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SIM Baseline Outcomes and Data Acquisition Progress Report

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Contents

Introduction

The University of Iowa Public Policy Center (UI PPC) is conducting an evaluation of the Iowa State Innovation Model (SIM) for the Iowa Medicaid Enterprise (IME). This report presents the results of two portions of the evaluation: 1) baseline outcomes regarding emergency department (ED) visits, plan all cause admissions and total cost of care, and 2) an assessment of the status of the acquisition of data that is required for many other portions of the evaluation. These two items were important activities for the first two years of the evaluation of Iowa's SIM.

Background

The State Innovation Model grant has three primary aims.

1) Improve population health
2) Transform health care
3) Promote sustainability

For more information about these aims and their related goals please go to the SIM home page http://dhs.iowa.gov/ime/about/initiatives/newSIMhome .

In response to these aims and goals, the state-led evaluation team at the UI PPC, in conjunction with the Iowa Department of Human Services (IDHS), Iowa Department of Public Health (IDPH), and the Centers for Medicare and Medicaid Innovation (CMMI), developed hypotheses and outcome measures to evaluate the success of Iowa's SIM. Table 1 lists these hypotheses, measures, data sources and outcome target dates as provided in the state-led evaluation plan.

Table 1. Hypotheses and measures

Hypothesis	Measure	Data Source	Outcome Target date
The statewide diabetes rate will be reduced by 0.2% over the three years of the SIM.	Statewide diabetes rate	BRFSS	12/31/2018
The hospitalizations related to the long-term and short-term complications of diabetes will be reduced.	Admissions due to long-term and short term complication from diabetes	Iowa Hospital Association (IHA) inpatient file	12/31/2017
ER visits for diabetes related issues will be reduced.	ED visits due to long-term and short term complication from diabetes	IHA outpatient file	12/1/2017
Providers will integrate the statewide strategies for the care of diabetes.	Number of providers who integrate statewide strategies	Provider survey	12/1/2017
People with diabetes will experience improved quality of life (QoL).	Patient quality of life questions (to be determined)	Statewide consumer survey	11/1/2016 and 6/30/2018
People with obesity will have decreased BMI over the 3 years of the SIM.	Weight and height measure	BRFSS/YRBS	6/30/2017 and 6/30/2018
People with obesity will experience improved quality of life.	Patient quality of life questions (to be determined)	Statewide consumer survey	11/1/2016 and 6/30/2018
There will be an increase in the proportion of people interested in reducing tobacco use.	number of people requesting information from the Quitline	Iowa Quitline data and claims data	6/30/2017 and 6/30/2018
The rate of tobacco use will decrease by 1% over the 3 years of the SIM.	Rate of reported tobacco use	BRFSS/YRBS	6/30/2017 and 6/30/2018
The rate of elective C-sections and early elective deliveries will be reduced.	Rate of C-sections and early elective deliveries	IHA inpatient file	6/30/2017 and 6/30/2018

Hypothesis	Measure	Data Source	Outcome Target date
Rates of low birth weight newborns will decrease over the 3 years of the SIM.	Low birth weight rates	Birth certificate data	6/30/2017 and 6/30/2018
The rate of surgical site infections will be reduced.	Rate of surgical site infection	IHA inpatient file perhaps use National Healthcare Safety Network (NHSN)	6/30/2017 and 6/30/2018
The rate of Narcane use outside the hospital will be reduced.	Narcan use rates	Medicaid and/or Wellmark claims data	6/30/2017 and 6/30/2018
Glucose monitoring will increase.	Hemoglobin A1c rates	Medicaid and/or Wellmark claims data	6/30/2017 and 6/30/2018
Monitoring of anti-coagulation medications will increase.	Protime rates	Medicaid and/or Wellmark claims data	6/30/2017 and 6/30/2018
The SIM will reduce the annual rate of preventable readmissions by the third year.	Avoidable readmissions at 7days and 30 days (HEDIS)	IHA inpatient data	6/30/2017 and 6/30/2018
The SIM will reduce the annual rate of preventable emergency department visits by the third year.	Rate of preventable ED visits as defined by NYC Billings algorithm	IHA outpatient file	6/30/2017 and 6/30/2018
The total cost of care per member in Iowa will be reduced below the national average by the third year.	Cost of care per person in Iowa	Either provided by third party vendor or calculated from Medicaid/Wellmark/ Medicare claims data	12/31/2017 and 12/31/2018
The proportion of Medicaid primary care providers in value-based purchasing contracts will increase to 70% by the third year.	Proportion of Medicaid Primary care providers in VBP contracts	Medicaid provider dataset	12/31/2018

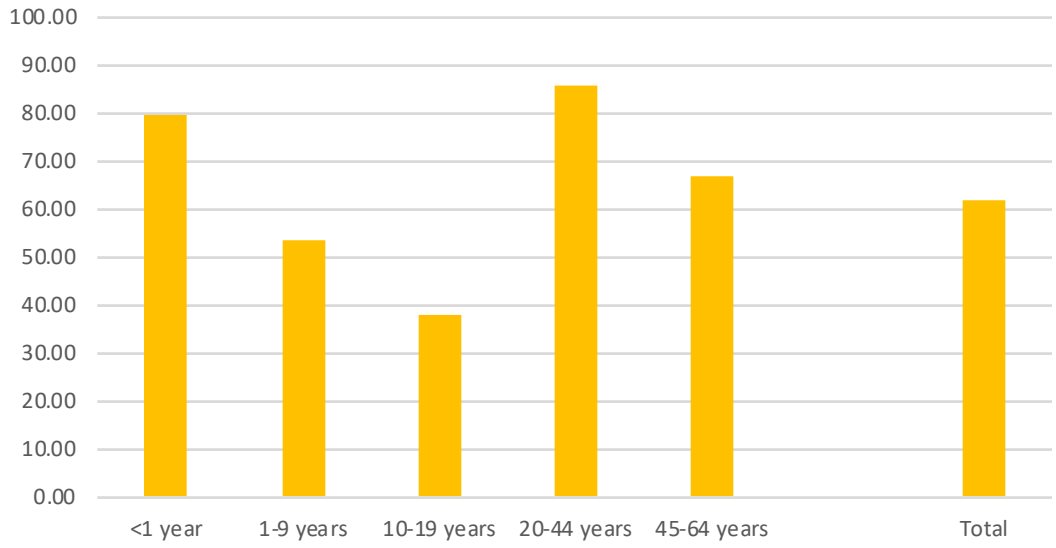
Baseline outcome measures

The PPC calculated three baseline outcome measures for later comparison for the SIM evaluation: ED Visits, Plan All-Cause Readmissions, and Total Cost of Care. The baseline measures were calculated using only Medicaid administrative data at this time. Wellmark and Medicare data were not yet available. Medicaid populations included in these analyses were those in the FMAP, CMAP and SSI programs.

ED visits

Baseline ED visit rate for the Iowa Medicaid population were calculated according to CMS specifications for adult core measures. Rates are reported as unadjusted visits per 1,000 months of eligibility in CY 2015 (Figure 1).

Figure 1: Emergency department utilization by age, CY 2015



Overall there were 62 ED visits per 1,000 months of eligibility. Infants under age one and adults ages 20-44 were the most likely to have an ED visit during CY 2015.

Plan all-cause readmissions

Plan all-cause readmissions reflect hospital admissions that occur within the first 30 days following a discharge. The plan all-cause readmissions rates are not risk adjusted. Table 2 shows the unadjusted plan all-cause readmissions in CY 2015 for the for the Iowa Medicaid population.

Table 2. Unadjusted Plan All-Cause Readmissions, CY 2015

Age	Count of index stays (Denominator)	Count of 30-day readmissions (Numerator)	Observed Readmissions
18-44 years	7,869	845	10.74%
45-54 years	5,031	628	12.48%
55-64 years	4,126	473	11.46%

There was a total of 17,026 inpatient stays for Medicaid enrollees in CY 2015. For almost 2,000 of these visits (1,946) there was a readmission to the hospital within 30 days (11.4%). Adults ages 45-54 were most likely to have a readmission, however there was not wide variation by age.

Total cost of care

Total cost of care was calculated using the Health Partners analytic package with Adjusted Clinical Groups (ACGs) to provide the risk adjustment for Medicaid enrollees in CY 2015.

Table 3. Risk adjusted Per Member Per Month (PMPM) cost of care, CY 2015

Months of enrollment	Inpatient PMPM	Outpatient PMPM	Professional PMPM	Medical PMPM	Prescription PMPM	Total PMPM
5,140,441	$49.18	$82.86	$143.01	$275.05	$87.41	$362.46

The average risk-adjusted per member/per month cost for Medicaid members in CY 2015 was $362.46. The largest portion of this cost ($275) was attributable to medical care (e.g., physician services).

Data acquisition

Completion of many of the outcome measures for the SIM evaluation require an extensive set of databases and data collection tools. Table 4 lists the databases and data collection tools that would be needed to complete the evaluation plan as originally outlined and the progress that has been made to acquire and assimilate these data.

Table 4. Data acquisition progress

Dataset/Tool	Source	Progress	Acquisition date
Behavioral Risk Factor Surveillance System (BRFSS)	IDPH	Have identified dataset fields needed for research, in the process of signing data use agreement	5/31/2017
Youth Risk Behavior Surveillance System (YRBSS)	IDPH	Have identified dataset fields needed for research, in the process of signing data use agreement	5/31/2017
Iowa Hospital Association (IHA) inpatient file	IHA	Data from 2013-2014 have been acquired, acquisition 2015 data is ongoing	5/31/2017
IHA outpatient file	IHA	No efforts have beetn made to acquire this data	7/31/2017
Iowa Quitline data and claims data	IDPH	This data may not be available	12/31/2017
Medicaid claims and enrollment data	IDHS	Acquired and assimilated on a monthly basis	Completed
Wellmark claims and enrollment data	Wellmark BCBS	Negotiations to acquire this data are ongoing	12/31/2017
Medicare claims and enrollment data	CMS	Data has arrived at PPC	3/31/2017
Provider Surveys	Primary data collection: Public Policy Center	Survey development is ongoing	Fall 2017
Consumer Surveys	Primary data collection: UNI Center for Social and Behavioral Research	Survey is currently in the field	Summer 2017

There have been significant challenges encountered trying to obtain many of these datasets. Challenges have included issues such as getting proper approvals to the timing of the data collection for the information in these datasets not matching the needs of the evaluation. As indicated in the table however, all of these datasets will continue to be pursued with acquisition anticipated to occur in 2017.