quality metrics because a charter school's status (i.e., with conditions, without conditions, or on probation with conditions) is public information, and parents who learn that a school's charter was renewed without conditions may believe that means the school is meeting DESE's academic standards.
- Children may receive a substandard academic program if DESE does not hold schools accountable for substandard performance and require corrective measures.

Authoritative Guidance

Chapter 71, Sections 89(dd) and 89(ee), of the General Laws state, "When deciding on charter renewal, the board shall consider progress made in student academic achievement. . . . The board may place conditions on a charter . . . to allow the implementation of a remedial plan." Such plans are discussed in 603 CMR 1.02, which states, "A charter school creates an Accountability Plan . . . in accordance with guidelines issued by the Department. An Accountability Plan articulates the goals the school has set to measure its success." Accountability plans cannot meet this stated purpose if DESE does not require schools to adhere to them.

DESE'S Accountability Plan Guidelines (revised May 2013) for charter schools state, "The accountability plan will be the vehicle for charter schools to demonstrate to the public that the school is faithful to its innovative model as articulated in its charter, or subsequent amendments. . . . The accountability plan is a critical piece in the submissions, visits, and evaluations that comprise the 'Accountability Cycle' and help inform renewal decisions."

Audit Testing and Results

We judgmentally chose a sample of 10 active Commonwealth charter schools. The charters for 8 of these schools were renewed during our audit period. Of these 8, we question the renewal decisions for 3 schools. Because our sample was chosen judgmentally, we cannot project the results detailed in our finding to the entire population of schools whose charters were renewed during our audit period.

For the three schools in question, DESE renewed the charters without conditions even though the schools had not adequately demonstrated academic program success in accordance with their Accountability Plans. An Accountability Plan is a document that details a school's internally set

performance objectives in the areas of faithfulness to charter, academic program success, and organizational viability and how achievement of these objectives will be measured. DESE uses these measures to assess schools' performance throughout their charter terms and during renewal decisions. When DESE reviewed the three charter schools in question for renewal,²⁹ it noted the following regarding their ability to meet objectives in the area of academic program success:

- The first school did not meet any of its academic program success measures, and an inspection team³⁰ noted that the school's board of trustees did not provide systematic oversight of the school's academic program.
- The second school met 9 out of its 14 academic program success measures and had its English-language 2009 MCAS scores for grades 3 and 5 invalidated because of educator misconduct.
- The third school met only 1 out of 4 of its academic program success measures.

We also found that DESE's commissioner imposed conditions for renewal on two other schools that met a percentage of their academic program success measures that was similar to, or greater than, that of the three schools that did not receive conditions. The first school met 6 out of its 10 academic program success measures, and the second school partially met 2 out of its 4 academic program success measures. These two schools had been in existence for a shorter period of time than the three schools that did not receive conditions. DESE's associate commissioner indicated that DESE holds older schools to higher standards than newly founded schools. However, the audit evidence conflicts with that assertion. The two schools with less experience were in their 5th year and 10th year of operation, respectively. The three other schools were all in their 15th year of operation.

According to the minutes of BESE's January 23, 2012 meeting, the first school had to meet the following conditions:

By December 31, 2013, [School 1] must demonstrate academic success by:

- 1. Meeting academic growth targets in mathematics and English language arts, as established by the Department of Elementary and Secondary Education:*

²⁹ The charter school renewal process includes (1) the submission of an Application for Renewal by a charter school, (2) DESE's review of the application, (3) a renewal inspection at the charter school and corresponding report, (4) an opportunity for the charter school to respond to the report, (5) a Summary of Review report that summarizes the school's performance over the entire charter term, and (6) the renewal decision.

³⁰ As part of the renewal inspection process, staff members of DESE or a contracted independent organization conduct renewal inspections at charter schools and report on their findings.

2. *Demonstrating improvement in absolute CPI [Composite Performance Index³¹] scores; and*
3. *Meeting academic goals and objectives established in the school's accountability plan.*

According to a February 17, 2012 memo from the DESE commissioner, the second school had to meet the following conditions:

1. *By December 31, 2013, [School 2] must demonstrate success in mathematics and English language arts (ELA) by:*
 - a. *meeting academic growth targets in mathematics and ELA, as established by the Department of Elementary and Secondary Education,*
 - b. *by demonstrating improvement in absolute CPI scores, and*
 - c. *by meeting academic goals and objectives established in the school's accountability plan.*
2. *By December 31, 2012, [School 2] must establish and operate a program of English language learner education in a manner consistent with the requirements of Massachusetts General Laws chapter 71A and all other applicable federal and state laws and regulations.*

Reasons for Inconsistent Implementation of Conditions at Renewal

DESE stated that other academic performance factors for the three schools justified the decision to renew their charters without conditions. However, DESE's renewal documentation did not clearly indicate what those factors were.

Recommendations

DESE should consistently apply its performance criteria in the charter renewal process, including requiring schools to meet the measures of success shown in their Accountability Plans. If DESE feels that other important factors not reflected in charter schools' Accountability Plans influence the renewal status of a charter, these factors should be formally identified and explained in guidelines so schools better understand DESE's expectations.

Auditee's Response

Out of 48 renewal decisions that occurred during the period of this audit, the report questions the BESE's decisions regarding the imposition of conditions in five renewals. The report appears to be looking solely at the school's performance with respect to its accountability plan. A school's progress with respect to its accountability plan is only one of many factors considered by the Commissioner and the Board when assessing a school's performance. We have provided you with

³¹ Massachusetts uses what are known as Composite Performance Index (CPI) scores rather than straight proficiency targets in determining whether adequate yearly progress has been made.

a copy of our Charter School Performance Criteria, which describes ten different areas in which a school's performance is evaluated. Evidence is gathered throughout the five-year charter term. Conditions are a tool used by the Commissioner and the Board in limited circumstances when a school's overall performance justifies renewal but there are certain deficiencies that need to be addressed by the school's leadership.

The charter school statute gives the Board and the Department broad discretion in the award and renewal of charters. See Hudson v. Board of Education, 448 Mass. 565 (2007) (substantial discretion of the board in granting and revoking a charter; "broad discretion afforded the board by the Legislature"). Massachusetts has been recognized nationally for the quality and rigor of its authorizing process. See, for example, the U.S. Department of Education's report on "Innovations In Education: Supporting Charter School Excellence Through Quality Authorizing" (<http://www2.ed.gov/nclb/choice/charter/authorizing/index.html>). One of the reasons for that recognition is DESE's reliance on the judgment of experienced educators rather than a simplistic, formulaic approach to authorizing decisions.

Auditor's Reply

Our sample included a judgmental non-statistical sample of eight schools whose charters were renewed during our audit period. Our audit questions the lack of conditions imposed on the renewal of charters at three of these eight schools, or 38%. We acknowledge that DESE and BESE consider many factors when determining whether to renew a school's charter and that DESE's Charter School Performance Criteria describe "ten different areas in which a school's performance is evaluated." However, DESE's most recent (May 2013) revision of its Accountability Plan Guidelines suggest that accountability plans are a means for schools to demonstrate their compliance with the Charter School Performance Criteria: "The accountability plan . . . allows for the creation of measures related to mission and key design elements and also indicates the school's commitment to be publicly accountable for meeting all ten areas of the Criteria." Our concern is that DESE and BESE renewed the charters of these three Commonwealth charter schools without conditions even though they had not adequately demonstrated academic program success in accordance with their Accountability Plans.

We do not question BESE and DESE's combined authority to grant or renew charters; however, we do believe that they should be consistent when exercising this authority as it relates to the imposition of conditions. Although the DESE Commissioner and BESE elect to provide conditions in limited circumstances when a school's overall performance justifies renewal, from comparing the schools detailed in our finding, it appears that DESE displayed inconsistency in the assignment of renewal conditions when responding to the same or very similar deficiencies (related to the schools' meeting the "academic goals and objectives contained in [their] accountability plan[s]."). Consequently, we again recommend that DESE make efforts to apply its performance criteria consistently in the

charter renewal process, including requiring schools to meet the measures of success shown in their Accountability Plans. If other important factors not reflected in charter schools' Accountability Plans influence the renewal status of a charter, these factors should be formally identified and explained in guidelines so schools better understand DESE's expectations.

OTHER MATTERS

As previously discussed, the Office of the State Auditor (OSA) has concluded that the reliability of student and educator data submitted by charter schools to the Department of Elementary and Secondary Education (DESE) is indeterminate. Information compiled and presented here, although unaudited, has been included for informational purposes because it is relevant to public policy decisions regarding the extent to which the Commonwealth's charter school initiative has fulfilled certain statutory purposes and contributed to efforts to enhance public education.

Attainment of Comparable Academic and Demographic Profiles—Overview

Chapter 71, Section 89(e), of the Massachusetts General Laws requires each charter school to implement

a student recruitment and retention plan, including deliberate, specific strategies the school will use to ensure the provision of equal educational opportunity . . . and to attract, enroll and retain a student population that, when compared to students in similar grades in schools from which the charter school is expected to enroll students, contains a comparable academic and demographic profile.

Based on the data maintained by DESE, it appears that comparable academic and demographic profiles have not yet been attained for much of the charter school system. DESE's data indicate notable demographic disparities between charter schools and their sending districts, both statewide and for the 21 Commonwealth charter schools in Boston. For example, on a statewide basis, at the start of fiscal year 2014 there were approximately 54% fewer English-language learners (ELLs) at Commonwealth charter schools than would be expected if each school were exactly representative of sending district demographic patterns. For Boston's Commonwealth charter schools, the disparity was even greater, with approximately 73% fewer ELLs than expected. Progress in reducing disparities has been mixed, and even schools with recently approved charters often are not representative of sending districts for categories such as ELLs, students with disabilities, and students from families with incomes below 130% of the poverty level.

Charter School Student Demographics

The role of student demographics in educational outcomes for both charter schools and traditional public school districts has long been recognized. Education of students facing poverty, language, disability, and other barriers can be especially challenging. Students in these categories, commonly referred to as high-needs students, often require more time and resources to educate.

Disproportionate ratios of these students can cloud comparisons of education results across schools, districts, and demographic categories and can present funding equity concerns.³² DESE gathers and disseminates an extensive array of student demographic data, including statistics on ELLs, students with disabilities, and low-income students, classifying low income students into two subcategories: those who are eligible for federally subsidized reduced-price lunches and those from even-lower-income households who are eligible for free lunches.³³ Both nationally and in Massachusetts, concerns exist regarding reported student demographic disparities between charter schools and the sending districts whose populations are served by charter schools.³⁴ The perceived causes of such disparities are a matter of some debate. In many instances, they may arise because of the self-selection process inherent in the current lottery-based systems used to admit charter school students.³⁵ Families with students in certain demographic categories, often high-needs categories, may simply be less likely to seek admission.

In 2010, the Legislature acted to address these concerns by amending Chapter 71, Section 89(e), of the General Laws as quoted at the start of this section to ensure equal opportunity and promote academic and demographic comparability of charter schools to sending districts. A charter school must have a plan to recruit and retain high-needs students who are ELLs, those who are classified as needing special education, those who qualify for free and reduced-price lunch, those who are at risk of dropping out of school or have dropped out of school, or other at-risk students who should be targeted to eliminate academic achievement gaps between socioeconomic groups.³⁶ New charter schools must obtain DESE's approval of the recruitment and retention plan as part of the initial charter approval process. Existing charter schools were also required to develop plans, and adherence to plans is now a requirement for charter renewal under Chapter 71, Section 89(dd), of the General Laws. However, neither law nor regulations set specific enrollment targets for charters to determine whether parity has been achieved under the original spirit of the law. Charter school

³² Kevin G. Welner and Wendy C. Chi, eds., *Current Issues in Educational Policy and the Law* (Information Age Publishing, 2008).

³³ "Public Schools & Districts: About the Data: Students: Enrollment," Massachusetts Department of Elementary and Secondary Education, accessed June 16, 2014, <http://profiles.doe.mass.edu/help/data.aspx?section=students>.

³⁴ Valerie Strauss, "A Dozen Problems with Charter Schools," *Washington Post*, May 20, 2014.

³⁵ See, for example, Julian R. Betts and Richard C. Atkinson, "Better Research Needed on the Impact of Charter Schools," *Science* 335, no. 6065 (January 13, 2012): 171-2. doi:10.1126/science.1205418.

³⁶ Massachusetts Department of Elementary and Secondary Education, Massachusetts Office of Charter Schools and School Redesign, *Annual Report Guidelines for Charter Schools, 2012-2013*, accessed December 9, 2013, http://www.doe.mass.edu/charter/guides/annual_guide.pdf.

managers interviewed for this report have said that the self-selective nature of the current lottery system would make hitting hypothetical enrollment targets difficult.³⁷

To facilitate demographic comparison analysis, DESE provides a report tailored to each charter school, called the CS301, that uses a comparison of selected populations derived from averages of the largest sending district(s) for each charter school.³⁸ The report does not set minimum targets, and it focuses on the categories of limited English proficient, special education (students with disabilities), and free and reduced-price lunch (low income).

The unaudited information presented in the table below is based on the weighted average of selected sending district population statistics for each charter school open in 2013-2014 (fiscal year 2014) and 2008-2009 (fiscal 2009), before the recruitment and retention plan was required.³⁹ Each charter school's reported selected population statistics at the end of fiscal years 2009 and 2014 are compared to the weighted average values for all, not just the largest, of that school's sending districts in those years.⁴⁰

The table summarizes the comparability of selected student demographic patterns with those of sending districts and, for schools not yet matching or exceeding sending districts' student population rates, the direction of change for each demographic category since fiscal year 2009. The table indicates that charter schools have made some progress toward high-needs-enrollment parity with its sending districts since the 2010 Education Reform Law was passed.⁴¹

³⁷ DESE conference communications in Marlborough; interview with the executive director of the Massachusetts Charter School Association.

³⁸ If a school has multiple sending districts, only those accounting for the majority of the school's students are used.

³⁹ Sending district demographic statistics are weighted proportionately by the number of students attending the charter school from each district.

⁴⁰ We have not performed in-depth statistical analysis on any of the data because of their uncertain reliability.

⁴¹ This analysis accounts for all changes, not necessarily the degree of changes.

Change Trends from Fiscal Year 2009 to Fiscal Year 2014

	Selected High-Risk Demographics			
	ELLs School Count	Students with Disabilities School Count	Free-Lunch Eligible School Count	Reduced-Price- Lunch Eligible School Count
Matches/Exceeds Sending District for Fiscal Year 2014	5	11	8	35
Made Improvements without Equaling Sending Districts Since 2009	11	22	10	7
Stagnated or Regressed Since 2009	<u>36</u>	<u>19</u>	<u>34</u>	<u>10</u>
Total	52	52	52	52

Educator Qualifications

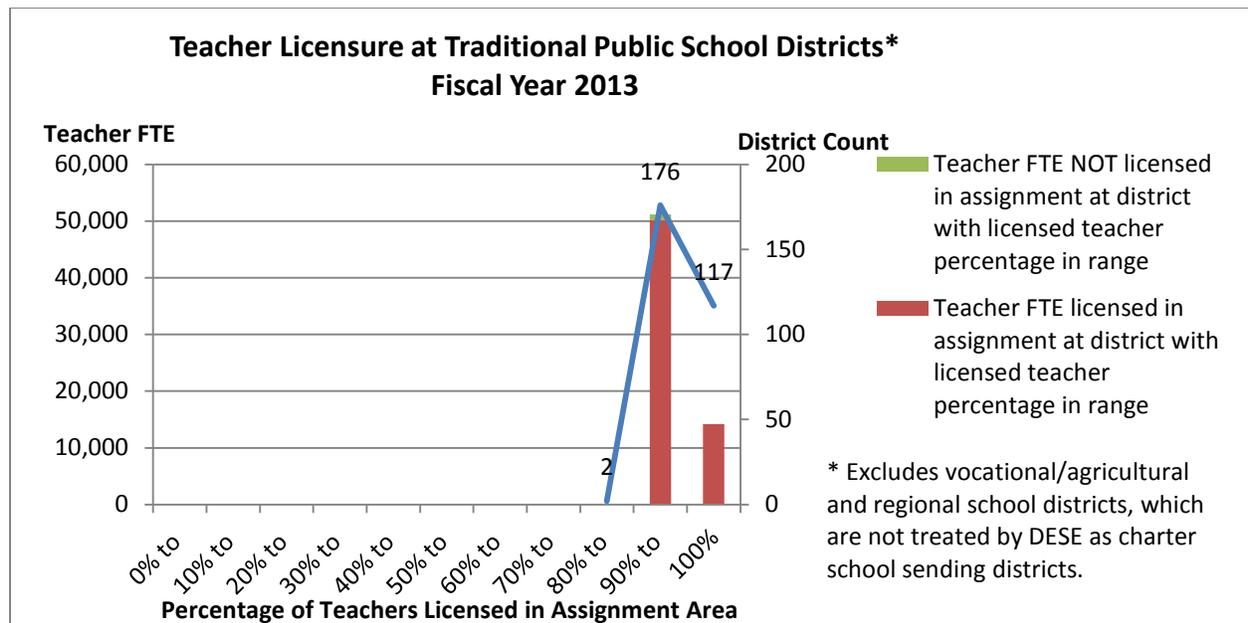
Qualification requirements for public-school educators in Massachusetts, including those working in charter schools, are complicated, particularly regarding state licensure. These requirements were established by DESE⁴² and by the Highly Qualified Teacher (HQT) requirements applicable to core academic classes put in place in 2001 by the federal No Child Left Behind (NCLB) Act. Additional qualification requirements established by law, regulation, or state or federal grant conditions apply to the activities of some educators, such as those teaching ELLs or students with special-education needs.

In Massachusetts, at a minimum, teachers in the Commonwealth's traditional public schools and those in Horace Mann charter schools are required to hold a preliminary license. The preliminary license, which is valid for five years, is available to those who have bachelor's degrees and pass required Massachusetts Tests for Educator Licensure (MTELs) but have not yet completed DESE-approved educator preparation programs to qualify for an initial license. The initial license is valid for five years, with a one five-year extension available. In order to continue teaching in traditional public schools or Horace Mann charter schools, educators must earn and maintain a professional license. This license is valid for five years; there are professional development requirements for relicensing.

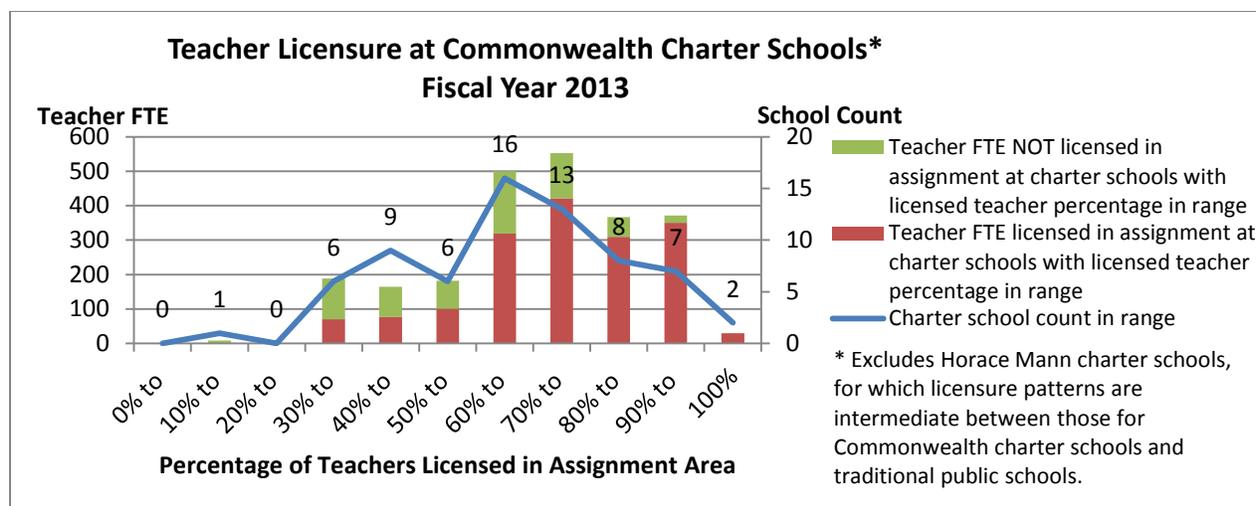
⁴² Massachusetts laws provide for the "certification" of teachers; however, state regulations, policies, and common parlance all use the terms "licensure" and "license," which regulations define as the equivalent of "certification" and "certificate."

Commonwealth charter school teachers are not required under state law nor federal HQT standards to earn and maintain the licensure required of traditional public school teachers. Commonwealth charter school teachers must either be licensed or have a bachelor’s degree and pass MTELs within the first year of employment at a charter school according to Chapter 71, Section 89(ii), of the General Laws and 603 Code of Massachusetts Regulations 1.07. DESE “Technical Advisory 07-01—Amended February 2011: Teacher Qualifications in Massachusetts Charter Schools”⁴³ supplements the law and regulation.

Traditional public schools in Massachusetts reported that approximately 98.5% of teachers were licensed in the subjects they taught for fiscal year 2013, and 99.3% of the districts reported that 90% or more were licensed in their subjects. In contrast, under the different qualification requirements applicable to Commonwealth charter schools, 70.9% of their teachers were licensed in their subjects and 13.2% of these schools reported licensure rates of 90% or more. The following charts detail these licensure statistics.



⁴³ “Massachusetts Charter Schools Technical Advisory 07-01—Amended February 2011: Teacher Qualifications in Massachusetts Charter Schools,” Massachusetts Department of Elementary and Secondary Education, last modified October 5, 2012, <http://www.doe.mass.edu/charter/guidance/2007-1.html>.



In addition to these differences in teacher qualifications, there are also differences in compensation levels. The next table shows fiscal year 2013 teacher salary data for 61 reporting Commonwealth charter schools⁴⁴ compared to average salary amounts that would be expected based on data reported by the sending district in which each charter school is located.

**Commonwealth Charter School Teacher Salaries
Compared to Sending District Salaries
Fiscal Year 2013**

Charter School Salary as a % of Sending District*	Count of Charter Schools	% of Count	Teacher FTE	% of FTE	Total Charter School Actual Salaries	Average Actual Salary	Total Expected Salary**	Average Expected Salary	Expected Less Actual
50%–60%	3	4.9%	76	3.5%	\$ 3,477,839	\$45,915	\$ 6,211,295	\$82,003	\$36,088
60%–70%	20	32.8%	821	38.2%	41,291,899	50,315	63,158,567	76,959	26,644
70%–80%	14	23.0%	559	26.0%	30,829,933	55,116	40,938,124	73,187	18,071
80%–90%	14	23.0%	435	20.3%	26,739,299	61,479	31,384,846	72,161	10,682
90%–100%	7	11.5%	207	9.6%	13,843,123	66,786	14,726,162	71,046	4,260
100%–110%	2	3.3%	30	1.4%	1,927,446	64,248	1,792,724	59,757	–4,491
110%–120%	1	1.6%	19	0.9%	1,417,709	72,852	1,228,782	63,144	–9,708
Total	61	100.0%	2,147	100.0%	\$119,527,248	\$55,660	\$159,440,501	\$74,247	\$18,587

* e.g., if a charter school has an average salary of \$56,000 and its sending districts have an average salary of \$74,000, the charter school's salary is 76% of that of its sending districts.

** Salary expected if the charter school's salary were equal to its average sending districts' salary.

⁴⁴ Partial data, excluding data for one additional school that omitted salary information for 27 reported teachers. Sources: Massachusetts Department of Elementary and Secondary Education, *2011-12 Teacher Salaries Report*, accessed March 17, 2014, http://profiles.doe.mass.edu/state_report/teachersalaries.aspx; Massachusetts Department of Elementary and Secondary Education, *FY2012 Charter School End of Year Financial Report Summary*, accessed March 17, 2014, <http://www.doe.mass.edu/charter/finance/reveexp/>.

The average salary of teachers employed by traditional public school districts is nearly \$19,000 higher than that of teachers employed by charter schools. The consolidated average teacher salary of \$55,660 for these charter schools was 75% of the \$74,247 sending district average.⁴⁵ More than two-thirds of Commonwealth charter school teachers worked in charter schools paying less than 80% of the average salaries of their sending districts. Together, the 61 charter schools expended just under \$40 million less than might have been expected for the same number of FTE teachers paid at sending districts' average salary rates. From the available data, we could not determine the extent to which these compensation differences were attributable to factors such as underlying differences in the qualification levels of the teachers; differences in average numbers of specialty teachers, such as those with expertise in special education or English-language learning; or differences in salary scales.

Massachusetts Comprehensive Assessment System Performance

The Massachusetts Comprehensive Assessment System (MCAS) was designed to meet the requirements of the Massachusetts Education Reform Law of 1993. MCAS will remain the Commonwealth's primary standardized testing mechanism for education reform accountability until it is replaced by a new system that is currently being developed.⁴⁶ The Education Reform Law states that the testing program must test all public school students in Massachusetts, including students with disabilities and ELLs; measure performance based on state educational standards; and report on the performance of individual students, schools, and districts.

The Education Reform Law requires that students pass the grade 10 tests in English language arts (ELA), mathematics, and one of the four high school science and technology engineering tests as one condition of eligibility for a high school diploma (in addition to fulfilling local requirements).

⁴⁵ Average salaries for seven reporting Horace Mann charter schools with 201 reported teacher FTEs were approximately 86% of the consolidated average for their sending districts.

⁴⁶ DESE is participating in a multistate consortium known as the Partnership for Assessment of Readiness for College and Careers, which is responsible for developing a new assessment system that is expected to be ready for states to administer during the 2014–2015 school year. DESE information on plans for the new system can be found at <http://www.doe.mass.edu/parcc/>.

In addition, the MCAS program is used to hold schools and districts accountable for the progress they have made each year toward the NCLB Act's objective of all students being proficient in reading and mathematics by 2014.⁴⁷

For the grade 10 MCAS tests administered during the 2012–2013 school year, 60% of charter schools had 90–100% of their students receive a score of Proficient or higher, whereas 47% of traditional public schools achieved those results. As described in this report's discussion of demographic differences between charter schools and their sending districts, the unaudited data maintained by DESE make direct comparison of MCAS results for individual charter schools and their sending districts difficult. The following two tables illustrate some of the difficulties involved. The first table summarizes grade 10 MCAS performance differences between charter schools and other public school districts. The second table shows the specific differences in results on the same tests for ELLs compared to all students, without regard to whether the students attended charter schools; attended other public schools; or were different in other respects such as ethnicity, income, disabilities, or attrition rates.

Tenth-Grade MCAS Performance, 2012–2013

MATH and ELA Proficient or Higher	Charter School Count	Percent of Total Charter Schools' Share	District Count	Percent of Total Districts' Share
90–100%	18	60.0%	122	47.1%
80–89.9%	6	20.0%	100	38.6%
70–79.9%	4	13.3%	26	10.0%
60–69.9%	1	3.3%	6	2.3%
50–50.9%	1	3.3%	4	1.5%
40–49.9%	0	0.0%	1	0.4%
30–39.9%	0	0.0%	0	0.0%
20–29.9%	0	0.0%	0	0.0%
10–19.9%	0	0.0%	0	0.0%
0–9.9%	0	0.0%	0	0.0%
Total	<u>30</u>	<u>100.0%</u>	<u>259</u>	<u>100.0%</u>

⁴⁷ "Massachusetts Comprehensive Assessment System: Overview," Massachusetts Department of Elementary and Secondary Education, accessed February 27, 2014, <http://www.doe.mass.edu/mcas/overview.html>.

Percentage of Students at Each Achievement Level*

	Proficient or Higher		Advanced		Proficient		Needs Improvement		Failing	
	ELA	Math	ELA	Math	ELA	Math	ELA	Math	ELA	Math
All Students	91%	80%	45%	55%	46%	25%	7%	13%	2%	7%
ELLs	43%	27%	2%	10%	41%	17%	42%	30%	15%	43%

* Source: Spring 2013 MCAS Test: Summary of State Results, <http://www.doe.mass.edu/mcas/results.html?yr=2013>.

DESE has reported similar achievement-level differences for other demographic categories. On average, Massachusetts charter schools serve ELLs at less than half the 17.8% average rate of their sending districts, and underrepresentation appears to be an issue for other demographic categories as well. Any comparison of MCAS performance between charter schools and traditional public school districts needs to factor in such differences in order to draw valid conclusions.

Financial Condition of Commonwealth Charter Schools

Both DESE and OSA routinely track and review audited financial information for both Commonwealth and Horace Mann charter schools, in part to assess the financial viability and stability of individual schools. Financial filings show that numerous charter schools have successfully established long-term facility lease or purchase arrangements. These often involve funding processed through the schools' associated nonprofits⁴⁸ or through tax-exempt or other public funding initiatives such as loans, grants, and bonds provided through the quasi-governmental Massachusetts Development Finance Agency (MassDevelopment) and similar entities such as the Boston Industrial Development Financing Authority.

Charter schools' audited financial statements and associated filings show that the schools generally are financially stable and operate with surplus revenue over expense within legislative parameters, comparing favorably to benchmarks such as financial results for Massachusetts nonprofit human-service organizations and bond rating standards for local governmental entities. We analyzed data obtained from audit filings for fiscal year 2012 to obtain general information regarding the financial

⁴⁸ More than 50% of Commonwealth charter schools have established associated nonprofit organizations, known as "component units of government," whose purpose is to support the operation of the charter school governmental entity. DESE requires that audited financial information include the activity of such component unit nonprofit entities as well as the activity of the charter school. There are, however, certain situations where entities associated with a charter school are excluded for reporting purposes. Those situations commonly involve education management service arrangements, sometimes with for-profit entities. DESE reports the existence of such management arrangements for nine currently operating charter schools.

stability of Massachusetts charter schools. For comparative purposes, we used information from audited financial statements for 677 contracted nonprofit human-service organizations providing services to state agencies during fiscal year 2012.⁴⁹ The analysis indicates that charter schools, particularly Commonwealth charter schools, are in generally sound financial condition. They have healthy current ratios (most over 3.3; compare this to a 2.4 mean current ratio value for human-service contractors)⁵⁰ and typically generate surpluses (with an average of over 5.5%), either directly or through associated nonprofit component unit entities. Average operating results and the proportion of entities with gains over 5% are higher for Commonwealth charter schools than corresponding values for human-service contractors. Fifty percent of Commonwealth charter schools report net assets (also known as “fund balances”) equal to or more than 41% of annual revenue.⁵¹ Charter schools’ financial statistics also compare favorably to benchmarks for local government entities in general. For example, Moody’s Investors Service, which issues local government bond ratings, treats a general fund balance equal to or more than 30% of total revenue as acceptable for the best general obligation bond rating (AAA). More than two-thirds of Commonwealth charter schools met or exceeded the equivalent of that standard.⁵² Though individual charter schools occasionally have become financially unstable and have closed, OSA audits and DESE monitoring records suggest that such problems can generally be traced to serious managerial, governance, or programmatic deficiencies at individual charter schools.

Auditee Comments

Charter school demographics

At the direction of the Legislature, charter schools are now required to develop recruitment plans to try to attract more students in under-represented groups. But at the end of the day, students are still admitted to charter schools utilizing a non-discriminatory blind lottery, as specified in the charter school statute. See G.L. c. 71, §§ 89(m) (nondiscrimination requirement) and 89(n) (use of an admissions lottery).

⁴⁹ These annual audits are filed with the Commonwealth’s Operational Services Division.

⁵⁰ Fewer than 7% of Commonwealth charter schools (compare this to 10.3% of human-service contractors) have current ratios less than 1.0.

⁵¹ That percentage is for charter schools and their component unit entities. For the schools alone, 50% have net assets equal to or more than 33% of total annual revenue.

⁵² DESE’s required format for charter schools’ financial statements uses the term “net assets,” rather than “fund balance” as used for most government entity financial reporting purposes. While not identical, the percentage calculations are generally equivalent.

MCAS Performance

There have been several major, peer-reviewed research studies on the MCAS performance of Massachusetts charter schools conducted recently by education specialists at Harvard, MIT, and Stanford. These studies give strong evidence of high academic performance by our charter schools, particularly those in urban areas. They include rigorous controls to address differences in demographics. See for example, <http://seii.mit.edu/research/study/charter-school-demand-and-effectiveness-a-boston-update/> and <http://credo.stanford.edu/research-reports.html>.

GLOSSARY

- Commonwealth charter school: A charter school established as a freestanding government entity, fully independent of traditional local school districts. A Commonwealth charter school operates independently of a school committee and is managed by a board of trustees.
- core subject areas: The Department of Elementary and Secondary Education's (DESE's) equivalent of core areas as defined in the No Child Left Behind Act. The areas include foreign languages, arts, reading, English / language arts, history / social studies (including geography), sciences, mathematics, civics / government / political science / political philosophy, and economics.
- current ratio: The ratio of current assets (such as cash, accounts receivable, and short-term investments) to current liabilities (such as accounts payable for employee compensation, goods and services, and loan obligations payable within 12 months). Current ratios in excess of 1.0 are desirable and expected.
- educational outcomes: The results achieved by schools as the result of learning activity. Outcomes are usually expressed as knowledge, skills, or attitudes for the purpose of establishing student learning outcome goals, but can include results such as student achievement test scores, graduation and college-enrollment rates, and broad effects on individuals and society that can reasonably be attributed to educational activity.
- educator preparation program: A formal program approved by DESE for the purpose of preparing entry-level educators for Initial Teaching or Teaching Specialist licensure. This requirement can be met in a number of settings approved by DESE, including, but not limited to, schools of education operated by colleges and universities.
- foundation enrollment: The number of pupils for whom a school district is financially responsible as of October 1 of a given year.
- high-needs student: A low-income student, current or former English-language learner, or student with disabilities or other issues.
- Highly Qualified Teacher (HQT): A teacher meeting federal requirements that rely in part on requirements established by individual states. In Massachusetts, these requirements typically include a bachelor's degree, an active teaching license, and subject matter competence in the subject being taught, but charter school teachers have to meet only two of these requirements (subject matter competence and a bachelor's degree).
- Horace Mann charter school: A charter school that operates under the approval and cooperation of a school committee and, in most instances, the local collective bargaining unit in the district in which the school is located. (Laws and regulations effectively establish multiple categories of Horace Mann charter schools with somewhat different governance requirements, which are not pertinent to this audit.)

- **initial license:** A teacher’s license that is valid for five years and may be extended for an additional five years, held by someone who has completed a valid educational preparation program, has a bachelor’s degree, and has passed appropriate licensing exams.
- **limited English proficient or English-language learner (ELL):** A student whose first language is a language other than English and who is unable to perform ordinary classroom work in English.
- **low-income student:** A student who is eligible for free or reduced-price lunch, receives Transitional Aid to Families benefits, or is eligible for food stamps.
- **Massachusetts Comprehensive Assessment System (MCAS):** The statewide standardized student educational achievement testing system established by DESE to meet the requirements of the Education Reform Law of 1993.
- **Massachusetts Tests for Educator Licensure (MTELs):** A two-part testing program for licensure established pursuant to Chapter 71, Section 38G, of the Massachusetts General Laws. A teacher must pass both a test of communication and literacy skills and one or more subject matter knowledge tests relevant to the educational activity area covered by the specific license s/he seeks.
- **net assets:** Total assets less total liabilities.
- **No Child Left Behind (NCLB) Act (Elementary and Secondary Education Act):** The 2001 reauthorization of the Elementary and Secondary Education Act of 1965, whose purposes were to raise achievement and to close achievement gaps.
- **preliminary license:** A teacher’s license that is valid for five years, held by someone who has not completed an approved educator preparation program but has obtained a bachelor’s degree and passing scores on appropriate MTEL exams.
- **special-education student:** A student who has special educational needs associated with issues such as developmental disabilities or other disabilities.