Long-Term Services and Supports (LTSS) Policy Lab

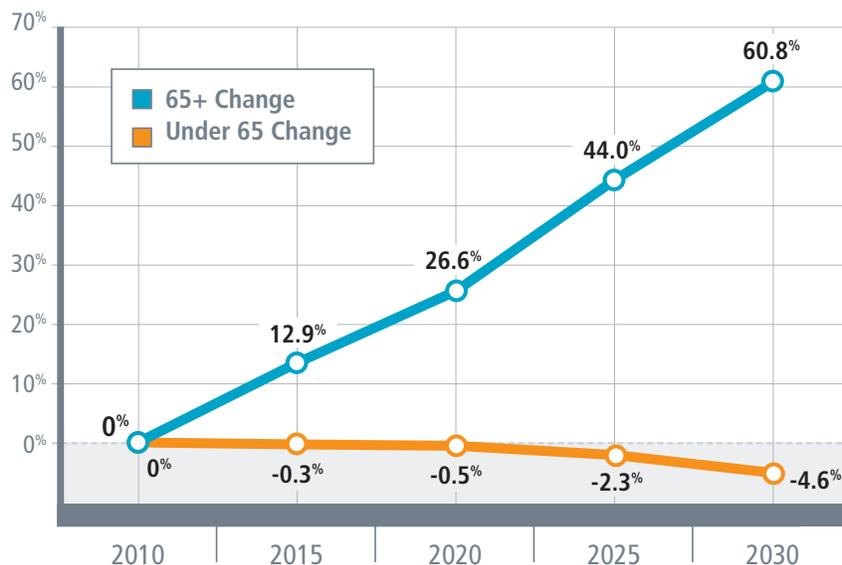University of Massachusetts Medical School

Using Data to Drive Public Policy and Funding Decisions

Planning for the Long-Term Service and Support Needs of Elders in the Commonwealth

The unprecedented growth in the elder population will create a marked increase in the demand for quality long-term services and supports (LTSS) in the Commonwealth. For low-income elders who have limited assets, the cost of these services – including home- and community-based services (HCBS) and nursing home stays – will be borne primarily by MassHealth, the state's Medicaid program. Policy makers, executive-level leaders, and program managers need to plan for the expanded service needs of this population while also addressing the cost of services that threatens to be unsustainable.

The LTSS Policy Lab, a collaboration among the University of Massachusetts Medical School (UMass), the Executive Office of Health and Human Services (EOHHS), the Executive Office of Elder Affairs (EOEA), and the Office of Medicaid, is a resource to aid in program planning and fiscal forecasting, not just for the immediate budget cycle but also for the next five to 10 years and beyond.

Cumulative Population Change, Massachusetts, 2010-2030

- **65+ Change**
- **Under 65 Change**

Year	65+ Change	Under 65 Change
2010	0%	0%
2015	12.9%	-0.3%
2020	26.6%	-0.5%
2025	44.0%	-2.3%
2030	60.8%	-4.6%

Sources: 2010 U.S. Census and UMass Donahue Institute Population Projections, November 2013

From 2010 to 2030, the 65+ population in Massachusetts will increase by approximately 60% while the under 65 population will decrease by approximately 4.5%.

Historically, gaps in data and analytic resources have been major barriers to conducting in-depth analyses of trends and patterns in LTSS service utilization and costs, limiting the ability of state policy makers to make evidence-based purchasing decisions or quantify the value proposition for community care when compared to institutional care. Answers to critical questions have been elusive, including which services provide the best clinical and quality outcomes for population subgroups and how these outcomes can be measured and encouraged through the state's provider and payment systems.

In light of these challenges and in anticipation of the demand for service expansion, EOEA approached UMass in December 2011 to embark on a strategy that would establish Massachusetts as a national leader in LTSS data analytics. UMass, in collaboration with executive branch agencies, made considerable investments during State Fiscal Year 15 to develop and expand the LTSS Policy Lab (formerly referred to as the HCBS Policy Lab), with an initial focus on the area of data integration and reporting. In the upcoming year, integration of additional data sets is envisioned as well as analysis of newly defined quality and utilization outcome measures.

The LTSS Policy Lab brings together researchers, policy makers, data scientists, and programmers to develop customized:

- Access to Massachusetts LTSS data and ability to sort data based on a wide range of different variables (e.g. age, presence of dementia, physical limitations, disease diagnoses, etc.)
- Integration of multiple data sources (EOEA program enrollment, clinical and social assessment data, MassHealth claims data, and U.S. Census data)
- User-friendly, flexible reporting capabilities that generate clear, comprehensive reports about current services and trends over time:
  - Operational dashboards, data refreshed daily
  - Web-based and interactive reporting capabilities
  - Outcomes and quality measurement
  - Predictive modeling
- Analysis of large, longitudinal claims, enrollment, and clinical data
- Program evaluation and fiscal analysis
- Program integrity reports and monitoring

The Long Term Services and Supports (LTSS) Policy Lab is emerging as a national model in which LTSS **service utilization and claims data are aggregated** from multiple sources **into a single, interactive platform** that users can query to examine trends in access, quality and cost.

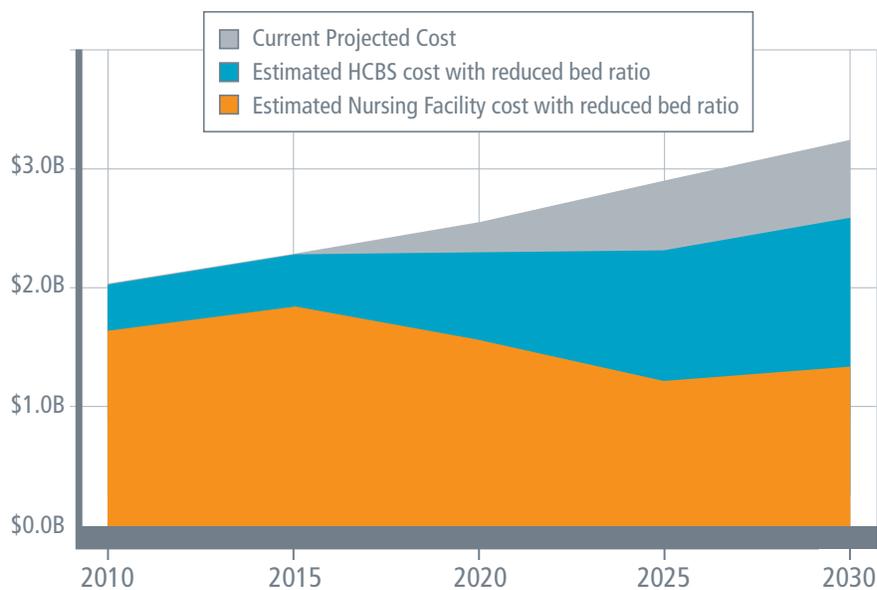# Examples of analyses from the LTSS Policy Lab's integrated database:

Fiscal impact of policies for nursing facility bed rate and HCBS utilization

Today, an estimated 61,200 elders, or 6% of the 65 and older population in Massachusetts, meet the clinical criteria for nursing facility care and reside in a nursing facility or receive EOEA-funded home care services. Assuming this percentage remains constant, the growth in the elder population will result in 7,400 additional elders requiring nursing home level services in the next five years and an estimated 87,100 total elder residents needing these services by 2030.

The average MassHealth per member per month (PMPM) cost for a nursing home ($5,995) is much greater than the average PMPM for home- and community-based supportive care ($1,858). By diverting individuals from nursing facilities to home settings, the distribution of costs would change and overall LTSS costs would be reduced, assuming all other factors remain constant. The population and cost projection report available within the LTSS Policy Lab enables users to observe the projected fiscal impact of reducing the Massachusetts nursing facility bed rate (i.e., the rate of certified nursing facility beds occupied by elders per 1,000 elder population) to the national average.

These types of data explorations and comparisons can clarify potential policy options and highlight areas for further study relative to the fiscal impact of institutional versus community-based care for elders.

Projected MassHealth Costs for Nursing Facility and EOEA-funded HCBS, Current Massachusetts Nursing Facility Bed Rate (40.6 beds/1,000 elders) vs. the National Average (28.1 beds/1,000 elders)


Legend:
- Current Projected Cost
- Estimated HCBS cost with reduced bed ratio
- Estimated Nursing Facility cost with reduced bed ratio

By decreasing the Massachusetts bed rate to the national average, **the cumulative reduction in LTSS costs is projected at** $774 Million over the next five years and nearly **$6.3 Billion by 2030.**

Sources: Nursing facility cost data: MassHealth Median Nursing Facility Rate; HCBS cost data: EOEA SIMS data; and nursing facility residents payer source: Harrington et. al. Nursing Facilities, Staffing, Residents and Facility Deficiencies, 2005 through 2010, Table 6.

Access and PMPM costs for HCBS by County

The LTSS Policy Lab's reporting and visualization tools permit users to compare the proportion of elders who receive EOEA-supported HCBS by County, the PMPM cost of those services, and the change in costs over time. Using business intelligence tools within the Policy Lab, state agencies, UMass, and other stakeholders can examine these differences, begin to identify factors that may be associated with better care and better outcomes, and begin to replicate best practices across the state.

Comparison of PMPM Costs for EOEA-Supported HCBS Services, by County, 2013-2014.

Cost Change PMPM

-4.32%   14.57%
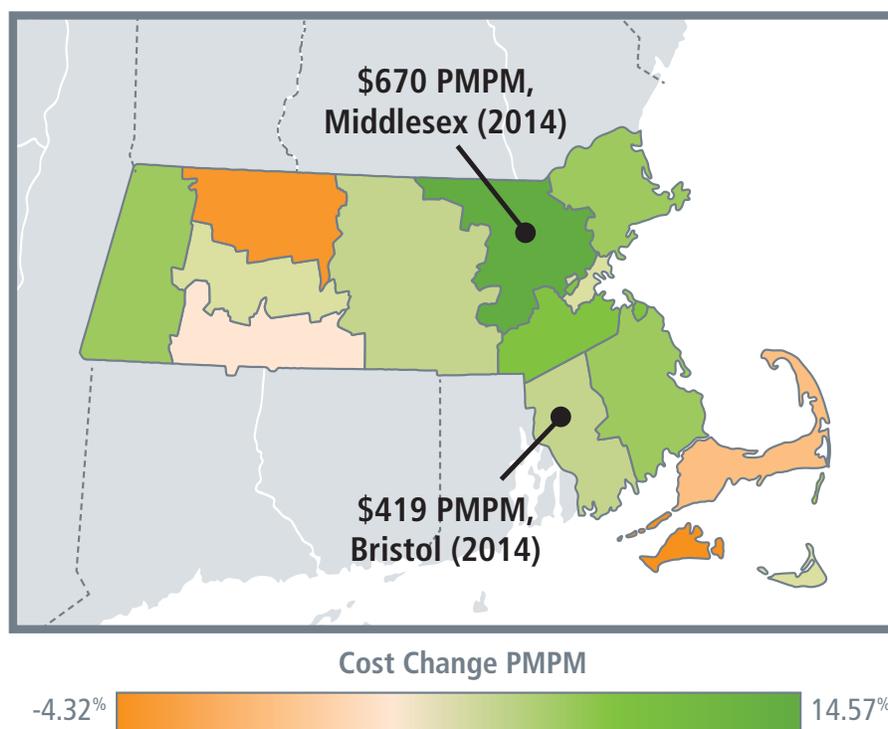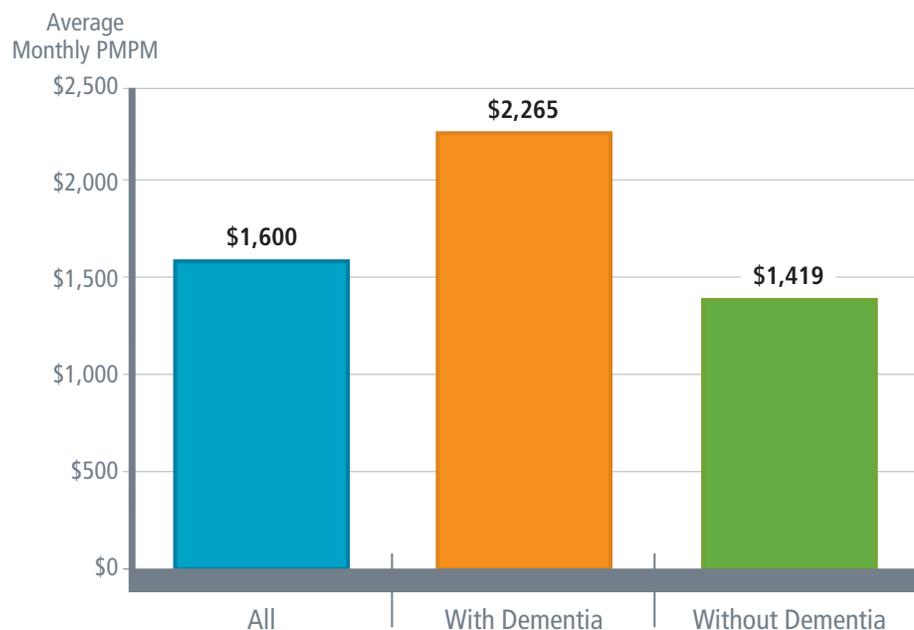
Source: Senior Information Management System, EOEA

In 2014, the PMPM cost for EOEA-supported HCBS in Middlesex County was $670 compared to $419 in Bristol County, and the change in total costs from 2013 to 2014 was approximately 17% (increase) in Middlesex compared to a 6% increase in Bristol.

Disparities in costs relative to individual health status

The cost of care over time is influenced by many factors, including knowledge of an elder's baseline health status. By linking administrative claims data with health status assessment data, a clearer picture can be drawn describing how an individual's functional and cognitive status, disease diagnosis, and informal supports has an impact on health care service utilization, costs, and outcomes.

By understanding the factors that influence cost, particularly where there are patterns of high service utilization, policy makers and program planners can design a better and timelier mix of services to maximize an individual's care experience and prevent avoidable consequences, costly interventions, or hospitalizations.

Comparison of Average PMPM Cost for Elders in the Frail Elder Waiver With and Without Dementia, Massachusetts, 2013.

Average
Monthly PMPM

All	With Dementia	Without Dementia
$1,600	$2,265	$1,419

Source: Senior Information Management System, EOEA

Among elders served by the MassHealth Frail Elder Waiver (FEW), the average PMPM cost in 2013 was $1,600. Individuals assessed as having dementia, who represent 21% of the FEW population, are a major contributor to that average with a PMPM cost of $2,265.

State-University Partnership

The LTSS Policy Lab is an outgrowth of UMass Medical School's long-standing partnership with the family of state agencies in the Commonwealth, and is housed within the school's Commonwealth Medicine division. UMass looks forward to continuing to partner with EOEA, EOHHS, MassHealth, and other state agencies to help better understand the value of HCBS for elders and to disseminate effective, evidence-based policy solutions that can be measured and evaluated over time.

For more information on the LTSS Policy Lab, contact:

Abigail R. Averbach
Director, Office of Data Analytics
Abigail.Averbach@UMassmed.edu

Frederick Perro
Senior Director, Data Management Services
Rick.Perro@UMassmed.edu

Jocelyn F. Gordon
Senior Director, Long Term Services and Supports
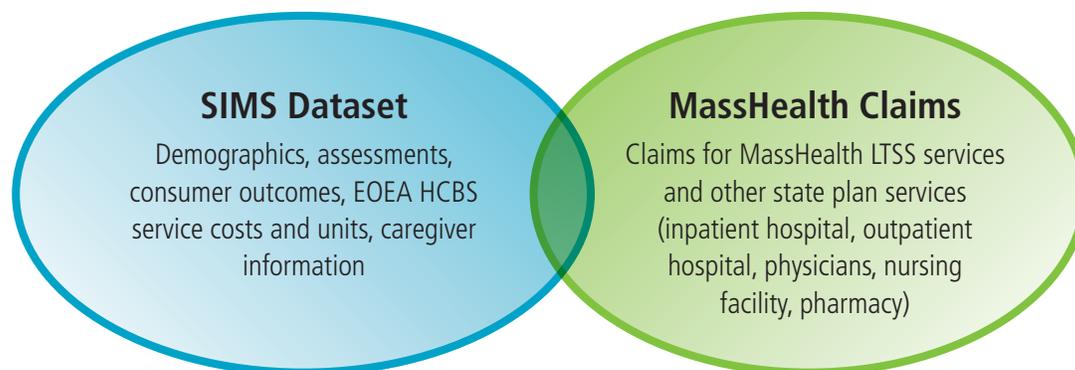Jocelyn.Gordon@UMassmed.edu

Commonwealth Medicine Division
University of Massachusetts Medical School
333 South Street
Shrewsbury, MA 01545

Appendix

LTSS Policy Lab Accomplishments to Date

1. Integration of Data Sources *(Status: Ongoing)*

Prior to integrating cross-agency, health services data using the tools and resources of the LTSS Policy Lab, policy makers, and program planners could not take full advantage of the data within their systems; they only had a limited view of their constituents and their home- and community- based service use. The LTSS Policy Lab data integration effort provides policy makers and program managers with a more detailed demographic picture of the consumers of HCBS and enables users to aggregate costs across both EOEA-operated home care programs and MassHealth programs.

SIMS Dataset

Demographics, assessments, consumer outcomes, EOEA HCBS service costs and units, caregiver information

MassHealth Claims

Claims for MassHealth LTSS services and other state plan services (inpatient hospital, outpatient hospital, physicians, nursing facility, pharmacy)

2. Information Access – Executive Summary and Monthly Enrollment Reports *(Status: Completed for EOEA and Aging Services Access Points (ASAPs))*

One of the primary goals of the LTSS Policy Lab is to build a lasting infrastructure for policy makers, legislators, and ASAP directors and managers to have easy access to information that will deepen their understanding of the elder population served by Massachusetts state agencies. With new reporting capabilities and daily data feeds populating the new Executive Summary and Monthly Enrollment reports, key stakeholders can now access information on state home care participant demographics and their health status. Questions, such as the following, can be explored:

- Are we are reaching everyone we need to be reaching?
- Are we serving a greater or lesser number of people over time?
- What is the distribution of enrollees by service region and program?

3. Program Integrity – Case Management Report, Home Care Quality Measure Report *(Status: Ongoing)*

The LTSS Policy Lab's Case Manager Report supports program integrity by allowing program managers and service providers to view the average caseload of ASAP case managers. The Home Care Quality Measure reports will allow EOEA and ASAPs to ensure consumers are routinely assessed for eligibility, screened for adverse events such as falls or abuse and neglect, and have services delivered according to their service plan.

4. Return on Investment *(Status: Partially Completed – more to come)*

Through current data integration and analysis activities, the LTSS Policy Lab is working with stakeholders to increase knowledge and understanding of service utilization and costs across multiple EOHHS agencies (i.e., complete utilization and cost picture for a consumer, regardless of agency providing or paying for the service). With an increased understanding, service utilization data can be analyzed and tied to outcomes – both negative and positive – and used to determine the most effective long-term services and support programs.

5. Identification of Service Utilization Patterns *(Status: Completed)*

Two new reports, the Pricing and Assessment Reports, allow policy makers to examine and analyze HCBS costs based on demographics, functional and cognitive status, disease diagnosis, and informal supports. These reports will facilitate targeted programming and/or care management.

6. Improved Budget and Operational Monitoring for Program Planning *(Status: Partially Completed – more to come)*

The LTSS Policy Lab introduces new capabilities that allow policy makers to calculate PMPM costs for sub-populations within programs – permitting a more detailed analysis of cost distribution across program participants and components. The PMPM program costs can now be calculated by demographic, clinical, and social characteristics (e.g. cognitive and functional status), and stratified by program or ASAP, enabling policy makers and program managers to understand program costs for specific types of consumers. Knowing more about service demand and costs allows key stakeholders to better develop, optimize and plan for new programs.

7. Identification of Quality Outcome Measures *(Status: In Process)*

The LTSS Policy Lab is currently working with EOEA and other stakeholders to identify home- and community-based service quality outcome indicators that will help policy makers and program managers understand what programs and services are most effective. These analyses will provide critical demographic, clinical, functional, and/or social factors, as well as services and costs that are associated with positive or negative program outcomes.