Gray Warnings: Challenges in the Direct Care Workforce

HIGHLIGHTS

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Executive Summary

THE ROLE OF HEALTH SERVICES IN PRIVATE SECTOR EMPLOYMENT GROWTH IN MASSACHUSETTS

- By May of 2013, Massachusetts recovered all the payroll jobs lost during the Great Recession that took place in the nation between 2008 and 2010. Between the first half (I & II) of 2013 and 2017, private sector employment in the Commonwealth grew by 231,000 jobs or 8 percent.
- The health care and social services industry was the most important source of new job creation in the state during those four years, adding 65,200 jobs or 12 percent.
- The sector's share of the state's private sector employment increased from one in five during 2013-I&II to one in four during 2017-I&II.

The Employment Structure of the Massachusetts Health Care System

The health care and social assistance super-sector is composed of four large but very different industries:

- Hospitals (NAICS 622) including general medical surgical hospitals and specialized inpatient treatment facilities employed about 195,400 in 2017-I&II (31 percent of employment in the super-sector).
- Ambulatory health care (NAICS 621) providers include a variety of outpatient and in- home health services and employed about 187,200 (30 percent of employment in the super-sector).
- Nursing and residential care facilities (NAICS 623), an industry that includes skilled nursing facilities as well as residential care facilities for the elderly and disabled, employed just over 105,000 workers (17 percent of the health care and social assistance industry).
- Social services has grown in importance over the past decade; the health care delivery system has become increasingly reliant on personal care attendants to provide in-home support to the chronically ill and disabled population. Employment in the state's social assistance industry was 136,376 during 2017-I&II, accounting for about 22 percent of the overall health care and social assistance industry in the state.

Employment Growth in the Massachusetts Health Care and Social Assistance Sector

2010-I&II to 2013-I&II

During the early stages of the job market recovery (2010-2013), new job creation in the health care and social assistance sector was largely concentrated outside of the traditional in-patient hospital and nursing home core of the health care system in Massachusetts. Nearly 90 percent of employment growth in the state's health care and social assistance sector was outside the traditional hospital/nursing home inpatient service delivery system.

- Employment in the entire sector grew by 33,500 or 2.1 percent per year.
- Employment in the ambulatory care sector grew by 14,500 jobs or 3.3 percent per year.
- The social assistance sector added 15,000 jobs growing by 5.2 percent per year.
- Hospital employment grew quite slowly, adding just under 2,300 jobs or 0.4 percent per year.
- The pace of nursing home and residential care facility employment was also quite slow, with employment in this industry rising by just 0.6 percent per year in three years.

2013-I&II to 2017-I&II

Beginning in the first half of 2013, the pace of employment growth in the Massachusetts health care and social assistance industry began to accelerate, rising from an annual average employment growth rate of 2 percent between the early stages of the recovery to a 3 percent annual pace of net new job creation.

- Ambulatory health care providers added more than 24,000 jobs growing at 3.7 percent per year.
- Employment levels in the social assistance industry increased by nearly 25,000 jobs over 4 years growing by 5.5 percent per year.
- Hospital employment levels did begin to grow at a modestly more rapid pace than in the previous three years of the recovery, adding 11,600 jobs and growing at 1.5 percent per year.
- Nursing home and residential care facilities saw modest employment growth adding 4,500 jobs at the rate of just 1 percent per year. All of this growth occurred outside nursing homes. Massachusetts nursing home employment fell by 4,300 jobs, about 8 percent, while employment in residential health facilities (including substance abuse residences) rose by 3,100 jobs, about 15 percent. Community care facilities, including assisted living, saw employment rise by 4,300 jobs, a 25 percent rise in just 4 years.

GROWING IMPORTANCE OF AMBULATORY CARE AND SOCIAL ASSISTANCE INDUSTRIES

The health care and social services delivery system is increasingly allocating its human resources to outpatient services and support to persons to remain in their homes.

- Since the first half of 2010, 80 percent of all the net new employment growth in the state's health care delivery system came from firms providing a variety of ambulatory care and social assistance.
- Hospitals and nursing homes together accounted for just 20 percent of the overall rise in health care and social assistance employment.
- Together, ambulatory care and social assistance providers account for one in five new private sector jobs created during the recovery.

Sources of Employment Growth within Ambulatory Care and Social Assistance Industries

Ambulatory Care

New job creation within both the ambulatory care and social assistance industries during the early stages of the state's economic recovery was heavily concentrated among providers engaged in in-home health care, personal care, and social services support.

- Between 2010-I&II and 2013-I&II, home health care providers (classified as part of the ambulatory care industry) increased their payroll employment by more than 7,500 jobs, an annual average rate of growth of 9 percent over the three-year period.
- Home health agencies in the state accounted for more than one-half of all new jobs created in the ambulatory care sector during the first three years of job market recovery in the state.
- Between 2013-I&II and 2017-I&II, employment in the home health care industry grew by 33 percent (at more than twice the rate of the overall ambulatory care industry), adding more than 11,500 jobs in just four years. Home health care agencies accounted for nearly half (48 percent) of the total employment rise in the ambulatory care industry.
- Since the beginning of the jobs recovery in Massachusetts in the first half of 2010, home health care employment rose by 69 percent.

Social Assistance

The "services to the elderly and disabled" industry is a subset of the individual and family care component of the social assistance industry. We focus on the services to the elderly and disabled not only because it is a very rapid source of new job creation in an industry devoted to in-home support services, but also because it is the industry in which the employment of the MassHealth personal care attendants is counted.

- Between 2010-I&II and 2013-I&II, employment in the services to the elderly and the disabled industry increased by more than 9,400 positions, yielding an annual average employment growth rate of 8 percent and accounting for more than 60 percent of the total employment rise in the social assistance industry.
- Between 2013-I&II and 2017-I&II, employment in the services to the elderly and disabled industry increased by almost 17,500 or 37 percent, accounting for 70 percent of the job growth in the social assistance sector.

Since the beginning of the jobs recovery in Massachusetts in the first half of 2010, employment in the services to the elderly and disabled industry increased by 77 percent. We suspect that much of this growth is the result of a rapid expansion in the size of MassHealth's personal care attendant program.

Change in the Direction of the State's Health Care Delivery System

- The expansion of employment in the home health care and services to the elderly and disabled industries in Massachusetts signals an important change in the direction of the state's health care delivery system.
- While just 12 percent of all 2010 health care and social service sector employment was in these industries, together they account for an astonishing 46 percent of all new health and social services jobs in Massachusetts, signaling a radical transformation in health care delivery in the state that shifts the delivery system toward in-home care.
- The home health care and services to the elderly and disabled industries also played an important role in the overall recovery of the Massachusetts job market. These two industries created one of every eight new private sector jobs created between 2010-I&II and 2017-I&II.

Staffing in Home Health Care Agencies and Services to the Elderly and Disabled Industry

Ambulatory Care

- 44 percent of employment among ambulatory care providers is concentrated in a variety of health professional and technologist occupations.
- Clerical workers account for the second largest share of employment in the ambulatory care industry (24%). Medical secretaries, receptionists, and billing clerks are the predominant clerical positions among ambulatory care providers in the state.
- Health care support occupations account for about one-sixth of total employment among ambulatory care providers in Massachusetts. Most of these health care support staff work as either medical assistants or dental assistants; nurses' aides and phlebotomists account for much of the rest of the health care support workers in the industry.

Hospitals

- Almost one-half (48%) of hospital staff in Massachusetts is employed in a health care professional or technical occupation. Registered nurses account for one-quarter of all hospital employment in the state and physicians and surgeons account for about 5 percent of employment in the industry.
- Clerical workers account for about one in six hospital workers with substantial numbers employed as medical secretaries and customer service representatives.
- Health care support workers account for slightly more than 10 percent of hospital staff in Massachusetts. Nurses' aide is by far the largest health care support occupation within hospitals, followed by medical assistants.
- Non-health professional workers, largely concentrated in community and social service occupations like social worker, account for 9 percent of hospital employment in the state.

Nursing Homes and Residential Care Facilities

- Health care professionals account for only about one in five jobs in the nursing home and residential care industry—less than half that observed in ambulatory care and hospital establishments.
- Health care support workers account for a quarter of employment in nursing homes and residential care facilities. Nurses' aides play a key role in this industry and account for most of the health care support employment.
- Personal care occupations, while a small number of the staff of hospitals and ambulatory care organizations, account for one in six jobs within this industry.

Home Health Care

- The home health care industry has a staffing pattern that is dominated by health care support occupations with 44% and another 9 percent employed in personal care occupations. Almost all health care support workers in this industry were employed as home health aides.
- Health care professionals make up the second largest component (32%) of the home health care industry's staffing. These health professionals primarily work as registered nurses and in various therapy occupations including physical, occupational, and speech language therapy positions.

Services to the Elderly and Disabled

- The personal care and service worker occupations overwhelm the occupational staffing pattern of this industry, accounting for nearly 80 percent of employment within the industry.

WEEKLY EARNINGS IN THE FIVE KEY HEALTH CARE INDUSTRIES

Mean Weekly Earnings in 2017

The real (inflation adjusted) earnings of workers employed within the Massachusetts health care delivery system vary quite sharply across each of the five major sources of employment within the state's health care sector. The distribution of average weekly earnings across these industries during the first half of 2017 (presented below) largely reflected differences in the staffing patterns within the health care sector.

- The services to the elderly and disabled industry, dominated by employment in the personal care aide occupation had pay that averaged just $395 per week during the first half of 2017, a rate of pay equal to just 28 percent of the average of all private sector employment.
- Weekly earnings in the home health care services industry averaged $732 during the first half of 2017, a rate of pay equal to just over one-half of the earnings of all private sector workers in the state.
- Nursing and residential care facilities had average weekly pay of $696 during the first half of 2017, equal to just one-half the mean weekly wage rate of all private sector workers.
- Weekly pay averaged $1,382 in the adjusted ambulatory care sector and $1,397 in the state's hospitals, weekly pay rates that were about equal to the earnings of all private sector workers in the Commonwealth during the first half of 2017 (101% and 102% respectively).

Trends in Mean Weekly Earnings between 2013 and 2017

Earnings of workers in the health care sector have grown slowly compared to the overall rise in real mean weekly wages among private sector workers in the state.

- During the latter stages of the economic recovery in Massachusetts (2013-I&II to 2017- I&II) the inflation adjusted mean weekly wages of workers rose by $128, a rise of 10 percent.
- During the same time period, the real mean weekly earnings of all staff employed in the state's ambulatory care industry increased by $38 or just 3 percent.
- Hospital weekly wage growth was similarly slow, rising by just 4 percent over the last four years.
- The home health care industry experienced no net increase in weekly wages over the same period.
- The real weekly earnings of workers in the services to the elderly and disabled industry rose by about 9 percent, close to the overall increase in real weekly wages among all private sector workers in the state. Part of this rise is the result of MassHealth providing a substantial rise in hourly wage rates to persons employed as personal care attendants. In 2016, Governor Charlie Baker signed a contract with 1199SEIU that would lead to a $15 per hour wage for PCAs by 2018.

THE CURRENT EMPLOYMENT SITUATION IN THE HOME HEALTH CARE AND SERVICES TO ELDERLY AND DISABLED INDUSTRIES IN MASSACHUSETTS

Recent divergence in employment growth between home health care and services to the elderly and disabled

Between the first two quarters of 2010 and 2017, employment developments in components of the health care services industry has revealed:

- slow growth in hospital employment,
- a decline in nursing home employment, offset by increases in employment in residential care services such as assisted living facilities, and
- a very rapid pace of job growth in home health care and services to the elderly and disabled.

But in the last two years, there is a growing divergence in the pace of new job creation between the services to elderly and disabled industry that has continued to record substantial employment gains and the home health care industry where employment levels have remained largely unchanged.

- Between 2016-I and the 2017-III, payroll employment the services to elderly and disabled industry increased by 8.8 percent.
- Over the same period, employment in the home health care services industry remained largely unchanged.
- Between 2016-I and 2016-II, home health care providers added 1,000 jobs. Since then, the home health care industry in the state essentially stopped adding jobs. With small quarterly fluctuation in employment levels during the remainder of 2016 through 2017-III, the industry has slightly fewer workers on its payroll than it had 18 months prior.

The obvious question is what happened? The demand for services from these industries is thought to be largely from the same source: the number of persons requiring long term care in the state. Why then has home health care employment flattened as the services to elderly and disabled industry continued its strong pace of new job creation?

Home Health Care Industry

Flat Wages and Increasing Competition for Workers

- Home health care firms in the state generate revenue from a wide variety of sources including federal and state resources. Most public funds received by these agencies are capped by a reimbursement rate. Reimbursement rates for direct care services in Massachusetts have remained unchanged for a decade, as the state's labor market has become among the strongest in the nation, thereby diminishing the relative ability of home health care employers to effectively compete for workers.
- Home health employers compete for workers against one another, other health care employers, as well as with other employers in retail trade and the rapidly expanding leisure and hospitality industry that includes eating and drinking establishments. Strong demand for workers in these competing sectors, with oftentimes better working conditions and higher wages, may leave home health care providers with substantial labor supply problems.

Evidence of Labor Shortages

- Our 2017 study for the Office of the State Auditor reported that home health employers at that time (2015-16) were reporting a considerable degree of difficulty in hiring and retaining direct care workers.
- The small scale job openings survey conducted at that time found more than 10 percent of home health direct care jobs were vacant at that time.
- A recent study completed by the Home Health Aide Council (HHAC) found a substantial share of home health aide employers reported that they had difficulty finding workers to fill open shifts in a given week.
- Half of the home health aides in the HHAC study reported dissatisfaction with irregular schedules, inconsistent weekly hours and highly variable shifts.

Deteriorating Competitive Position of Home Health Care Employers

- Employment levels in the home health care industry in the state have flattened in the last 18 months because the relative competitive position of the home health industry in direct care labor markets has declined.

- A full employment environment, strong job growth, and rising entry level wages in a growing number of competitor industries with occupations that require little education or training means that home health agencies failed to expand payroll employment levels because of severe constraints on their ability to attract labor supply due to the wage rigidity for home care organizations.
- These constraints mean that the only adjustment available to respond to their declining labor market position is to accept a reduction in the quality of hires and accept that even this will mean that they are unable to meet rising demand for long-term care services in the Commonwealth.

MassHealth PCA Program Employment

In Massachusetts, the employment of the MassHealth personal care attendants (PCA) is counted in the services to the elderly and disabled industry.

- Over the 2013 to 2017 period, the PCA program direct care worker employment increased by about 10,900 positions, a one-third increase in the size of the program over four years.
- Over the past year, PCA employment levels have expanded rapidly; rising from 42,650 in July 2016 to 45,200 in June of 2017, an increase of almost 2,550 jobs and a robust 6 percent increase.

Unique Employment Structure

The MassHealth PCA program is unique in the following respects:

- It is in effect a three-party relationship between the employer of record, the PCA employee, and the Commonwealth—who actually pays the PCA wages. Under the state PCA program, the employer-employee relationship is between the consumer of personal attendant services (the employer) and the personal care attendant (the employee), but key aspects of this relationship including its finance, the wage rate, and the weeks and hours of work that can be compensated are determined by various PCA program administrative entities.
- The PCA hourly wage rate is determined by a negotiated agreement between the PCA Quality Home Care Workforce Council and the Service Employees International Union 1199. Effective July 2018, the PCA hourly wages will rise to $15.00. The actual wage payment is made by agents of MassHealth (and other state agencies), known as fiscal intermediaries, and financed by government budget authorizations.
- The number of weeks and hours of service that PCAs can provide a consumer are restricted by Aging Service Access Points (ASAPs) that are designated by the state to make determinations of the number of hours of service per week and the duration of these services over time.

Family as Additional Source of Labor Supply to the MassHealth PCA Program

In any given month, somewhere between 10 percent and 30 percent of those supplying labor to consumers participating in the PCA program are family members, offering a source of labor supply that is presumably not readily available to individuals in need of LTC services provided by the home health care industry.

Wages and Working Conditions of PCAs and Home Health Industry Workers

The evidence available to us does not lead us to conclude that a shortage of PCAs currently exists in the state. High and rising relative wages, better working conditions especially with respect to reliability of hours of work, reduced commuting times, and the ability to develop a long-term relationship with a single consumer likely reduce the chances of high turnover and associated increases in the volume of unfilled jobs. A comparison of wages and working conditions suggest that employment as a direct care worker in the MassHealth PCA program has a number of advantages to working as a direct care worker in the home health industry.

- First, entry-level hourly wage rates are substantially higher for PCAs than those paid to direct care workers in the home health industry. Direct care workers in the PCA program had a starting pay of $14.16 per hour in 2016, rising to $14.58 per hour in 2017, and again rising to $15.00 in July of 2018. Entry level wages for companions and homemakers in the home health care industry are under $12.00 per hour. Home health aides start at an average of $12.52 per hour.
- Direct care workers in the home health industry have an average of about 5 consumers that they serve in a given week, but a direct care worker in the PCA program is most likely to support just one consumer during a week. Thus the problems and costs of travel time are substantially reduced for PCAs compared to direct care workers in the home health industry.
- Two-thirds of home health care direct care workers reported that they were dissatisfied with their wages. Unsurprisingly, the survey of home health care direct care workers revealed that a substantial number of these individuals are seeking employment elsewhere and about one-fifth of these direct care workers who are looking for a new job reported they are seeking a position as a PCA.
- Home health agency employers have reported that they are in direct competition with the PCA program for labor supply and even for consumers.

CHARACTERISTICS OF HEALTH CARE SUPPORT AND DIRECT CARE WORKERS IN MASSACHUSETTS

People who worked in health care support and direct care occupations in Massachusetts differ markedly with respect to their demographic and socio-economic status compared to those employed in other occupations.

Gender

- A large majority of in-home direct care workers are women. Women accounted for nearly half (49 percent) of total employment in Massachusetts;, but are 84 percent of the home health aides and 80 percent of personal care aides.

Age

- In 2015-16, the mean age of persons working in health aide and personal care aide occupations was 41 years and 43 years of age, respectively.
- The age distribution of employment in health care support and direct care occupations in the state reveal that older workers (55+) accounted for one in five home health aides and personal care aides.
- Teens and young adults comprised 18 percent of home health aides and 13 percent of personal care aides.
- The share of prime age workers, those 25 to 54, comprised 63 to 64 percent of home health aides and personal care aides in the state.

Race-Ethnicity

Health care support and direct care employment in Massachusetts is heavily concentrated among African American and Hispanic workers.

- In 2015-16, 35 percent of home health aides and 22 percent of personal care aides in Massachusetts were African-American. In contrast, African-Americans accounted for just 6 percent of employment in other occupational fields.
- African-Americans were 5.8 times more likely to be a health aide and 3.7 times more likely to be a personal care aide as they were to be employed in any other occupation in Massachusetts.
- Hispanics accounted for about 9 percent of the total Massachusetts employment, 16 percent of all home health aides and 23 percent of personal care aides.

Nativity Status

The share of foreign-born workers employed in health care support and direct care occupations was quite high compared to foreign-born worker shares in other occupations outside these fields.

- Statewide, about 21 percent of all employed persons were foreign-born. The share of foreign-born persons was 46 percent in home health aide positions and 38 percent of personal care aides in the state.

Educational Attainment

The level of educational attainment of workers employed in health care support and direct care occupations is generally well below that of the average worker in Massachusetts.

- Among home health aides as well as personal care aides, 19 percent had not earned a regular high school diploma, compared to 10 percent of high school dropouts among all workers.

Marital Status and Presence of Children under 18 in the Household

Health care support and direct care workers were considerably less likely to be married than their employed counterparts working in other occupations across the state.

- About one-half of all employed persons in Massachusetts were married, whereas only 35 to 36 percent of home health aides and personal care aides were married in 2015-16.

Workers employed in health care support and direct care occupations were somewhat more likely to report the presence of children in their households than those employed in other occupations.

- About one in three employed persons in Massachusetts lives in a household with a child under 18 years old. Thirty-seven percent of home health aides and 35 percent of personal care aides reported that children under the age of 18 lived in their households.

Marital status and the presence of children in households can exert important influence on a wide variety of choices related to the level and intensity of work activities as well as determining eligibility for a range of income and benefit transfer programs that exist within the Commonwealth.

TRENDS IN REAL HOURLY WAGES OF HEALTH CARE SUPPORT AND DIRECT CARE WORKERS IN MASSACHUSETTS

Trends in Real Hourly Wages

The real (inflation adjusted) earnings of American workers has increased only very slowly for an extended period of time. Real hourly wages of workers in Massachusetts have increased only modestly since the beginning of the state's recovery from the dot.com recession in 2004.

- In 2004, the average real (inflation-adjusted) hourly wage in Massachusetts was $27.85 rising slowly to $27.92 by 2008.
- During the Great Recession, real wages actually increased by $1.11 in just two years, a result of lay-offs concentrated in lower paying occupations with fewer losses in higher paying professional technical and managerial occupations.
- During the early stages of the recovery, between 2010 and 2012, real wages fell slightly as employment levels rebounded in some lower wage occupations.

- After 2012, real wages have increased reaching $29.86 per hour in 2017.
- Overall real hourly wages increased by 7.2 percent or just 0.56 percent per year between 2004 and 2017.

Trends in Real Hourly Wages by Occupation

The pace of mean hourly wage increases in Massachusetts did vary modestly among the major occupational groups.

- Management, architecture and engineering, legal occupations, and education occupations all had real mean hourly wage growth of less than 1 percent per year between 2004 and 2017.
- Workers employed in most blue-collar occupations and transportation and material moving occupations had no real wage gains over the period.
- Low level service jobs such as food preparation and building and grounds cleaning and maintenance occupations had real mean hourly wage growth per year of 0.42 percent and 0.57 percent, respectively.
- Health care and social service occupations had a very different pattern of real wage change. Health care practitioners and technicians had the largest real hourly wage increases that averaged 1.4 percent per year over the 13-year period.
- In contrast, health care support workers saw their wages rise by just 0.08 percent per year over that period of time. Those employed in community and social service occupations saw their real wages fall by 0.4 percent between 2004 and 2017.
- The earnings in health care support and direct care occupations barely changed between 2004 and 2017. The hourly wages of home health aides rose by just $0.23 or 0.12 percent per year and personal care aides' earnings rose by $0.33 or 0.18 percent per year over the 13-year period.

The wages of these caregivers were half to two-thirds of the wages of all workers and have fallen further behind between 2004 and 2017.

- The relative wages of home health aides fell from 52 percent of the statewide mean in 2004 to 49 percent in 2017.
- Among personal care aides this ratio fell from 49 percent in 2004 to just 46 percent of the statewide mean wage in 2017.

There are two implications of these similar and low wage rates for home health aides and personal care aides:

- First, the low average wages for these workers, along with other factors that constrain hours worked, leads to a higher than average incidence of public assistance receipt among workers in these occupations.
- Second, the fact that wages and job duties for these occupations are so similar to other occupations leads to increased substitutability among these occupations.

POVERTY AND PUBLIC ASSISTANCE AMONG HEALTH CARE SUPPORT AND DIRECT CARE WORKERS

Poverty and Income Inadequacy

During 2015-2016, relatively high proportions of health aides and personal care aides lived in households with total money income below the poverty threshold.

- The overall poverty rate of employed persons in Massachusetts during 2015-2016 averaged 5.3 percent. The poverty rate was twice as high (11%) among health aides and nearly three times as high (16%) among personal care aides.

Many workers in these occupations were living in low income households; that is, households with income above the poverty threshold but below two times the poverty threshold. For a family of three, the low-income household annual money income ranged from $19,105 to $38,210.

- Adding both the officially poor together with the low-income house holds we found that 14 percent of all workers, 32 percent of health aides, and 39 percent of personal care aides lived in such (poor or low-income) households.

Participation in Public Assistance Programs

The relatively low levels of family and household incomes of those employed in home health aide and personal care aide occupations means that the likelihood of members of these households participating in various kinds of cash transfer and especially in-kind benefit programs is much greater than average non-elderly employed persons in the Commonwealth. The ACS survey covered the following four cash or in-kind public assistance programs: Food Stamps, Medicaid, SSI, and cash public assistance income.

- Nearly one in five (18.5%) employed persons in Massachusetts reported that they participated in one or more of the four public assistance programs during the 2015-2016 period. The incidence of public assistance program participation among workers in home health aide and personal care aide occupations was more than twice that of all employed persons in the state.
- About 44 percent of home health aides and half of personal care aides participated in one or more out of the four public assistance programs, 2.4 and 2.7 times, respectively, of the rate of participation for all workers in Massachusetts.

Workers in the state with public assistance benefits were much more likely to receive in-kind transfers rather than cash public assistance payments.

- Workers in health care support and direct care occupations who participated in public assistance programs were most likely to receive Medicaid benefits (88%) or Food Stamps (50%) and considerably less likely to receive SSI (4%) or TANF, local, and other cash public assistance income (6%).

- Among public assistance beneficiaries employed in all occupations in the state, just 4 percent received cash public assistance while a sizable share received non-cash benefits in the form of food stamps (41%) or Medicaid (84%).

The incidence of participation in public assistance programs varied somewhat by the characteristics of persons employed in the health care support and direct care occupations.

- Women were more likely than men to report participation in a public assistance program; 47 percent of women versus 25 percent of men among home health aides and 52 percent of women versus 41 percent of men among personal care aides.
- Unmarried workers were much more likely than married workers to receive some type of public assistance; 51 percent of unmarried versus 30 percent of married home health aides, and 55 percent of unmarried versus 41 percent of married personal care aides.
- The presence of children (under the age of 18) in the household/ family of persons employed in health care support and direct care occupations sharply increases the likelihood these workers will participate in a public assistance program. During 2015- 2016, 60 percent of home health aides who lived with children under the age of 18 participated in one or more public assistance program compared to just 34 percent of their counterparts with no children in their homes. Among personal care aides, 62 percent of those with children versus 43 percent of their counterparts without children received public assistance benefits.

HOURS AND WEEKS OF WORK OF HEALTH CARE SUPPORT AND DIRECT CARE WORKERS IN MASSACHUSETTS

Weekly Hours, Annual Weeks, and Annual Hours of Workers

The 2018 study by the Home Care Aide Council found that nearly nine out of ten home health agencies reported that finding qualified home care aides was the most pressing issue facing their organization. The study found that both employers and home care aides reported schedule and hours of work as major problems—employers reported major challenges in finding workers to fill shifts, whereas workers reported dissatisfaction with unpredictable schedules and short shifts that led to additional travel time.

Persons employed in health care support and direct care occupations in Massachusetts worked somewhat fewer hours per week, fewer weeks per year and fewer annual hours on average compared to workers in all other occupations.

- Personal care aides worked an average of 31.4 hours per week and home health aides worked an average of 33.7 hours per week during 2015-16. For all employed workers in Massachusetts, weekly hours averaged 37.3 hours.
- Employed persons in Massachusetts worked an average of 44.7 weeks out of the year in 2015-2016. The mean annual weeks of employment among the two direct care occupations were 45.9 weeks among home health aides to 42 weeks among personal care aides.
- The number of weeks and hours of work yield the total number of hours of labor an individual supplies in the labor market. ACS data reveals that on average, all employed persons in the state worked about 1,740 hours per year during 2015-2016. Home health aides worked an average of just 1,590 hours per year, 9 percent fewer annual hours than the average worker in the state. Personal care aides worked just an average of 1,400 hours per year, almost one-fifth fewer hours compared to the average among all workers in the state.

Annual Earnings of Workers

The annual earnings of employed persons are influenced by a wide range of factors including but not limited to human capital traits such as academic ability, literacy and numeracy, occupational knowledge, social skills and behavioral characteristics. However, the hours and weeks of work can also substantially influence the annual earnings of workers. Persons employed in direct care occupations have mean annual earnings that are sharply below those of the average annual earnings of all workers in the Commonwealth.

- Annual earnings of all workers in Massachusetts average just under $55,828 during 2015- 2016. The annual earnings of nursing and home health aides averaged about $25,700 per year during 2015-2016, less than half the annual average earnings of all workers in the state during that time period.
- Those employed in the personal care aide occupation reported annual earnings that averaged just $21,000 during the 2015-2016 period. Sharply lower annual hours of work and low average hourly wage rates combined to provide earnings in a year that were equal to just over one-third of the mean annual earnings of all workers in Massachusetts.

Hours and Weeks of Work and Participation in Public Assistance Programs

Economists think that choices made by individuals to supply hours of work in the labor market are in part governed by the gains in earnings (actually, the goods and services purchased by those earnings) relative to the costs of engaging in any of a wide range of non-work activities. Among these non-work alternatives may be a wide range of family and personal responsibilities. Home health agency owners and managers reported these sorts of family issues were important constraints on the ability of their home health aide and personal care aide staff in providing more hours of work and more weeks of work over the course of the year.

The Benefit Cliff

Another complication in the decision about how many hours and weeks of work to supply for a considerable share of health care support and direct care workers is their participation in public assistance benefit programs. Public assistance benefit programs are means tested programs; that is, individual, household and family income levels play a central role in determining eligibility to receive these transfer benefits. Because these public assistance programs are means tested, supplying more hours of labor (or getting an hourly pay raise) result in a potential loss in public assistance

benefits. This phenomenon, known as the "benefit cliff", occurs as earnings increase to a point where the value of cash and in-kind benefits begins to decline with additional earnings and the family becomes worse off by supplying more hours of work—as benefit levels are reduced or eliminated at a steeper rate than an earnings increase can replace.

For a considerable proportion of those employed as home health aides, nursing aides, and personal care aides, careful attention must be given to the number of hours of work supplied in a given month to make sure that monthly earnings do not diminish or eliminate the value of public assistance transfer benefits largely related to housing, child care, health care, energy and food.

Labor Supply and Participation in Public Assistance Programs

Our examination of the connections between hours of labor supply and participation in benefit programs reveal markedly low levels of labor supply among workers with public assistance benefits compared to their counterparts without these benefits.

- Persons working in the nursing and home health aide occupation who participated in a public assistance benefit program worked about 5.7 hours less or about 17 percent fewer hours per week than those who did not receive any transfer benefits in a given month.
- Those employed in the personal care aide occupation who received a transfer benefit worked an average of 25.5 hours per week during 2015-2016, about 19 percent fewer hours per week than those who did not participate in a transfer benefit program.

Workers who participated in a public assistance program, on average, also worked for fewer weeks over the course of the year than their counterparts who did not participate in these benefit programs.

- Nursing and home health aide workers were employed 41.3 weeks per year compared to their counterparts who did not receive any benefits, about 10 percent less.
- Personal care aides who participated in public assistance programs worked about 2.7 fewer weeks per year than their counterparts who did not receive these benefits.

The combined effect on decisions about weekly hours of work and weeks of work over the course of the year influences the annual number of hours of employment supplied by a worker.

- Nursing and home health aides who receive benefits worked about one-fourth fewer hours over the course of the year compared to their counterparts who did not participate in public assistance programs (1,200 versus 1,600).
- Personal care aides who received benefits worked an average of 1,013 hours per year, 28 percent fewer annual hours than the 1,413 hours supplied by their counterparts who did not receive benefits.

One result of these reduced hours of work is a large annual earnings difference between the two groups.

- Nursing and home health aides who participated in public assistance income programs had mean annual earnings that were nearly one-third lower than those who did not receive public assistance. This very large earnings gap is likely the product of not only fewer hours of work, but also lower hourly pay for those who supply fewer hours.
- Personal care aides who received transfer benefits had annual earnings that were 44.6 percent below their counterparts who did not receive such benefits.

INCIDENCE OF DISABILITY BY AGE AND PROJECTIONS OF POPULATION CHANGE IN MASSACHUSETTS

A variety of financial, demographic and technological factors will influence the demand of health care support and direct care occupations in Massachusetts. Chief among these are two inter-related developments: a strong positive relationship between the incidence of disability and age, and a sharp increase in the number of persons over the age of 65. The likelihood that a resident of the Commonwealth will have a limitation in one or more activities of daily living rises sharply by the age of that individual.

- Among individuals under age 35, only 5 to 6 percent reported having one or more disabilities. However after the age of 35, the likelihood that an individual in Massachusetts will have disabilities begins to rise and the pace of that increase accelerates with age.
- After age 60, the share of the population with one or more disabilities rises sharply: 17.4 percent at ages 60 to 64, doubling to 35% at ages 75 to 79, 48 percent at ages 80 to 84 and 64 percent among those between 85 and 89 years old.

The numbers of disabilities increase with age as well. Similar to the incidence of disability, the share of Massachusetts residents with two or more disabilities rose sharply with age, particularly after age 70.

- The incidence of 2 or more disabilities was 5 percent or less among those under age 55 and between 7.6 and 8.6 percent among residents between the ages of 55 and 69. Over 11 percent of the elderly between the ages of 70 and 74 had 2 or more disabilities. The incidence rose to nearly 18 percent among 75- to 79-year olds, 29 percent among 80- to 84-year olds, 45 percent among 85- to 90-year olds, and two-thirds among those who were 90 years or older.
- One-fifth of the state's residents aged 65 and older and 42 percent of 80-plus year-old residents of the state reported 2 or more disabilities in 2015-2016.
- The incidence of three or more disabilities also rose sharply with age; rising from 11 percent among 75- to 79-year olds to nearly one-fifth among 80- to 85-year olds, one- third among 85- to 90-year olds, and one half among 90-plus year-old residents of the state.

Most recent available population projections for the Commonwealth produced by the University of Massachusetts reveal a slow growing population in the future, but sharp differences in the pace of growth across age groups.

- Between 2015 and 2030, the total resident population of Massachusetts is projected to rise by about 438,000 persons, representing a modest increase of 6.5 percent over the 15- year period, implying a mean annual population growth rate of about 0.4 percent per year.

- Projections of population vary enormously across age groups. The population under the age of 65 is expected to decline by 88,000 over the 15-year population projection period.
- The population aged 65 and over is forecast to increase by about 527,000 persons, representing an increase of 49 percent or 3.3 percent per year.
- The number of frail elderly (age 70 and over) in the state is expected to rise by nearly 425,000 or nearly 60 percent, representing an annual rate of increase of nearly 4 percent over the forecast period. Over four in ten (42%) frail elderly in the state have one or more disabilities and one-quarter has two or more disabilities.

An aging population combined with a rising incidence of disability with age means that the number of older persons with disabilities will sharply increase over the next decade. The elderly population over the age of 55 will increase by 25 percent between 2015 and 2030; however, more than 85 percent of this population increase will be among persons aged 70 and older.

- Between 2015 and 2030, the total number of 55+ residents is projected to increase by about 500,000, the number of 55+ residents with one or more disabilities is projected to increase by 176,000 and the number of 55+ residents with 2 or more disabilities is projected to increase by 95,000.

These powerful forces of population change and a rising incidence of disability among the frail elder population will increase the need for assistance from family, friends, neighbors and others to support elderly individuals to remain in their homes and also increase the demand for health care support and direct care workers. The BLS national employment projections for health care support and direct care workers present a jobs outlook aligned with the demographic forces at play in Massachusetts.

OTHER FACTORS THAT DETERMINE THE GROWTH IN DEMAND FOR HEALTH CARE SUPPORT AND DIRECT CARE WORKERS

Demographic forces alone will not determine the nature of demand growth in the delivery of care to seniors in the community by compensated non-medical professionals. Some other factors likely to influence demand for health care support and direct care workers might include:

- The extent to which older persons wish to remain in their current residence.
- Changes in the ability of family, friends and neighbors in providing support services to the elderly that can substitute for employed health care support and direct care workers.
- Technological developments that provide aid to the aging population to remain at home.
- Impact of federal and state public sector resource allocation decisions including cost containment efforts.
- Changes in household and family incomes.
- Wealth and long-term care finance.
- Long-term care insurance.

Desire to Remain in Current Residence

More than 90 percent of persons aged 65 and older want to live in their current residence as long as possible. Part of the motivation behind the desire to remain at home is related to attachments among networks of family, friends and neighbors.

Role of Family Caregivers

Family caregiving may be the single most important source of home health care for the elderly in the nation. In Massachusetts, an estimated 884,000 persons, about 12 percent of the state's total population, are engaged in uncompensated caregiving activities that support activities of daily living. The demand for uncompensated care is likely to rise sharply in the future as the state's population ages, increasing with the incidence of disability.

- But the outlook for growth in the number of uncompensated caregivers to provide the increase in support for family and friends is not good. The ratio of potential caregivers to at-risk elderly is expected to steadily decline from 6.4 in 2010 to just 3 caregivers per at- risk elderly resident in 2035.

Further compounding the decline in the ratio of the number of potential caregivers to the number of elders is the rise in labor force participation among older workers. This increase in labor force participation among those aged 55 and older may mean a reduced supply of persons willing and able to provide support to family members and neighbors in need of assistance in activities of daily living, especially the more complicated and demanding medical support requirements of these individuals.

High rates of engagement in the labor market means that including all 45-64 year old as potential caregivers in the ratio of potential caregivers to the number of most at-risk elderly (80+ years old) likely overestimates of the number of potential caregivers per most at-risk elderly resident. Residents between the ages of 45 and 64 who are not engaged in the labor force present a more realistic measure of potential caregivers.

- The ratio of this more realistic measure of potential caregivers to 80+ years old seniors reveals a decline from 1.46 in 2015 (146 potential out of the labor force caregivers for 100 at-risk elderly) to 1.06 in 2025, 0.84 in 2030 and only 0.73 in 2035 or just 73 potential OLF (out of labor force) caregivers per 100 most at-risk seniors.

Technological Alternatives

Technology of various sorts has proven to be a very efficient substitute for labor in the American economy. Technological aids and artificial intelligence are being developed at a high rate and at low costs, and a continuation of these developments may decrease the need for direct care workers significantly as baby boomers choose to age in place.

Insurer and public resource allocation decisions and cost containment efforts by the federal and state government

- Third-party insurers and federal and state resource allocation and regulatory decisions will likely have an important impact on the growth in demand for home health care. Increasingly, resources have shifted from high cost nursing home (and hospital) care to the provision of services to patients at home.
- Chapter 224 legislation for health care cost containment enacted in Massachusetts and the enactment of the ACA has added further impetus to shifting more resources toward the provision of a variety of services designed to help elderly and disabled persons to remain at home.
- We suspect that public social and health care spending at the federal and state level will strongly support expansion of lower cost aging in place efforts including the increased utilization of health care support and direct care workers in the future. Home health care is likely to play a central role in cost mitigating efforts to restrain the growth in aggregate health care spending in the nation and in the Commonwealth.

Changes in Household and Family Incomes

Household Income

An important influence on demand for home health care services will of course be related to developments in money income among older households.

- Real (inflation-adjusted) money income has increased between 1998-00 and 2014-16 by 29 percent for elder-headed (65+) households and 9 percent for under-65 headed households.
- Even after the 29 percent increase, the 2014-16 median money income of elder-headed households ($40,100) was just half of the median income of households headed by someone under the age of 65 ($80,500).

Most financial advisors use the following rule-of-thumb measure for income adequacy in retirement: income in retirement should be at least 70 percent of the level of income in pre-retirement years. Massachusetts was ranked last among all states with the ratio of retirement (households headed by 65+) to pre-retirement (households headed by 45- to 64-year olds) income of just 49 percent.

Retirement Income from Employer-Sponsored Plans

Retirement income from company-sponsored pension plans can often be an important source of income for individuals aged 65 and older.

- In Massachusetts, fewer than half (43 percent) of adult workers aged 25 to 64 are employed by a firm that offers a retirement program of some type. But the take-up rate among employees in these retirement programs is much lower, averaging about 30 percent, thus just one in three employed residents aged 25 to 64 participate in the plan offered by their employer.
- The Commonwealth ranks just 39th out of 50 states in the share of private sector workers employed by a firm that makes a retirement program available to them. Similarly, the state ranks 40th among all states in the share of employed adults who actually participate in a pension plan.

Wealth and Long-Term Care Finance

By the measure of income alone, the state retirement age population does not appear to be in a strong position to finance its long-term care support requirements. However, retirees often rely on wealth or much less often, long-term care insurance or related insurance products to finance health care consumption during their retirement.

- Large differences in net wealth accumulation among older households have important implications for long-term care finance and the level and characteristics of long-term care that may be provided. This, in turn, will influence the level and nature of job growth in two industries in the state: home health care and services to the elderly and disabled.
- The median value of U.S. household net wealth was $97,290 during 2016. Households headed by older workers and retirees have median wealth that is much greater than other households in the nation.
- Households headed by a person aged 55 to 64 had median wealth of $187,300, more than double the national median level of household wealth. The median wealth of households headed by a person aged 65 to 74 is valued at $224,000 and the median value of wealth for households headed by a person aged 75 and older is $264,750.

While these sums are quite substantial, when placed in the context of the expected value of the cost of long-term care, they appear much less so.

- The median annual cost for a semi-private room in a Massachusetts nursing home in 2017 was $140,525.
- For a 65-year-old man, the expected value of nursing home costs after the age of 65 is $54,411, while the expected value of future nursing home costs for women who reach the age of 65 is $117,366, double that of men.
- The explanation for this large disparity is that women at age 65, on average, will live more years than their male counterparts, and as these women age, the chance of experiencing limitations in activities of daily living skyrockets, thus substantially increasing the chance of admission into a nursing home for women relative to men.
- The median 65+ household can expect to spend between 20 percent and 25 percent of their net wealth on nursing care. The share of net wealth required to fund the expected value of a woman's admission to a nursing home is between 45 and 52 percent of the net wealth of the median household.
- According to the Office of Disability and Aging of the U.S. Department of Health and Human Services, the expected value of the costs of long-term care for a person at age 65 stood at $138,100.
- The wealth required to finance these costs are out of reach for close to 60 percent of the nation's households and for many more individuals who have accumulated wealth above this level, the costs of such services would consume a large share of their net assets.

Long-Term Care Insurance

Long-term care insurance (LTC) is an alternative way that some households opt to provide a financing hedge against the risk of long-term care support needs associated with limitations in activities of daily living. However, individual LTC costs are considerable.

- For a two-person household aged 65, the 2015 premium averaged $5,544, providing considerable nursing home and home care benefits. These premiums alone would consume about 14 percent of the median income of the elderly population in the Commonwealth.
- These high premium costs mean that the take-up rate among the population of older residents is quite low. The share of persons aged 60 and older that own a current long- term care insurance policy is quite low – 13.8 percent in the U.S.
- The share of Massachusetts residents aged 60 and above who own LTC insurance coverage is thought to be lower, at about 10 percent.
- The decreasing affordability of LTC insurance associated with high and rising premiums not only seems to reduce the purchase of new coverage, but it also results in a substantial share of persons who had originally purchased that coverage to allow their polices to lapse. More than one-quarter of persons who purchase LTC insurance at age 65 will lapse their coverage before death.
- For persons with modest income and few assets, it does not appear that LTC insurance is very attractive. It appears that state and federal government funds will finance the overwhelming share of long-term care services delivered in the Commonwealth for the foreseeable future.

CURRENT AND PROJECTED LONG-TERM CARE EXPENDITURES

The long-term care market is massive in size, with LTC expenditures exceeding $250 billion in the nation during 2016.

- In 2014, total expenditures on long-term care in Massachusetts totaled $9.6 billion, representing about 13 percent of total health care expenditures (public and private) in the Commonwealth at that time.
- Between 2006 and 2014, the last year for which state data are available, long-term care expenditures in Massachusetts increased by $2.9 billion, a 44 percent rise, considerably higher than the 29 percent increase in nominal health care expenditures in Massachusetts.
- Spending on home health care more than doubled in the 8 years between 2006 and 2014, rising by $2.4 billion or 14.4 percent per year.
- In 2014, home health care expenditures in the state accounted for nearly half of all long- term care expenditures, up from about one-third in 2006.

The Center for Medicare and Medicaid (CMS) prepared a set of health care expenditure projections for the nation covering the 2016 to 2026 period in total and by specific expenditure category.

- CMS expects that health expenditures as a share of gross domestic product will rise from 17.9 percent in 2016 to 19.7 percent by 2026.
- The CMS projection indicates that increases in health care spending will account for 24 percent of the total projected gain in the value of GDP in the nation over the next decade and per capita spending on health care will rise from $10,348 during 2016 to $16,168 by 2026.
- Long-term care expenditures are expected to increase by about $178.5 billion between 2016 and 2026, an increase of 70 percent.
- About 80 percent of the increase in long-term care expenditures during the next decade is expected to be financed from various federal and state sources.

Employment Outlook for Health Care Support and Direct Care Occupations

The national projections of employment in the home health/direct care worker occupations prepared by the U.S. Bureau of Labor Statistics suggest a promising job outlook and are consistent with some of the historical employment trends we observed in Massachusetts for these same occupations.

- The BLS projections rank the home health aide occupation as the 3rd and the personal care aide occupation as the 4th most rapidly growing occupations in the nation's labor market over the 2016-2026 period.
- These two home health/direct care worker occupations accounted for nearly half (45% in 2016 and 48% in 2026) of all employment in the BLS ranking of the 30 most rapidly growing occupations in the nation.
- BLS projects that home health aide employment will increase by 4.7 percent per year between 2016 and 2026 and over the same 10-year period, the personal care aide occupation is projected to grow at mean annual rate of 3.9 percent per year.
- If we assume these national BLS annual job growth rates in Massachusetts, then the job growth in home health aide and personal care aide occupations in the state will account for 11.4 percent of the state's job growth between 2016 and 2026.
- Nationwide, the two occupations are expected to account for 10.5 percent of all new jobs created between 2016 and 2026.

Another source of employment projections suggest continued growth in the demand for home health aides and personal care aides through 2030. Like the Bureau of Labor Statistics, the HHS forecasts also suggest a very rapid expansion in the pace of new job creation in these two occupations.

- The HHS forecasts that employment in the number of FTE personal care aides will rise by 3.1 percent per year while FTE employment in the home health aide occupation is expected to rise at an annual rate of 3.4 percent. The HHS projections define a full-time equivalent as a job of 40 hour per week.
- But the majority of jobs in both personal care and home health aides are part-time. In Massachusetts, personal care aides work an average of just 30 hours per week and home health aides work an average of 35 hours per week. Adjusting for hours of work, this implies that the HHS projection suggest an annual average rate of job growth of 4.1 percent

for personal care aides through 2030 and a 3.9 percent annual rate of growth in home health aide employment over the same period.

Projections of the Size of the Massachusetts Labor Force to 2030

The size of an area's labor force growth is a crucial factor in that area's ability to increase employment levels over a given period. The U.S. Bureau of Labor Statistics employment projections suggests that if the economy were to continue operating at near full employment labor market conditions, the number of jobs in the nation would increase by 11.5 million between 2016 and 2026 and, during the same span of years, the BLS forecasts that the nation's labor force (the number of persons actively supplying labor) will increase by just 10.5 million workers. National employment growth through 2026 is constrained by the pace of labor supply expansion.

Today, the national economy is at near full employment, with the ratio of unemployed workers to job vacancies reaching an historic low of 1:1. The result of this low ratio is labor supply constraint is occurring in a variety of industries. While Massachusetts does not conduct a state job vacancy survey, an unemployment rate that has remained below 4 percent for the last two years suggests a high likelihood of the development of relative labor supply constraints on output, sales, and employment in a number of industries in the state, including the home health care industry and, potentially, the services to the elderly and disabled industry.

Using state population projections, current and historical state labor force participation measures, and national labor force projections data, we have created projections of the likely size and nature of changes in the state's labor force through 2030.

- Between 2016 and 2030, we project that the size of the state's labor force will rise from 3.775 million to 3.865 million participants, an increase of just under 90,000, a mere 2 percent increase in the size of the state's labor supply over a 14-year period.
- The number of persons aged 35 to 44 participating in the job market will increase from about 711,700 in 2016 to 839,900 by 2030. This increase will come from an increase in the number of persons in that age group, but the labor force participation rate for this group will remain unchanged.
- The number of older workers aged 55 and above will increase by more than 195,000 persons. This is a result of both a sharp increase in the size of the population 55 years-old and older by 2030, as well as by expected large increases in labor force participation rates among this emerging cohort of elderly individuals.
- The number of young people aged 16 to 34 who participate in the labor force is expected to decline sharply in the future.
- Similarly, we expect a small net decline in the number of persons aged 45 to 54, who participate in the job market.

With the slow overall growth in the size of the state's labor force, but the rapid expansion in the supply of labor among persons aged 65 and older, older workers will become an increasingly important source of labor supply in the Commonwealth, including to business establishments engaged in the delivery of health care services.