



Real world health care experiences

from over 150 million unique individuals since 1993

Administrative

- Affiliated health plans
- Optum employer customer health plans
- Optum payer customer health plans

Clinical

- Medical groups' EMR/EHRs
- Integrated delivery networks' EMR/EHRs
- Hospitals' EMR/EHRs

Linkages

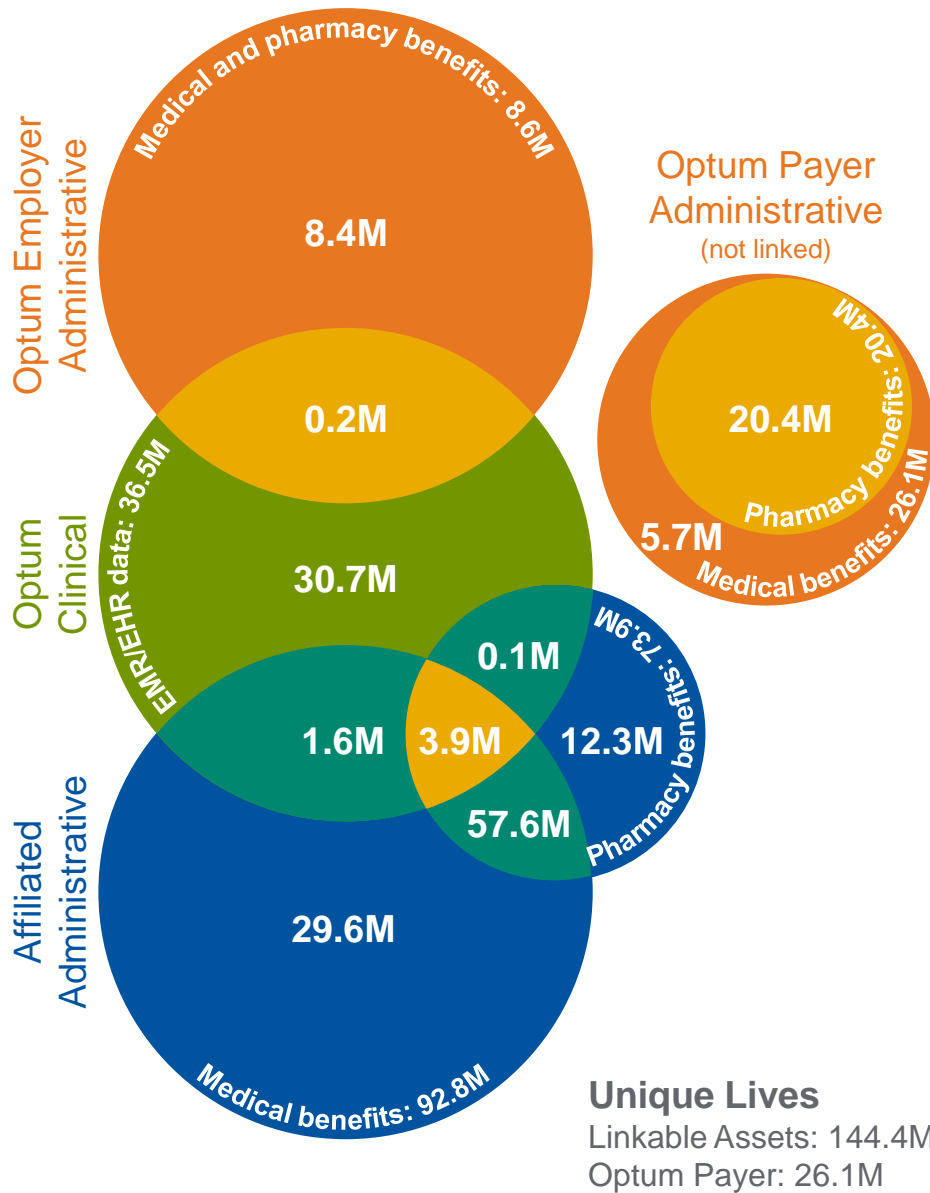
- Social Security Administration death file
- Consumer socioeconomic database
- Self-reported health risk assessments

Optum
Research Data
Assets

The diagram features three horizontal bars on the left, colored grey, yellow, and orange, which curve and merge into a large orange circle on the right. The circle contains the text "Optum Research Data Assets".

Cumulative population counts through 2014^{1,2,3,4}

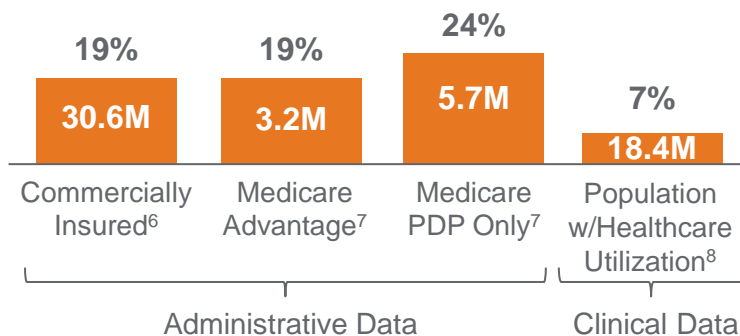
Some segments with history since 1993.



Optum's research data assets originate from providers' EMR/EHR systems, as well as from the administrative claims and enrollment systems of both affiliated and non-affiliated health plans. Well over 150 million unique lives are available from across all payer types.

In 2014, approximately 19% of the US population in commercial health plans, 19% of those in Medicare Advantage plans, and 24% of those in Medicare PDP only plans were represented in Optum's administrative data assets. In addition, 7% of the US population with any health care utilization, regardless of insurance, were represented in Optum's clinical data assets.

Optum share⁵ of US population in 2014, by segment

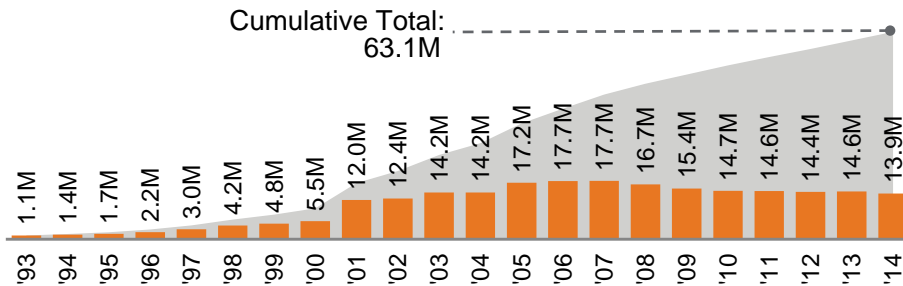


Affiliated Health Plans, Commercially Insured

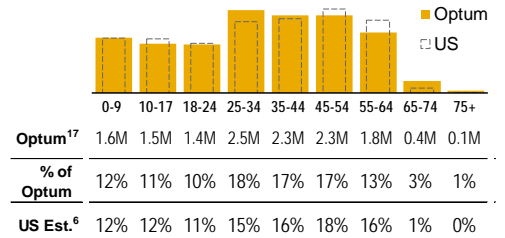
Population with Medical and Pharmacy Benefits^{9,10}

ADMINISTRATIVE DATA

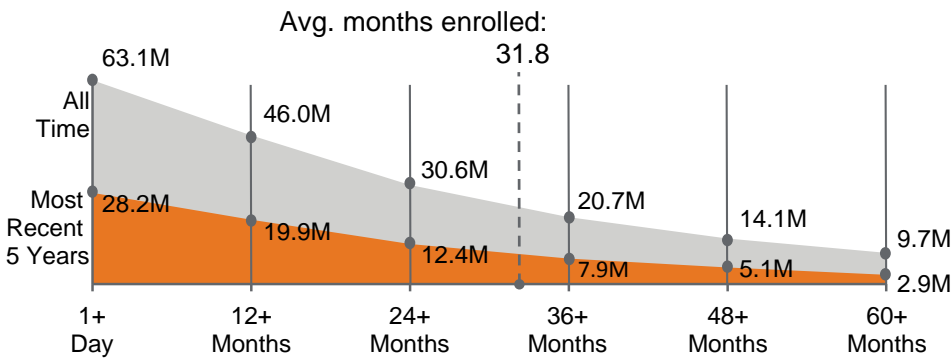
Annual and cumulative membership, 1993-2014



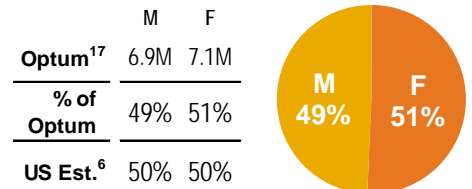
Age groups¹⁶, 2014



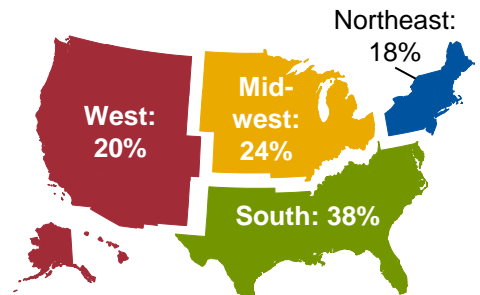
Minimum available continuous enrollment¹¹, millions of members, through 2014



Gender¹⁶, 2014



Census region¹⁶, 2014



Utilization and densities through 2014

	Medical Claims ¹²	Pharmacy Claims ¹³	Lab Results ^{14,15}
% with 1 or more, all time	86%	75%	45%
Per member per year, all time	10.0	9.3	15.8
Record volume in 2014	108.6M	107.1M	114.7M

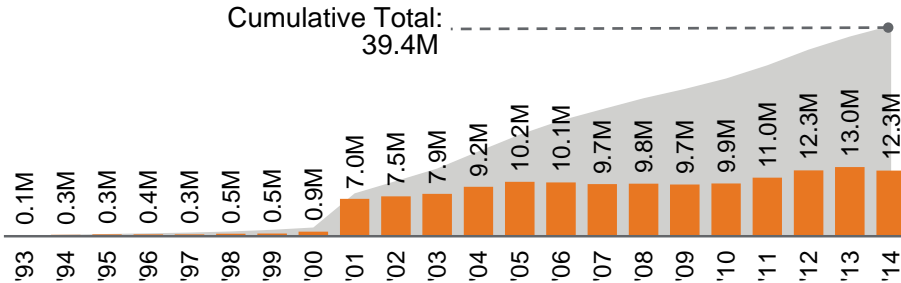
	West	Midwest	South	North-east
Optum ¹⁷	2.8M	3.3M	5.3M	2.5M
% of Optum	20%	24%	38%	18%
US Est. ⁶	23%	23%	35%	19%

Affiliated Health Plans, Commercially Insured

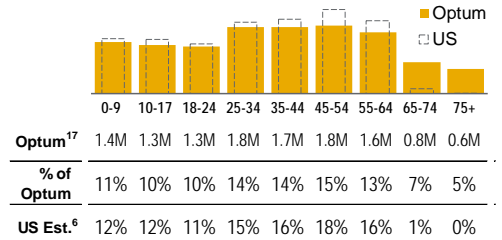
Population with Medical Benefits Only^{9,10}

ADMINISTRATIVE DATA

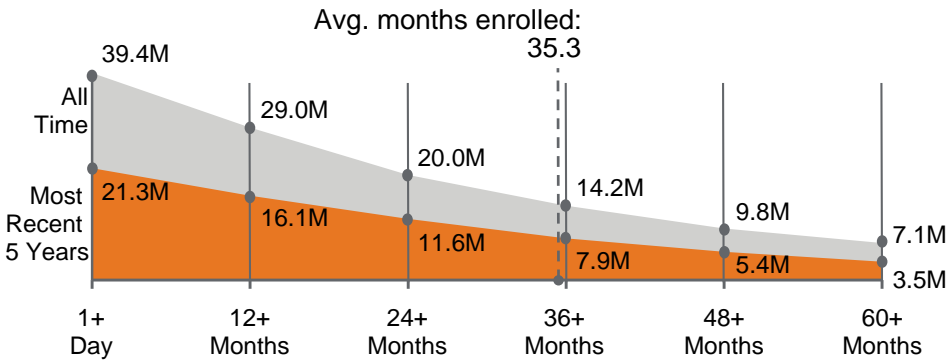
Annual and cumulative membership, 1993-2014



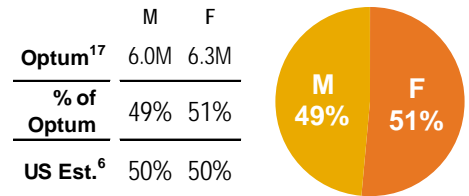
Age groups¹⁶, 2014



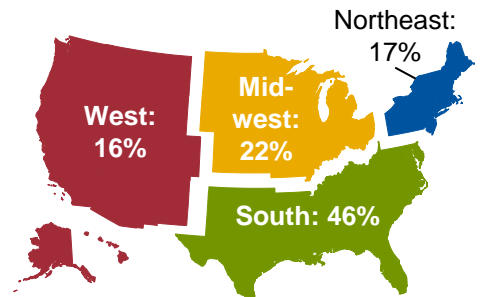
Minimum available continuous enrollment¹¹, millions of members, through 2014



Gender¹⁶, 2014



Census region¹⁶, 2014



Utilization and densities through 2014

	Medical Claims ¹²	Lab Results ^{14,15}
% with 1 or more, all time	76%	45%
Per member per year, all time	11.8	16.9
Record volume in 2014	108.1M	94.6M

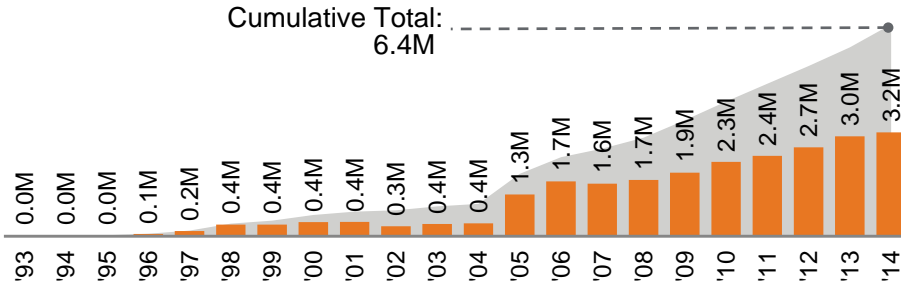
	West	Mid-west	South	North-east
Optum ¹⁷	1.9M	2.7M	5.6M	2.0M
% of Optum	16%	22%	46%	17%
US Est. ⁶	23%	23%	35%	19%

Affiliated Health Plans, Medicare Advantage

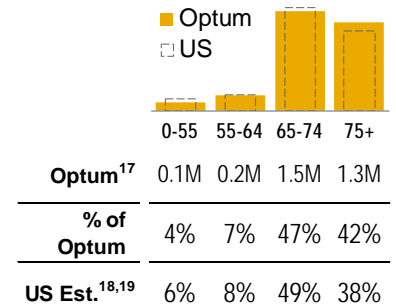
Population with Medical and Pharmacy Benefits^{9,10}

ADMINISTRATIVE DATA

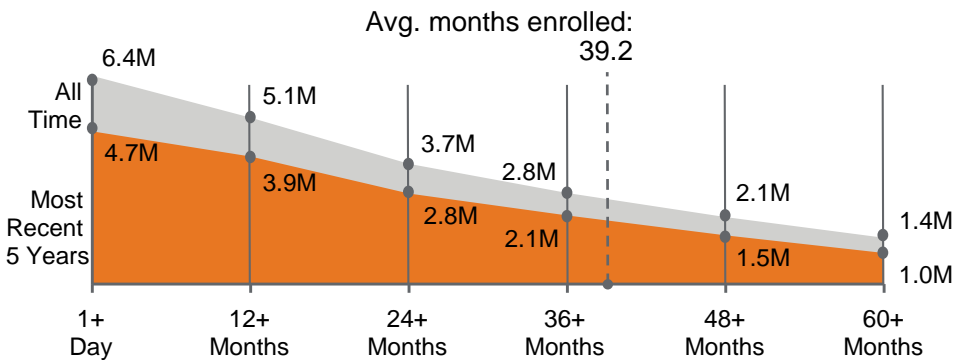
Annual and cumulative membership, 1993-2014



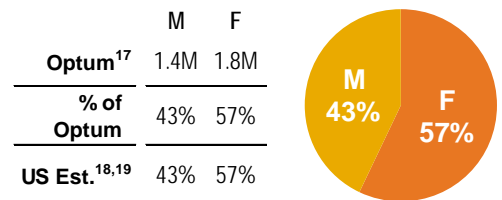
Age groups¹⁶, 2014



Minimum available continuous enrollment¹¹, millions of members, through 2014



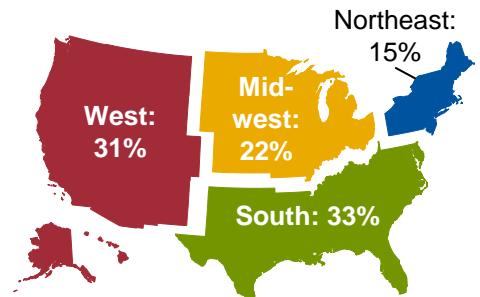
Gender¹⁶, 2014



Utilization and densities through 2014

	Medical Claims ¹²	Pharmacy Claims ¹³	Lab Results ^{14,15}
% with 1 or more, all time	94%	83%	50%
Per member per year, all time	25.0	28.9	28.3
Record volume in 2014	77.6M	72.0M	78.5M

Census region¹⁶, 2014



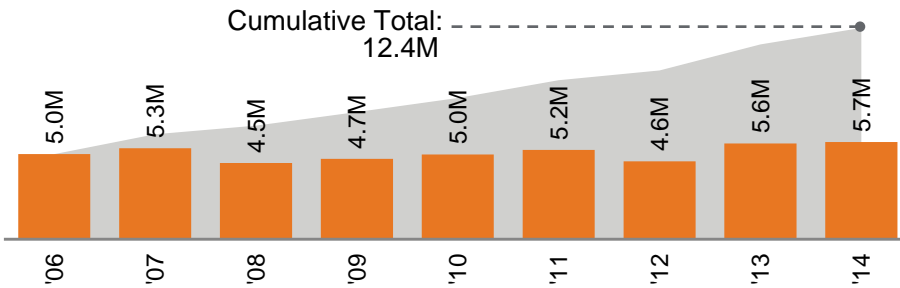
	West	Mid-west	South	North-east
Optum ¹⁷	1.0M	0.7M	1.0M	0.5M
% of Optum	31%	22%	33%	15%
US Est. ^{18,19}	23%	23%	35%	19%

Affiliated Health Plans, Medicare PDP

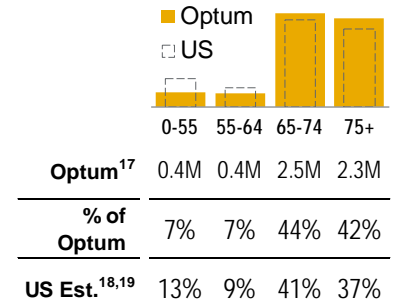
Population with Pharmacy Benefits Only^{9,10}

ADMINISTRATIVE DATA

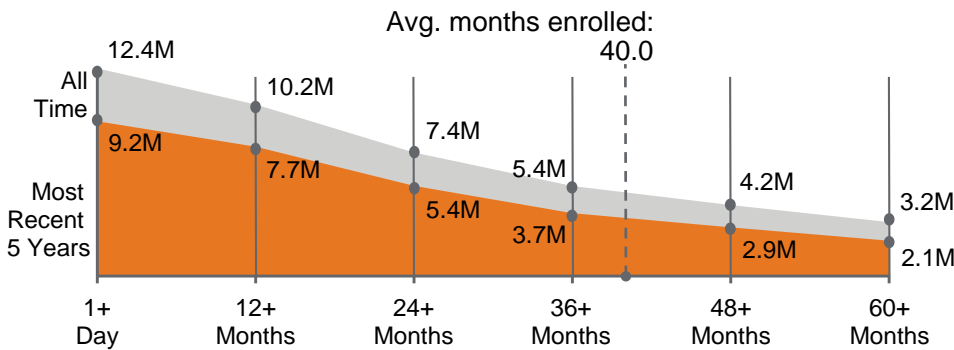
Annual and cumulative membership, 2006-2014



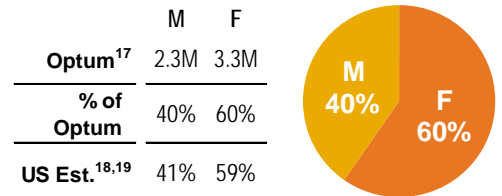
Age groups¹⁶, 2014



Minimum available continuous enrollment¹¹, millions of members, through 2014



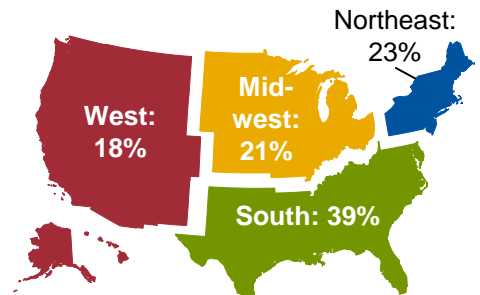
Gender¹⁶, 2014



Utilization and densities through 2014

	Pharmacy Claims ¹³
% with 1 or more, all time	89%
Per member per year, all time	41.9
Record volume in 2014	207.5M

Census region¹⁶, 2014

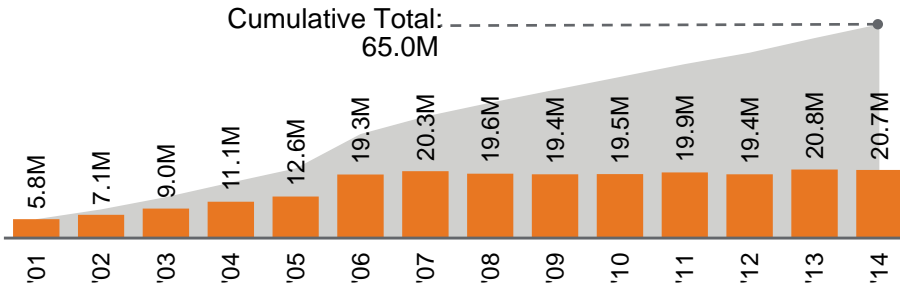


	West	Mid-west	South	North-east
Optum ¹⁷	1.0M	1.2M	2.2M	1.2M
% of Optum	18%	21%	40%	21%
US Est. ^{18,19}	23%	23%	35%	19%

Affiliated Health Plans, Linkages

Note: Not all linkages are available in all affiliated segments. See footnotes for details.

Benefit plan design data²⁰, annual and cumulative membership, 2001-2014



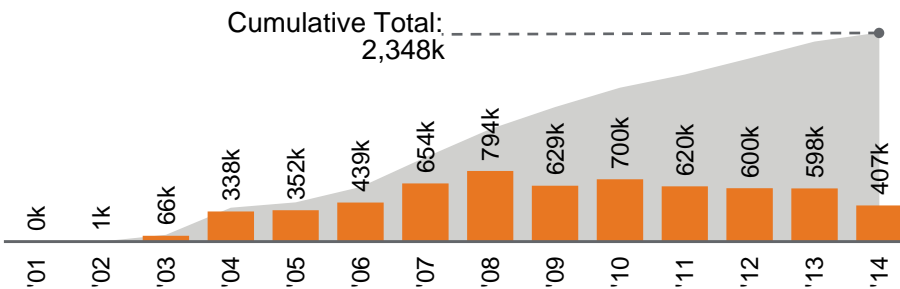
Pharmacy benefit structure, e.g.:

- Tier levels, types and cost sharing
- Premiums, deductibles, copays, coinsurance, limits, thresholds
- Mail order benefits

Medical benefit structure, e.g.:

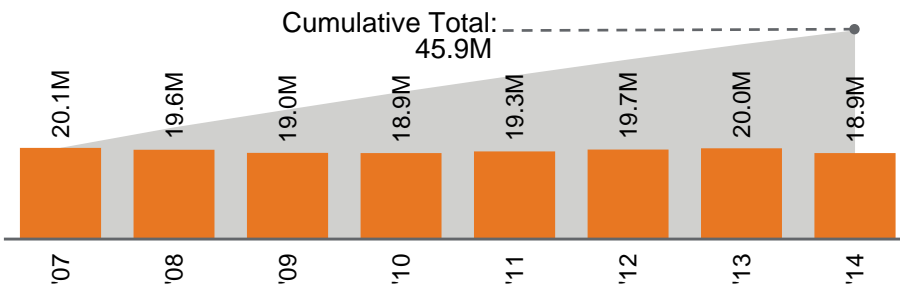
- In- and out-of-network copays and coinsurance
- Individual and family deductibles and out-of-pocket thresholds

STD, LTD and WC benefits^{21,22,23}, annual and cumulative membership, 2001-2014

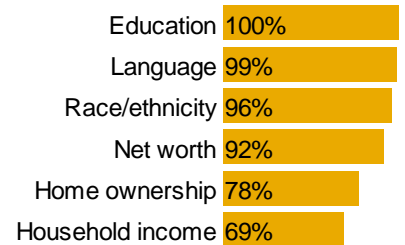


10.3% have short term disability, long term disability, or workers' compensation cases.

Socioeconomic data³¹, annual and cumulative membership with at least one valid, non-missing socioeconomic attribute, 2007- 2014



Availability of selected socioeconomic attributes:

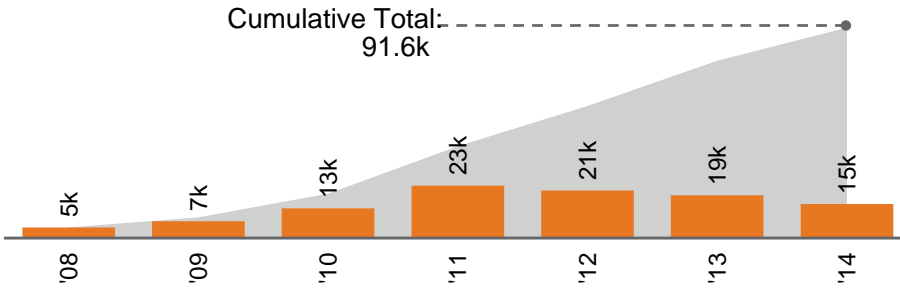


Affiliated Health Plans, Linkages

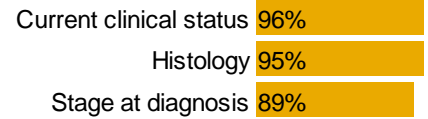
LINKED DATA

Note: Not all linkages are available in all affiliated segments. See footnotes for details.

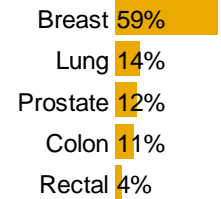
Oncology management data²⁶, annual and cumulative membership, 2008-2014



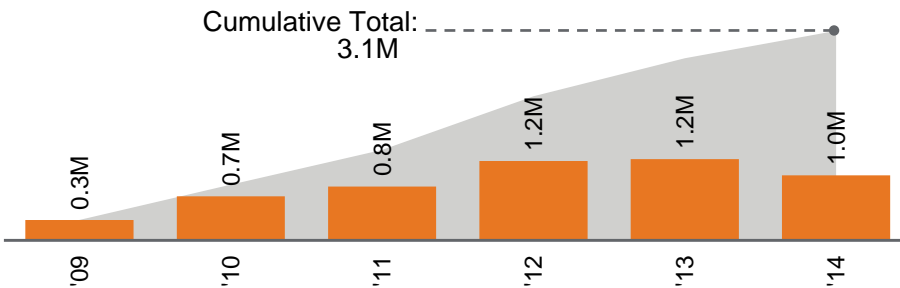
Availability of selected clinical attributes:



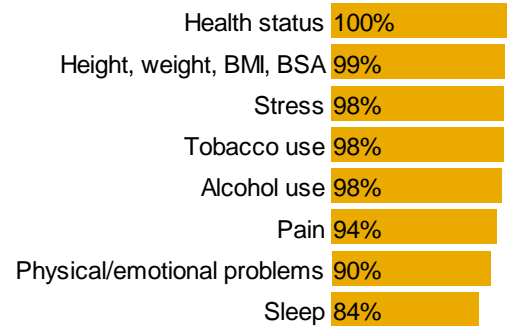
Tumor types:



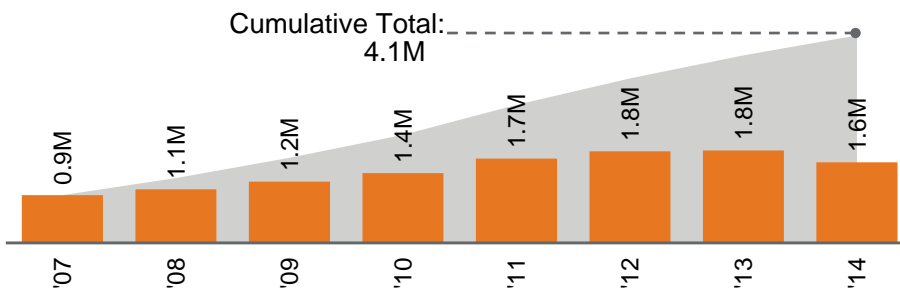
Health risk assessments^{27,28}, annual and cumulative membership, 2009-2014



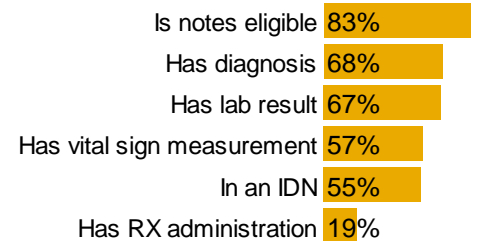
Availability of selected self-reported attributes:



Clinical information from EMRs/EHRs during health plan enrollment^{24,25}, annual and cumulative membership, 2007-2014



Availability of selected clinical attributes during health plan enrollment:

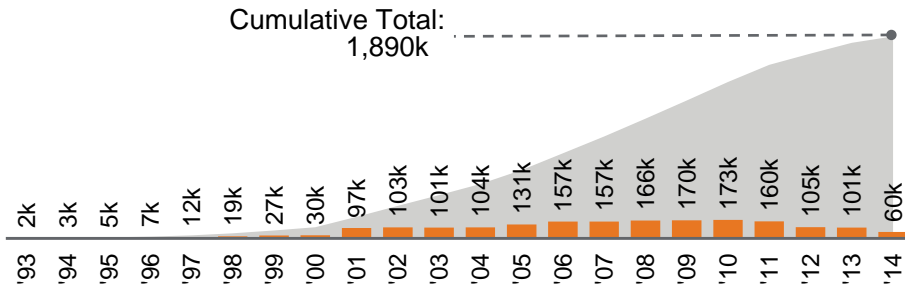


Affiliated Health Plans, Linkages

LINKED DATA

Note: Not all linkages are available in all affiliated segments. See footnotes for details.

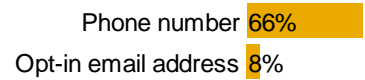
Mortality^{29,30}, full date of annual and cumulative deaths during enrollment, 1993-2014



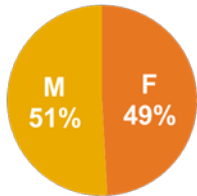
Primary data collection population³² as of January 31, 2015

4.7M available for prospective data collection including direct-to-patient survey, medical chart review, medical device information, NDI link, etc., as of January 31, 2015.

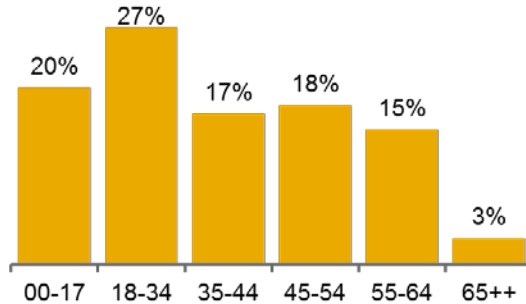
Availability of direct-to-patient contact methods:



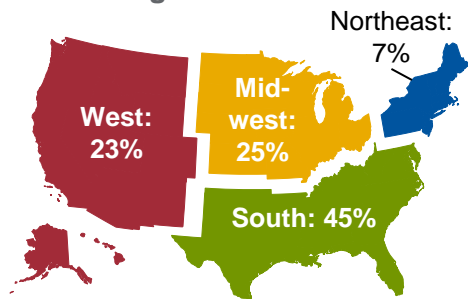
Gender



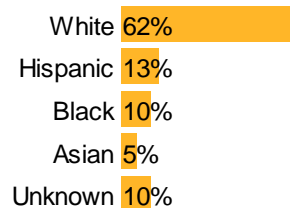
Age



Census region



Race/ethnicity

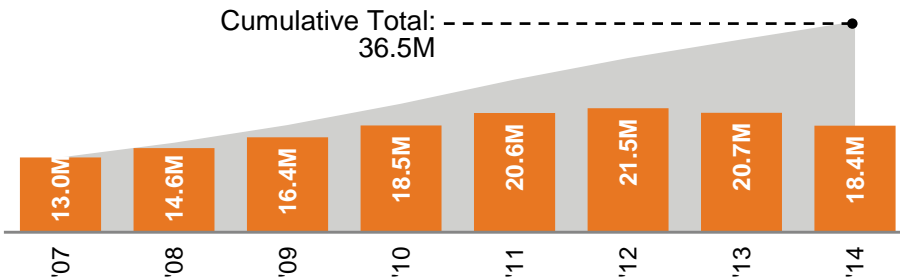


Provider-based Clinical EMR/EHR Systems

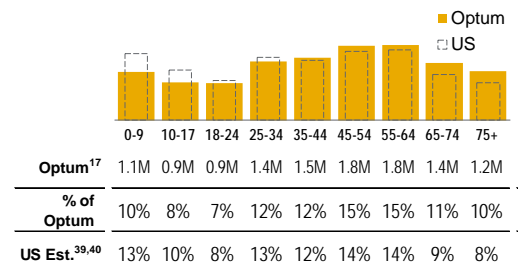
34 EMR/EHR Systems Contributing^{9,33}

CLINICAL DATA

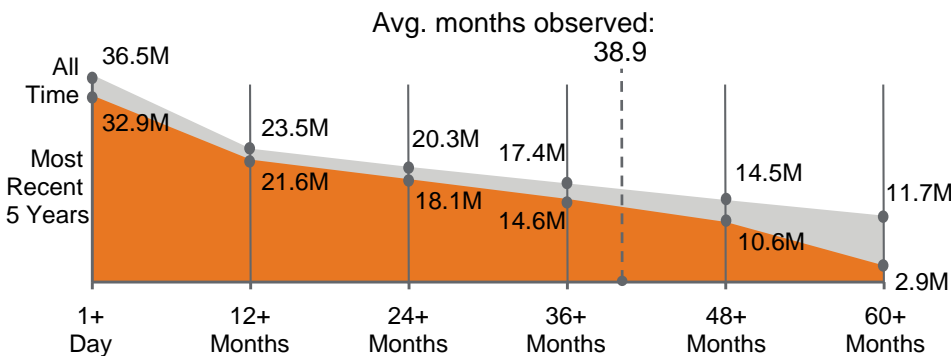
Annual and cumulative patients, 2007-2014



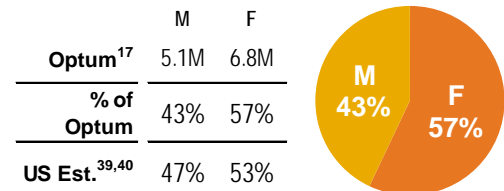
Age groups³⁸, 2014



Minimum available clinical observation periods³⁴, millions of patients, through 2014



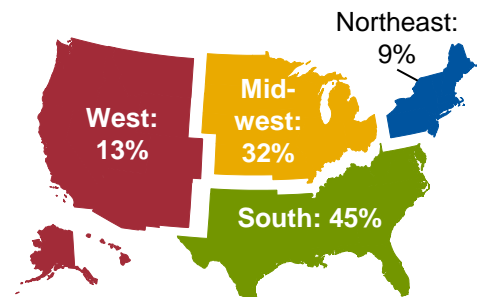
Gender³⁸, 2014



Utilization and densities through 2014

	Vital Signs ³⁵	Drug Admins ³⁶	Lab Results ³⁷
% with 1 or more, all time	65%	25%	57%
Per patient per year, all time	11.1	3.0	20.5
Record volume in 2014	291.1M	87.1M	445.8M

Census region³⁸, 2014



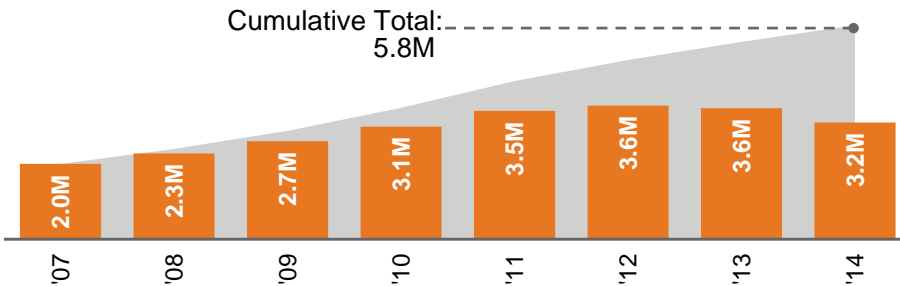
	West	Mid-west	South	North-east
Optum ¹⁷	0.4M	1.5M	1.6M	0.1M
% of Optum	12%	40%	45%	3%
US Est. ^{39,40}	24%	21%	37%	18%

Provider-based Clinical EMR/EHR Systems

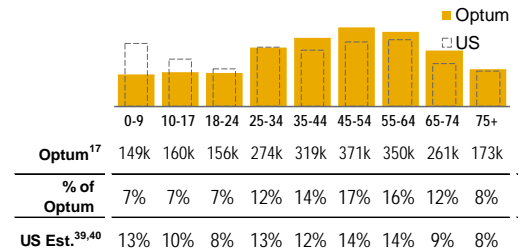
Linked to Health Plan Data^{9,33,41}

CLINICAL DATA

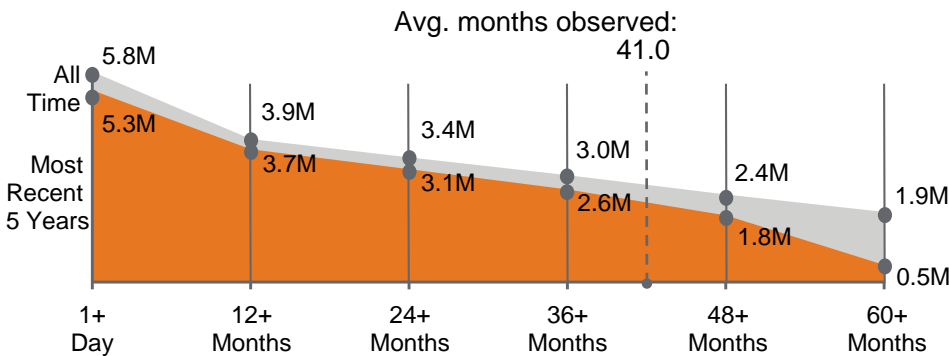
Annual and cumulative patients, 2007-2014



Age groups³⁸, 2014

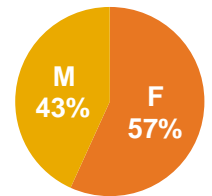


Minimum available clinical observation periods³⁴, millions of patients, through 2014

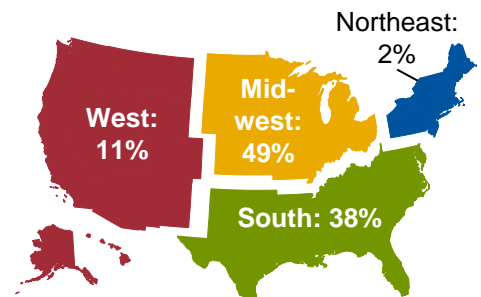


Gender³⁸, 2014

	M	F
Optum ¹⁷	1.0M	1.3M
% of Optum	43%	57%
US Est. ^{39,40}	47%	53%



Census region³⁸, 2014



	West	Mid-west	South	North-east
Optum ¹⁷	97k	428k	331k	15k
% of Optum	11%	49%	38%	2%
US Est. ^{39,40}	24%	21%	37%	18%

Utilization and densities through 2014

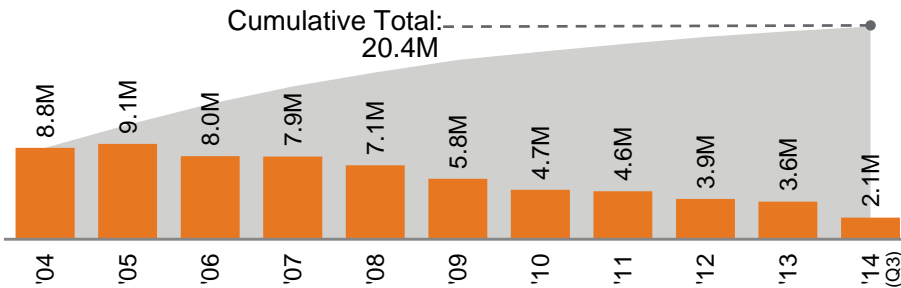
	Vital Signs ³⁵	Drug Admins ³⁶	Lab Results ³⁷
% with 1 or more, all time	70%	24%	61%
Per patient per year, all time	10.7	2.2	20.1
Record volume in 2014	49.1M	12.2M	76.5M

Optum Payer Customers' Health Plans^{42,43}

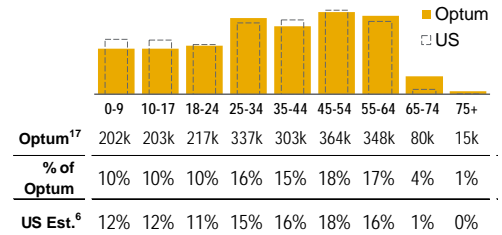
Commercially Insured Population with Medical and Pharmacy Benefits
14 data contributors

ADMINISTRATIVE DATA

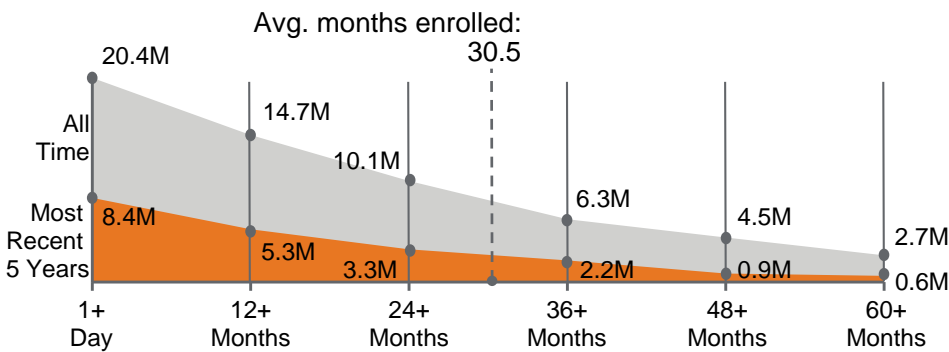
Annual and cumulative membership, 2004-Q3 2014



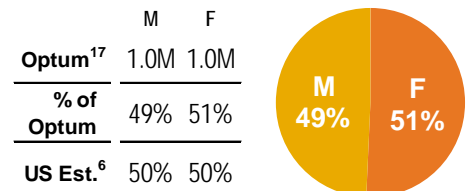
Age groups¹⁶, 2014



Minimum available continuous enrollment¹¹, millions of members, through Q3 2014



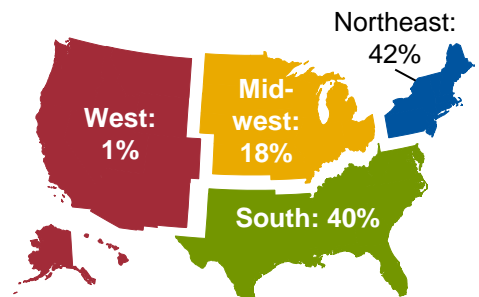
Gender¹⁶, 2014



Utilization and densities through Q3 2014

	Medical Claims ¹²	Pharmacy Claims ¹³	Lab Results ^{14,15}
% with 1 or more, all time	82%	68%	11%
Per member per year, all time	11.8	9.4	25.2
Record volume in 2014	13.0M	7.8M	2.3M

Census region¹⁶, 2014



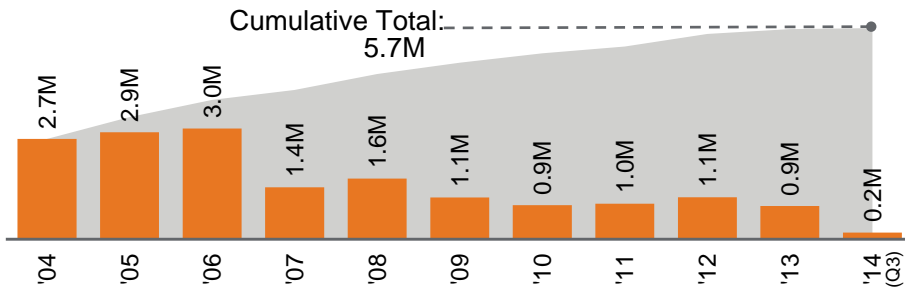
	West	Mid-west	South	North-east
Optum ¹⁷	14k	368k	821k	866k
% of Optum	1%	18%	40%	42%
US Estimate ⁶	23%	23%	35%	19%

Optum Payer Customers' Health Plans^{42,43}

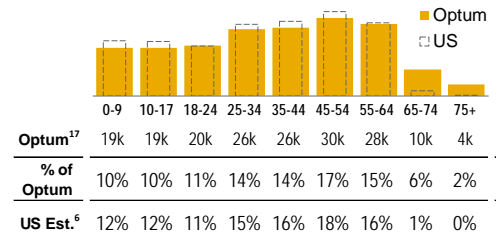
Commercially Insured Population with Medical Benefits Only
13 data contributors

ADMINISTRATIVE DATA

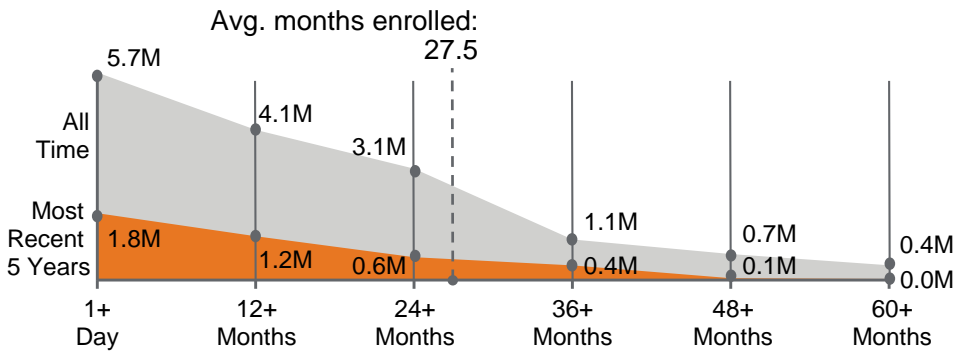
Annual and cumulative membership, 2004-Q3 2014



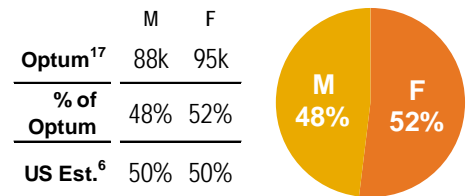
Age groups¹⁶, 2014



Minimum available continuous enrollment¹¹, millions of members, through Q3 2014



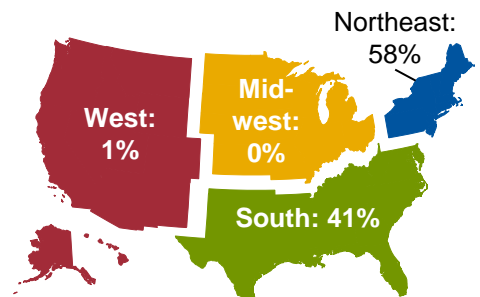
Gender¹⁶, 2014



Utilization and densities through Q3 2014

	Medical Claims ¹²	Lab Results ^{14,15}
% with 1 or more, all time	79%	6%
Per member per year, all time	13.4	23.6
Record volume in 2014	1.4M	0.3M

Census region¹⁶, 2014



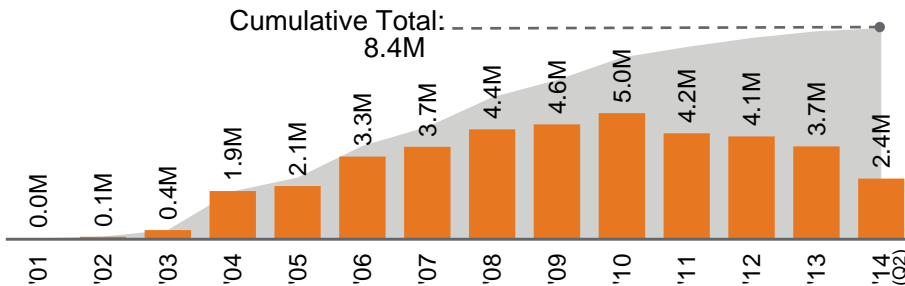
	West	Mid-west	South	North-east
Optum ¹⁷	2k	1k	74k	106k
% of Optum	1%	0%	41%	58%
US Estimate ⁶	23%	23%	35%	19%

Optum Employer Customers' Health Plans^{45,46}

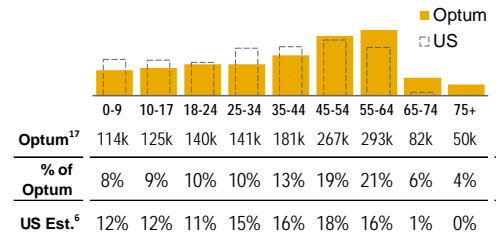
Commercially Insured Population with Medical and Pharmacy Benefits
57 data contributors

ADMINISTRATIVE DATA

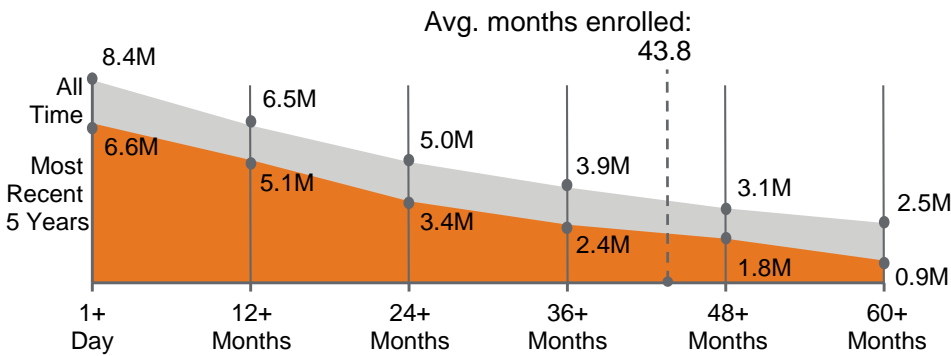
Annual and cumulative membership, 2001-Q2 2014



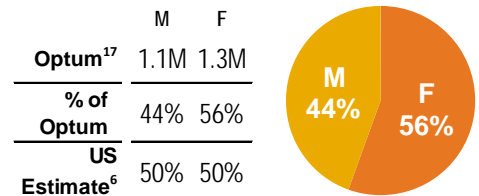
Age groups¹⁶, 2014



Minimum available continuous enrollment¹¹, millions of members, through Q2 2014



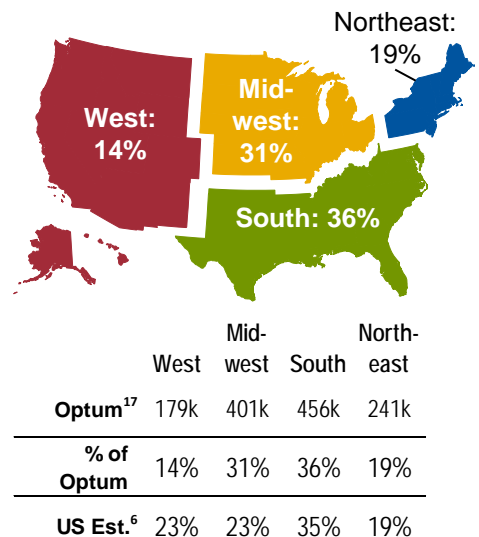
Gender¹⁶, 2014



Utilization and densities through Q2 2014

	% with >1, all time	Per member per year, all time	Activity volume, 2014
Medical Claims ¹²	80%	14.5	27.5M
Pharmacy Claims ¹³	75%	12.7	33.4M
Lab Results ^{14,15}	5%	0.9	306k
STD, LTD and WC Cases ⁴⁷	6%	0.03	34k
HRA Surveys ⁴⁸	13%	0.1	39k
Linked EMRs/EHRs	2%	n/a	n/a

Census region¹⁶, 2014



Footnotes

1. Optum Payer administrative data includes commercial members, Medicaid members (1.6M not shown elsewhere in this document), and Medicare members (438k not shown elsewhere in this document) through Q3 2014. Optum Employer administrative data includes commercial members through Q2 2014. All other sources through Q4 2014. Affiliated health plan administrative data includes 753k Medicare Advantage members with medical benefits only (not shown elsewhere in this document).
2. Areas are mutually exclusive and not to scale. Curved labels denote counts for the entire circle. Each discrete area formed by the overlapping circles is also labeled with its mutually exclusive count.
3. Optum Payer and Employer member counts exclude members where an affiliated health plan is the payer.
4. Members that have multiple discreet enrollment periods are categorized in the segment where they have the longest continuous period of enrollment. Enrollment periods are combined if separated by 32 days or less.
5. Administrative population segments include commercial and Medicare members of affiliated plans, and commercial members of Optum Employer customers' and Optum Payer customers' health plans who were enrolled any time in 2014. Optum clinical population includes unique patients who had clinical activity any time in 2014.
6. Source of estimate of US commercially insured population: US Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2014. Health insurance questions asked respondents about their status in the previous year (2013). Accessed at <http://www.census.gov/cps/data/cpstablecreator.html>.
7. Source of estimate of US Medicare Advantage and Medicare PDP populations: US Department of Health & Human Services, Centers for Medicare & Medicaid Services, Monthly enrollment by plan report for December 2014. Accessed at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MCRAAdvPartDenrolData/Monthly-Enrollment-by-Plan.html>.
8. Source of estimate of US healthcare utilizers: US Department of Health & Human Services, Agency for Healthcare Research & Quality, Medical Expenditure Panel Survey (MEPS), Projected Expenditure Data File for 2014. Percent of US population with non-zero medical expenditures found from MEPS and applied to 2014 US population estimate for 2014 from US Census Bureau, Current Population Survey to obtain denominator. MEPS data accessed at http://meps.ahrq.gov/mepsweb/data_stats/download_data_file_s_detail.jsp?cboPufNumber=NHEA-Aligned MEPS. US Census data accessed at <http://www.census.gov/cps/data/cpstablecreator.html>.
9. Statistics current through December 31, 2014.
10. Members counted here may also be counted in other administrative segments because they can move between segments over time. Members do not appear in multiple administrative segments during the same period of time.
11. The longest continuous period of enrollment is selected for members that have multiple discreet enrollment periods. Enrollment periods are combined if separated by 32 days or less.
12. A medical claim is defined as a unique combination of member, provider, and service date.
13. A pharmacy claim is defined as a unique combination of member, valid NDC code, and fill date.
14. A lab result is defined as a unique combination of member, valid LOINC code, and result date.
15. Lab results per member per year calculated for members with at least one result.
16. Includes members enrolled at any time in 2014.
17. Excludes members where attribute is unknown.
18. Source of US estimate of Medicare Advantage and Medicare PDP populations by age & sex: US Department of Health & Human Services, Centers for Medicare & Medicaid, CMS Statistics Reference Booklet, 2014. Accessed at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/CMS-Statistics-Reference-Booklet/2014.html>.
19. Source of US estimate of Medicare Advantage and Medicare PDP populations by census regions: US Department of Health & Human Services, Centers for Medicare & Medicaid, MA State/County Penetration Report, December 2014. Accessed at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MCRAAdvPartDenrolData/MA-State-County-Penetration.html>.
20. Pharmacy benefit design data can be linked for members with pharmacy benefits in a subset of affiliated health plans.
21. Short term disability (STD), long term disability (LTD), and workers' compensation (WC) cases can be linked for members employed by Optum Employer customers using affiliated health plans.
22. Additional STD, LTD, and WC case data (not shown) are available for members employed by Optum Employer customers using non-affiliated health plans.
23. STD, LTD and WC cases available through June 30, 2014.
24. Includes members with at least one clinical data point during active health plan enrollment.
25. Additional linked clinical data (not shown) is available for members employed by Optum Employer customers using non-affiliated health plans.
26. Oncology management data can be linked to fully insured members in affiliated commercial health plans.
27. Health risk assessment (HRA) data can be linked to members in affiliated commercial health plans.
28. Additional linked HRA data (not shown here) is available for members employed by Optum Employer customers using non-affiliated health plans.
29. The Social Security Administration began restricting reported deaths available in their Death Master File in November 2011.
30. Death data can be linked to members in all affiliated health plans, except Medicare PDP plans.
31. Shows cumulative and annual counts of members with at least one valid, non-missing attribute. Socioeconomic data can be linked to members in all affiliated health plans, except Medicare PDP plans.
32. Primary data collection can be performed with fully insured members in affiliated commercial health plans.

Footnotes

28. Patients without sufficient clinical data to meet a minimum quality threshold are excluded.
29. The minimum available clinical observation period for each patient is determined by the earliest and latest dates of clinical activity.
30. A vital sign is defined as a unique combination of patient ID, observation date and valid clinical observation of height, weight, BMI, blood pressure, heart rate, temperature, spirometry tests, ejection fraction measurements, or T&Z scores.
31. A drug administration is defined as a unique combination of patient ID, administration date, and valid NDC code for a drug administration given by a provider or at a provider's location.
32. A lab result is defined as a unique combination of patient ID, lab result date, and valid LOINC code.
33. Includes patients with at least one clinical observation at any time in 2014.
34. Source of US estimate of healthcare utilizers by age & sex: US Department of Health & Human Services, Agency for Healthcare Research & Quality, Medical Expenditure Panel Survey (MEPS), Projected Expenditure Data File for 2014. Percent of US population with non-zero medical expenditures found from MEPS and applied to 2014 US population estimate for 2014 from US Census Bureau, Current Population Survey to obtain denominator. MEPS data accessed at http://meps.ahrq.gov/mepsweb/data_stats/download_data_file_s_detail.jsp?cboPufNumber=NHEA-Aligned MEPS. US Census data accessed at <http://www.census.gov/cps/data/cpstablecreator.html>.
35. Source of estimate for total US population by census regions: US Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2014. Health insurance questions asked respondents about their status in the previous year (2013). Accessed at <http://www.census.gov/cps/data/cpstablecreator.html>.
36. Population includes linked patients that have both clinical activity and health plan enrollment any time between 2007 and 2014.
37. Statistics current through September 30, 2014.
38. Members are not linked with any other sources, however members from affiliated health plans have been excluded at the plan level.
39. Source of US estimate of Medicaid population: US Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2014. Health insurance questions asked respondents about their status in the previous year (2013). Accessed at <http://www.census.gov/cps/data/cpstablecreator.html>.
40. Statistics current through June 30, 2014.
41. Counts exclude members where an affiliated health plan is the payer.
42. An STD, LTD, and WC case is defined as a unique combination of member and incident date. Percent with at least one case, and cases per member per year are calculated based on the subset of employers that contribute this type of data.
43. An HRA is defined as a unique combination of member and HRA completion date. Percent with at least one HRA, and HRAs per member per year are calculated based on the subset of employers that contribute this type of data.

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