

# Integrated Behavioral Healthcare in the Primary Care Setting: Lessons Learned from the Colorado SIM Program

- Steve Melek, FSA, MAAA, Principal & Consulting Actuary, Milliman
- Marissa North, MS, Actuarial Assistant, Milliman



CFHA Annual Conference  
October 17-19, 2019 • Denver, Colorado

# Faculty Disclosure

The presenters of this session have NOT had any relevant financial relationships during the past 12 months.

# Conference Resources

Slides and handouts shared by our conference presenters are available on the CFHA website at [https://www.cfha.net/page/Resources\\_2019](https://www.cfha.net/page/Resources_2019) and on the conference mobile app.



# Learning Objectives

At the conclusion of this session, the participant will be able to:

- Identify evaluation and analysis techniques of behavioral healthcare integration programs
- Explain cost savings and return on investment of the Colorado State Innovation Model
- Determine the value opportunity of medical-behavioral integration

# Bibliography / Reference

1. Melek, S., Norris, D., et al. (January 2018). Potential Economic Impact of Integrated Medical-Behavioral Healthcare: Updated Projections for 2017. Milliman Research Report. <https://www.milliman.com/uploadedFiles/insight/2018/Potential-Economic-Impact-Integrated-Healthcare.pdf>.
2. Reiss-Brennan, B., Brunisholz, K.D., Dredge, C. et al. (August 2016). Association of Integrated Team-Based Care With Health Care Quality, Utilization, and Cost. JAMA. 2016;316(8):826-834. <http://doi:10.1001/jama.2016.11232>.
3. Grochtdreis, T., Brettschneider, C., Wegener, A. et al. (May 2015). Cost-Effectiveness of Collaborative Care for the Treatment of Depressive Disorders in Primary Care: A Systematic Review. PLOS One. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4437997/>.
4. Ross, K.M., Klein, B., Ferro, K. et al. (March 2019). The Cost Effectiveness of Embedding a Behavioral Health Clinician into an Existing Primary Care Practice to Facilitate the Integration of Care: A Prospective, Case-Control Program Evaluation. Journal of Clinical Psychology in Medical Settings. <https://www.ncbi.nlm.nih.gov/pubmed/29713935>.
5. Segal, L., Biasi, A., Mueller, J. et al. (November 2017). Pain in the Nation: The Drug, Alcohol, and Suicide Crises and the Need for a National Resilience Strategy. Trust for America's Health and Well Being Trust. <http://www.paininthenation.org/assets/pdfs/TFAH-2017-PainNationRpt.pdf>.

# Learning Assessment

- A learning assessment is required for CE credit.
- A question and answer period will be conducted at the end of this presentation.

# Background and Data

# What is SIM?

- Colorado State Innovation Model
  - Grant request for \$78 million, received \$65 million from Center for Medicare and Medicaid Innovation (CMMI) to implement and test this program
- Improve the health of Coloradans by:
  - Providing access to integrated primary care and behavioral health services in coordinated community systems
  - Applying value-based payment structures
  - Expanding information technology efforts, including telehealth
  - Finalizing a statewide plan to improve population health
- Funding assisted Colorado in integrating physical and behavioral health care in nearly 400 primary care practices and 4 community mental health centers comprised of approximately 1,600 primary care providers.
- State worked to establish a partnership between their public health, behavioral health, and primary care sectors.



# Milliman's Role

- Strategic Direction
- Co-chaired the Evaluation workbook of SIM
- Extensive analytical support
  - Credibility analysis
  - Cost and utilization reporting
  - Return on investment reporting
  - Depression predictive modeling

# Data Used and Attribution

- All Payer Claims Database (APCD) data
- Includes detailed membership and claims data for inpatient facility, outpatient facility, professional services, ancillary services, and prescription drugs (all healthcare costs).
- Line of business (LOB): Medicare, Medicaid, and commercial
- Medicaid BHO encounter data, fiscal years 2014 through 2018
- Attribution based on NPIs reported by practices on SIM practice roster. Each member is assigned to a single primary care provider where they had the most visits in recent years.

# Reports Overview

CMMI Cost & Utilization Reports

Actuarial Cost & Utilization Reports

# Why are these reports important?

- Shows what is going on outside of the practice
- Costs and use of services change over time



# Included details for each report

Each report contains information split by the following level of detail:

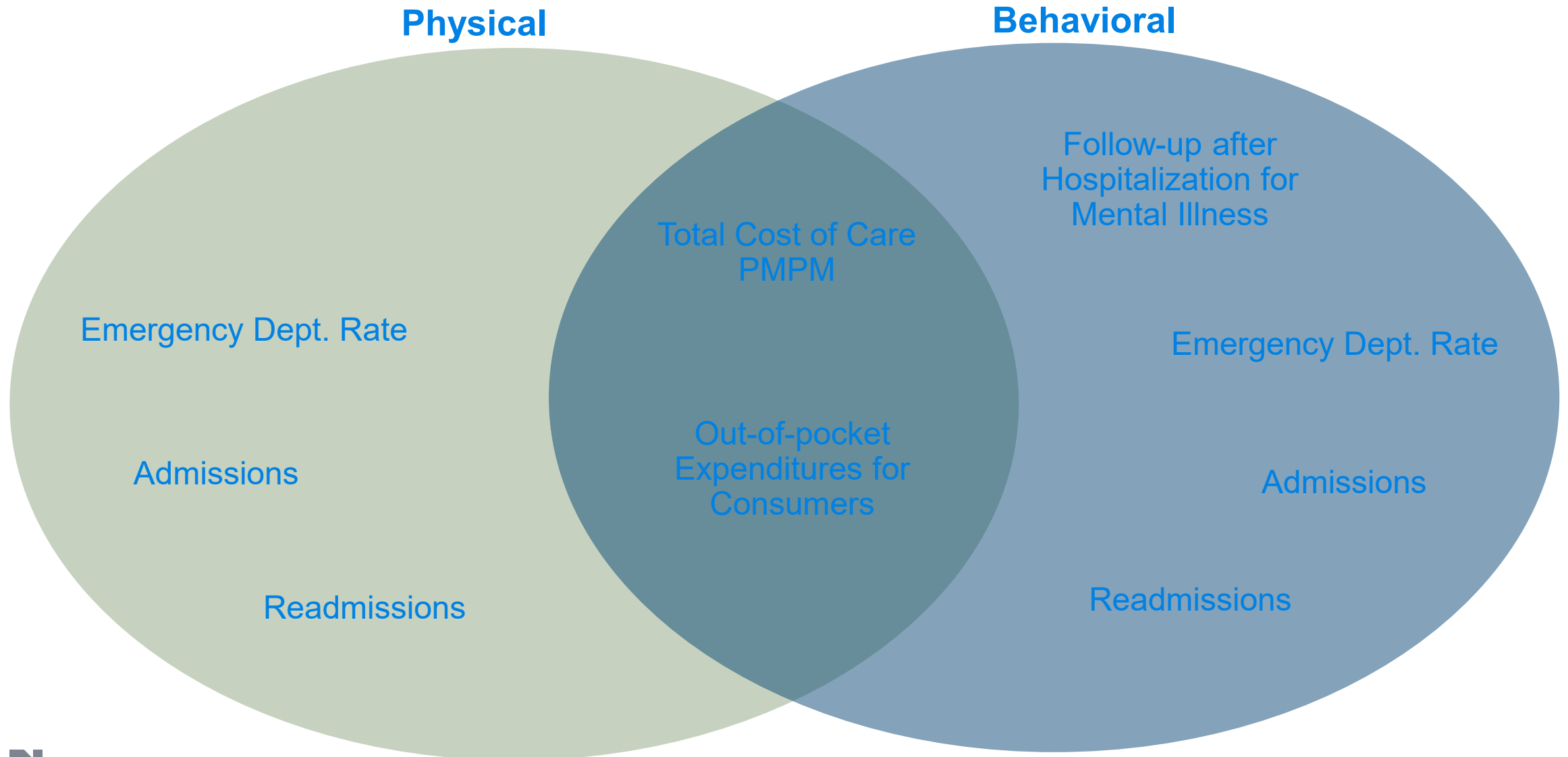
- SIM individual practices compared to SIM aggregate cohorts (pediatric, internal medicine, mixed primary care)
- CMHC practices compared to CMHC in aggregate
- Baseline Year in total and by quarter
- Program Years-to-date and by quarter
- By Line of Business (Medicare, Medicaid, commercial) and in total
- Risk Adjustment Scores included

# **CMMI Cost & Utilization Reports**

# Details of Report

<b>2015 Average Risk Scores:</b> See "Risk Adjustment" page for more information		Commercial	1.912			1.061		
		Medicaid	1.643			1.118		
		Medicare	1.134			0.955		
<b>Total 2015 Model Performance Data</b>		<b>Sample SIM Practice Site</b>			<b>SIM Mixed Primary Care PCP Practices Combined</b>			
		<b>Total</b>			<b>Total</b>			
<b>Metric Definition/Description</b>	<b>Line of Business</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Value</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Value</b>	
The annual member out-of-pocket spending per attributed member.	<b>Total</b>	\$386,498	494	\$782	\$122,335,795	112,375	\$1,089	
	Commercial	\$131,418	71	\$1,851	\$50,262,541	46,499	\$1,081	
	Medicaid	\$38,778	329	\$118	\$7,795,273	34,973	\$223	
	Medicare	\$216,302	94	\$2,301	\$64,277,981	30,903	\$2,080	
The allowed cost per member per month (PMPM) for the attributed population.	<b>Total</b>	\$8,217,262	6,971	\$1,179	\$1,163,080,664	2,159,858	\$538	
	Commercial	\$977,721	942	\$1,038	\$287,161,783	577,733	\$497	
	Medicaid	\$3,822,175	4,890	\$782	\$443,642,521	1,202,039	\$369	
	Medicare	\$3,417,366	1,139	\$3,000	\$432,276,360	380,086	\$1,137	

# Overview of CMMI Reports: Nine Metrics





# Actuarial Cost & Utilization Reports

# Overview of Actuarial Reports: Three Metrics

Allowed Cost PMPM

Utilization per 1,000

Unit Cost

# Overview of Actuarial Reports: Service Categories

Service Categories
All Other Services
Ambulance
Diagnostic Imaging / X-Ray
Dialysis Procedures
Durable Medical Equipment / Prosthetics
Emergency Services
Home Health Care
Hospice
Inpatient Hospital – Behavioral
Inpatient Hospital – Physical

Service Categories (Cont.)
Laboratory Services
Long Term Care
Outpatient Hospital – Behavioral
Outpatient Hospital – Physical
Prescription Drugs – Behavioral
Prescription Drugs – Physical
Professional Primary Care – Physical
Professional Specialty Care – Behavioral
Professional Specialty Care – Physical
Skilled Nursing Facility

# How to Use Actuarial Reports

- Track performance over time
- Review which types of services show increasing/decreasing costs
- Compare individual practice results to SIM mixed primary care / pediatric / internal medicine practice results
- Risk scores shown by line of business
- Inform cost projections, cost savings, ROI

# Example of tracking through time (Baseline)

Sample SIM Practice Site Baseline (2016)					
Service Categories	Q1	Q2	Q3	Q4	Total
All Other Services	\$11.25	\$15.18	\$2.93	\$3.21	\$8.17
Ambulance	\$1.28	\$2.36	\$6.71	\$11.58	\$5.45
Diagnostic Imaging/X-ray	\$12.83	\$12.79	\$10.52	\$13.37	\$12.37
Dialysis Procedures	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Durable Medical Equipment/Prosthetics	\$3.04	\$3.75	\$2.39	\$4.15	\$3.32
Emergency Services	\$30.55	\$25.65	\$26.36	\$38.70	\$30.25
Home Health Care	\$1.50	\$0.13	\$0.33	\$1.86	\$0.94
Hospice	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Inpatient Hospital – Behavioral	\$0.81	\$0.85	\$1.26	\$0.00	\$0.74
Inpatient Hospital – Physical	\$49.73	\$57.17	\$44.13	\$79.38	\$57.44
Laboratory Services	\$14.11	\$9.81	\$11.67	\$10.24	\$11.46
Long Term Care	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Outpatient Hospital – Behavioral	\$0.89	\$0.28	\$0.08	\$1.98	\$0.80
Outpatient Hospital – Physical	\$151.02	\$220.30	\$228.68	\$234.08	\$208.48
Prescription Drugs – Behavioral	\$12.67	\$14.97	\$13.83	\$17.53	\$14.73
Prescription Drugs – Physical	\$69.03	\$67.00	\$67.29	\$77.86	\$70.24
Professional Primary Care – Physical	\$40.12	\$38.39	\$39.41	\$44.17	\$40.49
Professional Specialty Care – Behavioral	\$4.41	\$5.44	\$4.39	\$4.47	\$4.68
Professional Specialty Care – Physical	\$16.89	\$19.01	\$15.00	\$20.23	\$17.76
Skilled Nursing Facility	\$0.00	\$1.88	\$0.00	\$0.00	\$0.47
<b>Total</b>	<b>\$420.13</b>	<b>\$494.97</b>	<b>\$474.99</b>	<b>\$562.81</b>	<b>\$487.80</b>
<b>Total Member Months</b>	4,895	4,948	4,959	4,790	19,592
<b>Total Allowed Costs</b>	\$2,056,553	\$2,449,111	\$2,355,453	\$2,695,840	\$9,556,958

# Example of tracking through time (Performance Year 1)

Sample SIM Practice Site Model Test Year 1 (2017)					
Service Categories	Q1	Q2	Q3	Q4	Total
All Other Services	\$9.33	\$3.87	\$6.04	\$7.73	\$6.74
Ambulance	\$0.77	\$2.83	\$3.59	\$1.95	\$2.28
Diagnostic Imaging/X-ray	\$12.04	\$14.58	\$12.98	\$15.09	\$13.64
Dialysis Procedures	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Durable Medical Equipment/Prosthetics	\$5.33	\$3.66	\$3.38	\$5.04	\$4.35
Emergency Services	\$29.97	\$22.89	\$37.20	\$22.84	\$28.29
Home Health Care	\$1.13	\$0.31	\$0.19	\$1.12	\$0.68
Hospice	\$0.00	\$2.15	\$3.83	\$4.15	\$2.48
Inpatient Hospital – Behavioral	\$0.00	\$0.00	\$2.20	\$3.31	\$1.33
Inpatient Hospital – Physical	\$52.39	\$38.23	\$38.30	\$59.37	\$46.91
Laboratory Services	\$6.20	\$8.15	\$8.08	\$8.62	\$7.74
Long Term Care	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Outpatient Hospital – Behavioral	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Outpatient Hospital – Physical	\$278.51	\$272.46	\$218.49	\$234.32	\$251.62
Prescription Drugs – Behavioral	\$11.85	\$11.29	\$13.25	\$13.69	\$12.49
Prescription Drugs – Physical	\$72.51	\$86.57	\$76.14	\$88.48	\$80.76
Professional Primary Care – Physical	\$34.39	\$35.57	\$39.62	\$42.81	\$37.97
Professional Specialty Care – Behavioral	\$6.02	\$4.33	\$3.90	\$3.48	\$4.46
Professional Specialty Care – Physical	\$22.03	\$17.64	\$17.66	\$18.66	\$19.03
Skilled Nursing Facility	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>	<b>\$542.47</b>	<b>\$524.53</b>	<b>\$484.83</b>	<b>\$530.66</b>	<b>\$520.75</b>
<b>Total Member Months</b>	4,514	4,426	4,320	4,078	17,338
<b>Total Allowed Costs</b>	\$2,448,723	\$2,321,564	\$2,094,477	\$2,164,031	\$9,028,795

# Example of tracking through time (Performance Year 2)

Sample SIM Practice Site Model Test Year 2 (2018)					
Service Categories	Q1	Q2	Q3	Q4	Total
All Other Services	\$9.01	\$9.80	\$8.69	\$24.71	\$13.00
Ambulance	\$0.89	\$0.46	\$0.63	\$1.46	\$0.86
Diagnostic Imaging/X-ray	\$11.93	\$7.67	\$9.98	\$13.94	\$10.85
Dialysis Procedures	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Durable Medical Equipment/Prosthetics	\$4.00	\$3.65	\$3.57	\$5.17	\$4.09
Emergency Services	\$31.09	\$26.21	\$19.49	\$22.25	\$24.77
Home Health Care	\$3.81	\$0.29	\$0.80	\$1.43	\$1.57
Hospice	\$4.73	\$3.92	\$0.00	\$0.00	\$2.18
Inpatient Hospital – Behavioral	\$0.00	\$2.08	\$0.00	\$0.00	\$0.53
Inpatient Hospital – Physical	\$56.10	\$42.39	\$23.48	\$43.56	\$41.35
Laboratory Services	\$7.91	\$9.51	\$6.44	\$9.19	\$8.26
Long Term Care	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Outpatient Hospital – Behavioral	\$0.00	\$4.23	\$31.41	\$0.00	\$8.94
Outpatient Hospital – Physical	\$201.42	\$180.62	\$166.99	\$311.33	\$214.52
Prescription Drugs – Behavioral	\$20.07	\$16.08	\$15.01	\$12.27	\$15.86
Prescription Drugs – Physical	\$151.56	\$84.50	\$162.18	\$97.24	\$123.71
Professional Primary Care – Physical	\$39.68	\$37.72	\$40.24	\$41.56	\$39.78
Professional Specialty Care – Behavioral	\$6.81	\$7.02	\$8.52	\$6.13	\$7.12
Professional Specialty Care – Physical	\$19.22	\$16.97	\$14.25	\$16.89	\$16.83
Skilled Nursing Facility	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>	<b>\$568.22</b>	<b>\$453.12</b>	<b>\$511.70</b>	<b>\$607.12</b>	<b>\$534.21</b>
<b>Total Member Months</b>	3,551	3,661	3,582	3,521	14,315
<b>Total Allowed Costs</b>	\$2,017,744	\$1,658,870	\$1,832,909	\$2,137,677	\$7,647,200

# Return on Investment (ROI)



# SIM ROI Reports

## Data Sources

- NPI Rosters
- Attribution
- APCD

## LOB

- Commercial
- Medicaid
- Medicare (FFS and MA combined)

## Practice Type

- Mixed Primary Care
- Internal Medicine
- Pediatrics

# Data Adjustments

- Review of each Payer Code / Insurance Code Combination
- Some interpolations / extrapolations / exclusions made
- Balanced Medicaid APCD to HCPF reports (both CIVHC and HCPF changed data vendors during 2016) – see next slide
- No such balancing for Medicare FFS; limited CIVHC balancing for Commercial payers
- Medicare Part D duplication adjustment – identified any members appearing in both RESDAC/Payer 300 submissions and commercial submissions, and removed those associated RESDAC/Payer 300
- BHO capitated claim adjustment

# Methodology

- Only used complete data (slow reporting; runout issues)
- MCD Adjustments
- Duplicated eligibility and pharmacy claims in the Medicare Part D data
- Large Claim exclusion (\$250K per CY)
- Minimum eligibility (6 months per CY)
- Conservative (low end of ranges) trend assumptions
- Risk adjustment
- Sensitivity of trends assumed

# Annual Trend Assumptions

Conservative Low End Assumptions for Assumed Annual Trend Rates			
Service Category	Commercial	Medicaid	Medicare
Inpatient Facility	2.0%	1.5%	-1.0%
Outpatient Facility/Emergency Room	3.0%	0.0%	3.5%
Professional/Other	2.0%	2.0%	-0.5%
Prescription Drugs	6.3%	6.5%	3.5%

# Limitations / Caveats

- Potential Additional APCD Adjustments Needed
- BHO capitated claims (0 or 1) needed adjustment
- Attribution Imperfections
- MARA Risk Scores are imperfect (all risk scores are)
- Many factors affect healthcare costs
- Large claim and minimum eligibility criteria are assumptions
- No practice credibility adjustments made

# Proposed Cost Savings & ROI Draft Results - Confidential

Estimated 3rd year and 4th year Return on Investment From Model Intervention						
Assumed Grant Amount	\$86,928,656			Savings	ROI-Gross	Restated ROI
Actual Grant Amount	\$65,000,000		Year 3	\$ 126,587,853	1.46	1.95
			Year 4	\$ 211,609,607	2.43	3.26

# Proposed Cost Savings & ROI: Assumptions

## Draft Results - Confidential

- Healthcare utilization and cost **reductions**: Inpatient Physical, Inpatient Behavioral, Emergency Services, Ambulance, SNF
- Healthcare utilization and cost **increases**: primary and specialty medical professional, behavioral professional, diagnostic testing, imaging (non-complex), labs, prescription drugs – medical and behavioral
- Projected Savings: \$17.3M (yr. 1), \$42.2M (yr. 2), \$67.1M (yr. 3)
- Savings translates to about \$1.90 PMPM if we make integrated care available to 80% of all Coloradans (more PMPM is needed if we fall short of that target)



# Thank you

**Steve Melek, FSA, MAAA**

Steve.Melek@milliman.com

**Marissa North, MS**

Marissa.North@milliman.com



# Session Survey

Use the CFHA mobile app to complete the survey/evaluation for this session.



**Join us next year in Philadelphia, Pennsylvania! Thank you!**

