

# Overview of the Chapter 224 Baseline Study

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## Introduction

Health care cost containment and quality improvement legislation (Chapter 224) was enacted in Massachusetts during 2012 with a focus on reducing costs and improving the efficiency and effectiveness of the health care finance and delivery system in the Commonwealth. One of the most important provisions of the legislation is that growth in the state's level of aggregate health care expenditures is to be limited to the rate of growth in 'potential gross state product.' This mechanism for restraining the pace of growth in health care expenditures in Massachusetts has important implications for the state's health care delivery system. Along with other provisions of the legislation, including rules about health care governance, Chapter 224 will exert considerable influence on the size and composition of health care employment and the role of health care jobs and job creation in the Massachusetts economy for the foreseeable future.

A provision of the legislation assigns the Massachusetts State Auditor the task of assessing the impact of the reform legislation along several dimensions including the health care workforce. The Auditor is asked to assess how the Chapter 224 legislation impacts the range of health care industries in the state (including ambulatory care, hospitals, nursing and residential care, and behavioral health sectors) with respect to overall labor market conditions, including assessments of labor market imbalances, changing occupational structures within these industries and the educational and training impacts of employment growth and decline within different sectors and occupations in these industries. As the new health care rules and regulations are clarified, the components of the state's health care industry have begun to adjust their human resource/staffing efforts to reflect their organizations' strategic adjustments to the new realities of health care delivery and finance in Massachusetts.

The process of labor market adjustment to the requirements of Chapter 224 will vary considerably across health care industry sectors, medical service specialties and related occupations as well as across geographic regions in Massachusetts. Furthermore, this adjustment process will occur over an extended period of time as employers and health care education, training and health/medical profession advocacy organizations interpret and adjust to changing regulatory, revenue and job market conditions. The Office of the State Auditor (OSA) asked Commonwealth Corporation (CommCorp) in cooperation with the Center for Labor Markets and

Policy (CLMP) to provide research and related support to the Auditor's Office in its effort to assess the impact of the Chapter 224 legislation on the state's health care workforce.

Specifically, OSA requested that CommCorp/CLMP undertake a baseline study of the Commonwealth's health care workforce prior to the implementation of the Chapter 224 legislation both statewide and to the extent feasible, at the local level. The baseline study is designed to provide a systematic and careful depiction of the health care workforce on a variety of dimensions including:

- The nature and industrial scope of health care economic activity and employment (the four major industry sub-sectors of health care employment)
- The sub-state geographic distribution of health care employment
- The role of the health care industry in employment gains and losses in turbulent state and local labor markets since the year 2001
- The occupational structure of health care employment
- The skills composition of the health care industry workforce
- The characteristics of employment in the health care industry and its four major sub-sectors, including hours of work (full-time, part-time status) and earnings characteristics of employment at the state and local level
- Earnings by occupation and the geography of earnings
- The earnings distribution in the health care industry and its sub-sectors
- The demographic characteristics (gender, race/ethnicity, nativity, English language proficiency, age, educational attainment, disability status and military veteran status) of health care workers in each of the four industry sub-sectors

These findings are reviewed in two papers: "Health Care Employment, Structure, and Trends in Massachusetts" and "Characteristics of Workers and Jobs in the Massachusetts Health Care Industry."

As noted above, OSA is required under the provisions of the Chapter 224 legislation to report in 2017 on the impact of the law on the state's health care workforce. The data and analysis we have provided in the accompanying papers are designed to serve as a basis of comparison to assess changes in the Commonwealth's health care workforce over the next three years in response to Chapter 224. It is important to note that this analysis takes place in the

context of national health care reform and other federal and state health care finance developments as well as legislation that is changing staffing ratios, licensing requirements and health occupation scope of practice.

In addition to preparing papers covering all of the topics outlined above, our study also conducted a set of personal interviews with business, labor, health care providers and health care professional organizations and interest groups to develop a better understanding of their views of the potential impact of Chapter 224 and other changes on the state's health care workforce. These interviews were very helpful in developing our analysis of the health care workforce. By helping us think about potential changes in the finance and delivery of health care services, we were able to make more informed judgments about the nature of data and measures that we have included in the study as well as develop a greater on-the-ground view of the most important elements of Chapter 224. These interviews also helped us to understand some of the potential impacts of health care reforms on overall health care employment.

We also reviewed 51 funding proposals that outline the plans of health care providers, both large and small, from across the state regarding their workforce development responses to the enactment of Chapter 224. Chapter 224 established the Health Care Workforce Transformation Fund. The Fund is designed to support education and training initiatives to help health care employers address workforce challenges that can be directly attributed to organizational and operational changes that they need to make to implement Chapter 224 and align with its goals. In 2013 Commonwealth Corporation issued a request for proposals for grants from the Health Care Workforce Transformation Fund to support needs assessment and training design activities. Out of the 55 proposals submitted, 51 planning proposals were funded. These proposals outlined the kinds of changes that these organizations are planning and the educational and training activities that they would like to undertake to make what they saw as the appropriate staffing, personnel policy and business process adjustments to the requirements of Chapter 224. Our review of these findings is available in "Key Workforce Issues Identified in the Proposals Submitted for Health Care Workforce Transformation Fund Planning Grants."

## Some Key Findings

### Defining the Health Care Workforce

An important task to undertake in the baseline study is to determine how the health care workforce should be defined and measured to meet the purposes of OSA in undertaking an impact study. After a careful review, outlined in the Employment Structure paper, the health care workforce was defined to include:

- All employment in the ambulatory care sector
- All employment in the hospital sector
- All employment in the nursing and residential care sector
- All employment in the individual and family services sector

Based on this definition of the health care workforce we found 533,000 payroll jobs on average during 2012, the baseline year prior to implementation of Chapter 224. The health care industry accounted for about one in six payroll jobs in the Commonwealth during 2012. Health care employment across the four industry sectors was distributed as follows:

- Ambulatory care providers employed 31 percent of the health care workforce
- Hospitals employed 37 percent
- Nursing and residential care facilities employed 19 percent
- Individual and family services employed 13 percent

### Health Care Employment in the Context of the Massachusetts Labor Market

- The health care sector was an important source of employment in every region of the state. In western Massachusetts the sector accounted for about one in every five jobs. In the eastern part of the state, health care's share of employment was about 15 to 16 percent.
- The industry composition of employment within the health care sector varied considerably across the state. Southeast Massachusetts and the Pioneer Valley had disproportionately large concentrations of health care employment in the individual and family services sector. The Southeast and Central regions of the state had heavy concentrations of nursing home and residential care employment. Boston had an extraordinary concentration of employment in hospitals.

- The health care industry is a very important source of net job creation and cyclical stability in Massachusetts. Between 2001 and 2012 the state saw annual average payroll employment fall by a net of 32,000, but the health care industry added 132,000 jobs over the same period.
- The health care industry played a key role in new job creation and generating employment stability in the face of large cyclical changes in economic activity across all regions of the state.
- Over the 2001 to 2012 period, the individual and family services sector was the most rapidly expanding source of new health care sector jobs; employment in this sector more than doubled over the 11-year period. Hospitals added large volumes of employment, especially during 2004 to 2008, but in recent years the pace of hospital employment growth has slowed considerably.
- Recently, ambulatory care and individual and family services have led the pace of new job creation. Nursing homes and hospitals saw their pace of new job creation slow sharply since 2010.

### **Health Care Staffing and Skill Requirements**

- Staffing structures of the state's health care industry varied sharply by industry sub-sector. Individual and family services employment is dominated by lower-end health care support workers, including home health aides. This rapidly expanding industry has almost no nurses, health diagnostic and treatment workers or health technician workers in its workforce. In contrast, the staffing structure of the slow growing hospital sector is dominated by the registered nurse occupation as well as health diagnostic, treatment and technician occupations.
- The employment levels of advanced practitioners—nurse practitioners and physician's assistants within the health care industry was small during 2012, but efforts to increase their scope of practice responsibilities, particularly in the primary care area, suggest possible future increases in the employment of advanced practitioners.
- The education, training and preparation requirements for employment vary sharply based on the staffing structures of the individual sub-sectors. Hospitals have the highest overall

levels of preparation requirements, while individual and family services organizations have much less demanding preparation requirements.

### Characteristics of Health Care Workers

- The health care sector in Massachusetts is much more likely to employ women than other industries in the state. About 75 percent of all health care employment is female compared to 44 percent for all other industries. Southeast Massachusetts health care providers had the greatest concentration of female employees, with women making up 80 percent of the industry's workforce. Boston's health care workforce had the lowest female share with 70 percent of the staff composed of women.
- Female shares of employment within the four major health care industry sub-sectors did not vary much.
- Black, non-Hispanic staff are heavily concentrated in the state's health care industry, accounting for 10 percent of the state's health care workforce, but just 4 percent of the staff in other industries in the state. Hispanic and Asian staff make up about 7 percent and 5 percent of the health care workforce, respectively. About the same proportions of these race/ethnic groups are found in other industries in the state.
- The Black, non-Hispanic share of employment was especially high in Boston, where 16 percent of the health care industry workforce was Black. Black and Hispanic employment shares in the Berkshire and Cape and Islands regions were quite small.
- Black, non-Hispanic employment was heavily concentrated in nursing homes (20 percent of the staff) and hospitals. Hispanic employment was disproportionately concentrated in individual and family services. Ambulatory care services had an above average share of White, non-Hispanic staff.
- About one in five health care workers are foreign-born, with a high of 29 percent in Boston, but just 7 percent in the Berkshires.
- Nursing homes and residential care facilities had the highest share of foreign-born staff (28 percent) while about 16 percent of the ambulatory care workforce was foreign-born.
- The English language skills of the foreign-born health care workforce are somewhat greater than in other industries in the state. Twice as many non-health care workers rated

their English as poor (20 percent) compared to health care workers, among whom 10 percent rated their English speaking ability as poor.

- The health care workforce is somewhat older than the workforce in other industries. About 23 percent of all health care workers are aged 55 or older, compared to 19 percent in other industries. Much of this gap is associated with very low shares of workers aged 16 to 24 employed in the health care industry. Only nursing and residential care facilities employ a share of 16-24 year old workers that is similar to that of other non-health industries.
- The level of educational attainment of staff in the health care industry is somewhat higher than other industries in the state. This difference is primarily associated with a very high share of staff with an associate's degree (13.6 percent vs 7.1 percent) as well as much higher shares of staff with first professional (including MD, DD, DVM, JD, DPharm etc.) as well as Doctor's degrees (Ph.D, D.Phil, D.Sc, Ed.D).
- The educational attainment of health care workers varies quite sharply across the four industry sub-sectors of the health care industry. Nearly 70 percent of nursing home and residential care staff have not earned a post-secondary degree. In contrast, about 67 percent of the hospital workforce and 60 percent of the ambulatory care workforce have earned a post-secondary degree (associate's degree or higher).

### **Earnings and Hours of Work**

- The annual earnings of those employed in the state's health care industry averaged \$57,500, a level of pay about 4 percent above mean earnings for those employed in non-health care industries.
- Mean annual earnings of health care workers varied sharply across the four major industry sub-sectors. Reflecting their occupation structure and education and training requirements, the hospital sector (\$65,300) and the ambulatory care sector (\$64,600) had annual earnings that were sharply above the earnings of workers in nursing and residential care (\$35,300) and individual and family services (\$36,400).
- Part of the earnings advantage in the hospital and ambulatory care sectors is associated with staff working more hours over the course of the year relative to nursing homes and individual and family services sectors.

- Most of the difference in earnings across industry sectors is associated with differences in occupational staffing and education and training requirements.
  - Health diagnosis and treatment annual earnings: \$137,000
  - Registered nurse: \$68,200
  - Health Techs: \$50,700
  - Health care support: \$28,000
  - Management and professional (ex. health): \$62,800
  - Office and administrative support: \$33,500
  - Service workers: \$23,800
- The health care industry has a substantially more equitable distribution of earnings than non-health care industries: The ratio for health care earnings in Massachusetts is 9:1 while that ratio for non-health care employment in the state is 16:1.
- The annual earnings of health care workers varied across regions of the state. Boston had annual earnings of health care workers that were 1.24 times the state health care mean level of earnings. This is in line with the geographic pattern of earnings in the state; non-health care industries have mean annual earnings that are 1.27 times the state mean.
- Inter-area differences in annual earnings are largely the product of difference in the industry mix of employment and occupational staffing structures associated with these different industries. However, we found substantial earnings differences within industries across the state. For example, nursing and residential care pay in Boston averaged \$39,200, but in the Pioneer Valley annual pay in this sector averaged \$29,900.