Supplement A

Healthcare Transformation and Quality Improvement Renewal Evaluation

1115 Medicaid Waiver Demonstration Renewal in Texas DY6-DY11

Preliminary Draft Results

HYE-CHUNG KUM

DAVID WASHBURN

AMBER TRUEBLOOD

ROBERT OHSFELDT

EVA SHIPP

BENJAMIN UKERT

QI ZHENG

TODD LEROUX

CHAD SMITH

NIKITA WAGLE

SOPHIA ANYATONWU

DECEMBER 7, 2020

SCHOOL OF PUBLIC HEALTH

TEXAS A&M UNIVERSITY SYSTEM

Note: This preliminary report presents draft results based on data available and analyses completed by December 4, 2020. All sections will be updated with final results as appropriate for the interim report.

Table of Contents

A. DSRIP

Evaluation Question 1: Did the DSRIP program incentivize changes to transform the health care system for the MLIU population in Texas?

Collaboration Among Providers

Hypothesis 1.1 DSRIP incentivized changes to the health care system that maintained or increased collaboration among providers.

Participating DSRIP providers were asked, via an electronic survey, about their collaborative ties to other DSRIP providers in their region. The principle types of ties between providers shared here are:

- Joint service delivery
- Tangible resource sharing
- Data sharing agreements

Across each of these dimensions, for these draft results, the networks in each region have been evaluated by the average number of ties each organization had, the density of ties within each region, and the centralization of ties within a region.

These questions were most recently asked of providers in 2020. They were also asked during the evaluation of the first waiver. Despite being in the midst of a pandemic, 2020 participation rates were high in most regions.

Table 1. Social Network Analysis Survey Response Rate by RHP

RHP	# of Providers	Participated	Rate
1	20	17	85.0%
2	15	12	80.0%
3	25	19	76.0%
4	17	13	76.5%
5	10	9	90.0%
6	23	16	69.6%
7	7	7	100.0%
8	13	7	53.8%

RHP	# of Providers	Participated	Rate
9	23	13	56.5%
10	24	15	62.5%
11	15	11	73.3%
12	36	26	72.2%
13	13	10	76.9%
14	10	8	80.0%
15	8	8	100.0%
16	7	7	100.0%
17	12	9	75.0%
18	6	6	100.0%
19	12	10	83.3%
20	4	3	75.0%
Total	**300**	**226**	**75.3%**

Tentative Results:

Average number of ties

The first measure of interest is the average number of ties each provider had within its region. Each of the 20 regions within Texas has a different number of providers participating in the DSRIP program, a number that has generally decreased over time.

Table 2. Average Number Joint Service Delivery Ties Over Time

RHP	# of Providers T0: Pre-Waiver	# of Providers T1: 2013	# of Providers T2: 2015	# of Providers T3: 2020	Avg. # of Ties T0: Pre-Waiver	Avg. # of Ties T1: 2013	Avg. # of Ties T2: 2015	Avg. # of Ties T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
1	37	38	40	20	5.0	7.7	6.5	6.6	1.6	33%
2	17	17	17	15	5.4	5.6	2.9	4.7	-0.7	-13%
3	30	30	33	25	5.4	5.9	7.1	3.8	-1.6	-30%
4	25	25	25	17	4.7	6.2	4.9	3.5	-1.2	-26%
5	8	8	8	10	3.0	4.8	3.0	2.2	-0.8	-27%
6	27	27	27	23	3.7	4.2	11.0	4.6	0.9	24%
7	16	16	17	7	3.6	3.8	5.3	2.3	-1.3	-37%
8	16	16	18	13	4.4	4.3	5.1	2.3	-2.1	-47%
9	25	25	25	23	6.2	6.7	6.3	3.3	-2.9	-47%
10	30	30	33	24	6.7	6.8	5.6	2.8	-3.9	-58%
11	19	19	19	15	7.7	8.9	3.4	2.5	-5.2	-67%
12	37	37	39	36	10.1	10.0	7.3	5.9	-4.2	-42%
13	21	21	21	13	4.9	8.6	5.6	2.3	-2.6	-53%
14	12	12	13	10	5.3	6.0	6.0	2.6	-2.7	-51%
15	8	8	8	8	4.0	6.3	4.3	5.0	1.0	25%
16	9	9	10	7	4.9	6.7	5.2	3.1	-1.8	-37%
17	19	19	20	12	5.9	5.9	6.2	2.8	-3.1	-53%
18	10	10	10	6	3.4	4.8	3.2	1.7	-1.7	-50%

RHP	# of Providers T0: Pre-Waiver	# of Providers T1: 2013	# of Providers T2: 2015	# of Providers T3: 2020	Avg. # of Ties T0: Pre-Waiver	Avg. # of Ties T1: 2013	Avg. # of Ties T2: 2015	Avg. # of Ties T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
19	13	13	15	12	5.1	6.5	4.7	1.3	-3.8	-74%
20	8	8	8	4	4.0	4.0	4.0	2.0	-2.0	-50%
Mean Across RHPs	**-**	**-**	**-**	**-**	**5.2**	**6.2**	**5.4**	**3.3**	**-1.9**	**-37%**

It is important to note that the number of participating providers decreased from the beginning of the waiver (T0) to 2020 (T3). Thus, there are often fewer providers to potentially share ties with in most of the regions. The average change in joint service delivery ties per organization within regions was -37%.

Table 3. Average Number Tangible Resource Sharing Ties Over Time

RHP	# of Providers T0: Pre-Waiver	# of Providers T1: 2013	# of Providers T2: 2015	# of Providers T3: 2020	Avg. # of Ties T0: Pre-Waiver	Avg. # of Ties T1: 2013	Avg. # of Ties T2: 2015	Avg. # of Ties T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
1	37	38	40	20	3.4	4.6	3.1	2.7	-0.7	-19%
2	17	17	17	15	2.1	2.9	1.4	1.6	-0.5	-24%
3	30	30	33	25	1.5	1.5	1.9	2.6	1.1	77%
4	25	25	25	17	1.4	2.1	2.6	0.7	-0.7	-51%
5	8	8	8	10	1.3	1.8	1.3	1.8	0.6	44%
6	27	27	27	23	3.4	5.0	3.7	1.6	-1.8	-53%
7	16	16	17	7	1.5	2.1	2.9	2.3	0.8	53%
8	16	16	18	13	1.3	1.5	2.7	2.2	1.0	76%

RHP	# of Providers T0: Pre-Waiver	# of Providers T1: 2013	# of Providers T2: 2015	# of Providers T3: 2020	Avg. # of Ties T0: Pre-Waiver	Avg. # of Ties T1: 2013	Avg. # of Ties T2: 2015	Avg. # of Ties T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
9	25	25	25	23	2.3	2.3	3.2	2.3	0.0	-1%
10	30	30	33	24	1.7	2.0	2.7	2.2	0.5	27%
11	19	19	19	15	1.2	1.4	1.6	2.4	1.2	107%
12	37	37	39	36	2.6	3.2	3.5	3.3	0.7	25%
13	21	21	21	13	1.4	3.2	1.9	1.1	-0.3	-23%
14	12	12	13	10	2.0	1.8	1.2	3.2	1.2	60%
15	8	8	8	8	2.8	4.3	1.3	3.3	0.6	20%
16	9	9	10	7	1.1	4.4	3.4	1.1	0.0	-1%
17	19	19	20	12	3.8	3.5	3.2	2.2	-1.6	-42%
18	10	10	10	6	1.6	1.6	2.6	1.0	-0.6	-38%
19	13	13	15	12	1.1	2.3	1.6	0.8	-0.3	-26%
20	8	8	8	4	1.3	1.8	0.3	2.0	0.8	60%
Mean Across RHPs	**-**	**-**	**-**	**-**	**1.9**	**2.7**	**2.3**	**2.0**	**0.1**	**5%**

Again, it is important to note that the number of participating providers decreased from the beginning of the waiver (T0) to 2020 (T3). Thus, there are often fewer providers to potentially share ties with in most of the regions. Despite this, the average change in tangible resource sharing ties per organization within regions was +5%.

Table 4. Average Number of Formal Data Sharing Ties Over Time

RHP	# of Providers T0: Pre-Waiver	# of Providers T1: 2013	# of Providers T2: 2015	# of Providers T3: 2020	Avg. # of Ties T0: Pre-Waiver	Avg. # of Ties T1: 2013	Avg. # of Ties T2: 2015	Avg. # of Ties T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
1	37	38	40	20	1.0	1.5	2.0	3.6	2.6	270%
2	17	17	17	15	0.9	1.2	1.8	2.8	1.9	198%
3	30	30	33	25	2.6	3.5	2.5	1.4	-1.2	-46%
4	25	25	25	17	0.9	2.1	1.5	1.2	0.3	36%
5	8	8	8	10	1.3	2.0	1.5	2.0	0.8	60%
6	27	27	27	23	1.6	2.4	3.9	2.1	0.5	29%
7	16	16	17	7	1.1	1.8	2.1	1.4	0.3	24%
8	16	16	18	13	1.4	1.5	2.2	0.8	-0.6	-42%
9	25	25	25	23	2.1	2.5	3.7	2.3	0.2	11%
10	30	30	33	24	2.8	2.5	2.0	2.4	-0.4	-14%
11	19	19	19	15	0.8	1.1	0.9	0.8	0.0	-5%
12	37	37	39	36	1.2	2.1	2.0	1.9	0.7	53%
13	21	21	21	13	2.2	3.0	2.1	0.8	-1.4	-63%
14	12	12	13	10	1.3	1.3	1.2	1.6	0.3	20%
15	8	8	8	8	1.8	4.5	3.0	2.8	1.1	60%
16	9	9	10	7	0.7	2.0	1.0	1.4	0.7	110%
17	19	19	20	12	2.3	2.5	2.7	1.7	-0.6	-27%
18	10	10	10	6	1.4	2.0	1.8	0.3	-1.1	-79%
19	13	13	15	12	0.2	2.0	0.7	0.5	0.3	225%

RHP	# of Providers T0: Pre-Waiver	# of Providers T1: 2013	# of Providers T2: 2015	# of Providers T3: 2020	Avg. # of Ties T0: Pre-Waiver	Avg. # of Ties T1: 2013	Avg. # of Ties T2: 2015	Avg. # of Ties T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
20	8	8	8	4	1.0	0.8	3.5	2.5	1.5	150%
Mean Across RHPs	**-**	**-**	**-**	**-**	**1.4**	**2.1**	**2.1**	**1.7**	**0.3**	**20%**

Again, it is important to note that the number of participating providers decreased from the beginning of the waiver (T0) to 2020 (T3). Thus, there are often fewer providers to potentially share ties with in most of the regions. Despite this, the average change in data sharing agreement ties per organization within regions was +20%.

Network density

A better measure of trends in joint service delivery, tangible resource sharing, and data sharing agreements between DSRIP providers in a region is *network density*, which controls for any changes in the number of providers in each region over time. Network density is the number of existing ties between any of the organizations in a region divided by the total number of possible ties in that region. These results are shared below.

Table 5. Average Joint Service Delivery Network Density Over Time

RHP	Network Density T0: Pre-Waiver	Network Density T1: 2013	Network Density T2: 2015	Network Density T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
1	14%	21%	17%	35%	21%	153%
2	34%	35%	18%	33%	-1%	-2%
3	19%	20%	22%	16%	-3%	-14%
4	20%	26%	20%	22%	2%	12%
5	43%	68%	43%	24%	-19%	-44%
6	14%	16%	42%	21%	7%	47%
7	24%	25%	33%	38%	14%	57%
8	29%	28%	30%	21%	-8%	-28%
9	26%	28%	26%	15%	-11%	-42%
10	23%	23%	17%	12%	-11%	-48%
11	43%	50%	19%	18%	-25%	-58%
12	28%	28%	19%	17%	-11%	-39%
13	24%	43%	28%	19%	-5%	-22%
14	48%	55%	50%	29%	-19%	-40%
15	57%	89%	61%	71%	14%	24%
16	61%	83%	58%	52%	-9%	-15%
17	33%	33%	33%	26%	-7%	-21%
18	38%	53%	36%	33%	-5%	-13%
19	42%	54%	33%	12%	-30%	-72%
20	57%	57%	57%	67%	10%	17%

RHP	Network Density T0: Pre-Waiver	Network Density T1: 2013	Network Density T2: 2015	Network Density T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
Mean across RHPs	**34%**	**42%**	**33%**	**29%**	**-5%**	**-14%**

From the baseline, the average density of joint service delivery ties between DSRIP providers within a region changed by -5 percentage points, a 14% decrease.

Table 6. Average Tangible Resource Sharing Network Density Over Time

RHP	Network Density T0: Pre-Waiver	Network Density T1: 2013	Network Density T2: 2015	Network Density T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
1	9%	13%	8%	14%	5%	50%
2	13%	18%	9%	11%	-2%	-17%
3	5%	5%	6%	11%	6%	118%
4	6%	9%	11%	4%	-2%	-33%
5	18%	25%	18%	20%	2%	12%
6	13%	19%	14%	7%	-6%	-47%
7	10%	14%	18%	38%	28%	280%
8	8%	10%	16%	20%	12%	140%
9	10%	10%	13%	10%	0%	3%
10	6%	7%	8%	9%	3%	51%
11	6%	8%	9%	17%	11%	164%
12	7%	9%	9%	9%	2%	22%
13	7%	16%	10%	9%	2%	26%
14	18%	17%	10%	36%	18%	98%
15	39%	61%	18%	46%	7%	17%
16	14%	56%	38%	19%	5%	37%
17	21%	19%	17%	20%	-1%	-5%
18	18%	18%	29%	20%	2%	13%
19	9%	19%	11%	8%	-1%	-11%
20	18%	25%	4%	67%	49%	275%

RHP	Network Density T0: Pre-Waiver	Network Density T1: 2013	Network Density T2: 2015	Network Density T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
Mean across RHPs	**13%**	**19%**	**14%**	**20%**	**7%**	**54%**

From the baseline, the average density of tangible resource sharing ties between DSRIP providers within a region changed by +7 percentage points, a 54% increase.

Table 7. Average Data Sharing Agreement Network Density Over Time

RHP	Network Density T0: Pre-Waiver	Network Density T1: 2013	Network Density T2: 2015	Network Density T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
1	3%	4%	5%	19%	16%	603%
2	6%	7%	11%	20%	14%	240%
3	9%	12%	8%	6%	-3%	-33%
4	4%	9%	6%	7%	3%	91%
5	18%	29%	21%	22%	4%	23%
6	6%	9%	15%	9%	3%	44%
7	8%	12%	13%	24%	17%	220%
8	9%	10%	13%	8%	-1%	-13%
9	9%	10%	15%	10%	1%	15%
10	10%	9%	6%	11%	1%	14%
11	5%	6%	5%	6%	1%	28%
12	3%	6%	5%	6%	3%	74%
13	11%	15%	10%	6%	-5%	-45%
14	12%	12%	10%	18%	6%	49%
15	25%	64%	43%	39%	14%	56%
16	8%	25%	11%	24%	16%	188%
17	13%	14%	14%	15%	2%	17%
18	16%	22%	20%	7%	-9%	-55%
19	1%	17%	5%	5%	4%	290%
20	14%	11%	50%	83%	69%	481%

RHP	Network Density T0: Pre-Waiver	Network Density T1: 2013	Network Density T2: 2015	Network Density T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
Mean across RHPs	**9%**	**15%**	**14%**	**17%**	**8%**	**83%**

From the baseline, the average density of data sharing agreement ties between DSRIP providers within a region changed by +8 percentage points, an 83% increase.

Centralization

Another network measure that was evaluated was the extent to which ties, in any of the dimensions (joint service delivery, tangible resource sharing, or data sharing agreements), were centralized around any particular provider. If a provider has a tie to everyone else in the region, but no other provider shares ties with a location other than the central provider, the degree of centralization would be 100%.

Table 8. Joint Service Delivery Centralization Over Time

RHP	Centralization T0: Pre-Waiver	Centralization T1: 2013	Centralization T2: 2015	Centralization T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
1	53%	58%	45%	61%	8%	15%
2	25%	73%	36%	36%	11%	42%
3	35%	52%	36%	32%	-3%	-10%
4	24%	22%	32%	25%	1%	5%
5	38%	43%	19%	39%	1%	2%
6	26%	36%	50%	57%	31%	118%
7	26%	32%	33%	63%	37%	145%
8	50%	51%	39%	51%	1%	1%
9	35%	38%	35%	38%	3%	8%
10	53%	52%	75%	44%	-9%	-17%
11	52%	56%	35%	29%	-23%	-44%
12	70%	68%	30%	36%	-34%	-49%
13	45%	63%	57%	56%	11%	24%

RHP	Centralization T0: Pre-Waiver	Centralization T1: 2013	Centralization T2: 2015	Centralization T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
14	40%	44%	49%	61%	21%	53%
15	38%	14%	52%	38%	0%	0%
16	34%	21%	39%	43%	9%	27%
17	44%	32%	34%	35%	-9%	-21%
18	22%	31%	39%	70%	48%	215%
19	68%	55%	60%	40%	-28%	-41%
20	19%	38%	38%	67%	48%	252%
Mean across RHPs	**40%**	**44%**	**42%**	**46%**	**6%**	**15%**

Joint service delivery ties became more centralized over time with a 6 percentage point increase from the beginning of the DSRIP program, a 15% increase.

Table 9. Tangible Resource Sharing Centralization Over Time

RHP	Centralization T0: Pre-Waiver	Centralization T1: 2013	Centralization T2: 2015	Centralization T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
1	43%	35%	21%	25%	-18%	-42%
2	28%	36%	40%	28%	1%	2%
3	28%	17%	24%	34%	6%	22%
4	21%	22%	43%	16%	-5%	-23%
5	33%	43%	33%	17%	-16%	-49%
6	23%	83%	30%	32%	9%	38%
7	34%	45%	36%	63%	29%	84%
8	13%	27%	42%	53%	40%	298%
9	35%	30%	22%	24%	-11%	-31%
10	19%	26%	54%	37%	18%	90%
11	30%	16%	34%	21%	-9%	-30%
12	22%	17%	32%	23%	1%	7%
13	36%	65%	39%	19%	-17%	-48%

RHP	Centralization T0: Pre-Waiver	Centralization T1: 2013	Centralization T2: 2015	Centralization T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
14	55%	56%	37%	81%	26%	49%
15	62%	52%	33%	52%	-10%	-16%
16	30%	57%	50%	20%	-10%	-34%
17	32%	28%	46%	31%	-1%	-4%
18	33%	19%	19%	30%	-3%	-10%
19	19%	95%	77%	24%	5%	27%
20	33%	24%	14%	67%	34%	101%
Mean across RHPs	**32%**	**40%**	**36%**	**35%**	**3%**	**11%**

Tangible resource sharing ties became more centralized over time with a 3 percentage point increase from the beginning of the DSRIP program, an 11% increase.

Table 10. Data Sharing Agreements Centralization Over Time

RHP	Centralization T0: Pre-Waiver	Centralization T1: 2013	Centralization T2: 2015	Centralization T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
1	29%	39%	22%	73%	44%	148%
2	22%	34%	37%	92%	70%	325%
3	38%	46%	32%	48%	10%	25%
4	14%	18%	16%	20%	6%	42%
5	33%	38%	29%	42%	9%	26%
6	31%	32%	38%	59%	28%	93%
7	22%	25%	28%	37%	15%	69%
8	28%	19%	51%	24%	-4%	-13%
9	22%	20%	15%	19%	-3%	-15%
10	23%	20%	63%	45%	22%	96%
11	20%	18%	38%	26%	6%	33%
12	20%	15%	25%	36%	16%	81%

RHP	Centralization T0: Pre-Waiver	Centralization T1: 2013	Centralization T2: 2015	Centralization T3: 2020	Point Change T0 to T3*	% Change T0 to T3**
13	27%	72%	60%	42%	15%	58%
14	40%	40%	37%	33%	-7%	-18%
15	24%	29%	38%	43%	19%	81%
16	21%	96%	42%	37%	16%	73%
17	29%	22%	25%	25%	-4%	-14%
18	36%	28%	31%	20%	-16%	-45%
19	8%	98%	36%	27%	19%	224%
20	38%	24%	48%	33%	-5%	-13%
Mean across RHPs	**26%**	**37%**	**35%**	**39%**	**13%**	**49%**

Data sharing agreement ties became more centralized over time with a 13 percentage point increase from the beginning of the DSRIP program, a 49% increase.

Tentative Observations:

- The network density data (and, to some extent, the data on the average number of ties) points towards increased collaboration between DSRIP providers in a region in terms of tangible resource sharing and data sharing agreement over time, and decreased collaboration in terms of joint service delivery.
- The average level of centralization of ties within regions increased across each of the three dimensions of joint service delivery, tangible resource sharing, and data sharing agreements.
- Reviewers should be cautious regarding the interpretation of these results as causality cannot be assessed. Some of these trends may be related to general changes in the health care system over time, in addition to differential characteristics of providers that have either dropped out of the DSRIP program or joined over time.

DSRIP Claims Based Analysis

Hypothesis 1.2 DSRIP incentivized performing providers to improve continuity, quality, and cost of care for Medicaid clients with diabetes.

HHSC will be submitting a revised Evaluation Design Plan to Centers for Medicare and Medicaid Services (CMS) with adjustments to the sampling strategy, analyses, and all measures associated with Hypothesis 1.2. This adjusted analysis is presently underway.

Category C Population-Based Clinical Outcome Measure

Hypothesis 1.3 DSRIP incentivized performing providers to improve quality-related outcomes, specified as Category C population-based clinical outcome measures.

This hypothesis question was evaluated using the following measures for performing providers focused on serving the Medicaid and low-income uninsured (MLIU) population:

- Improved Chronic Disease Management: Diabetes Care (A1-508)
- Improved Chronic Disease Management: Heart Disease (A2-509)
- Behavioral Health and Appropriate Utilization (H2-510)
- Primary Care Prevention - Healthy Texans (C1-502)
- Pediatric Primary Care (D1-503)

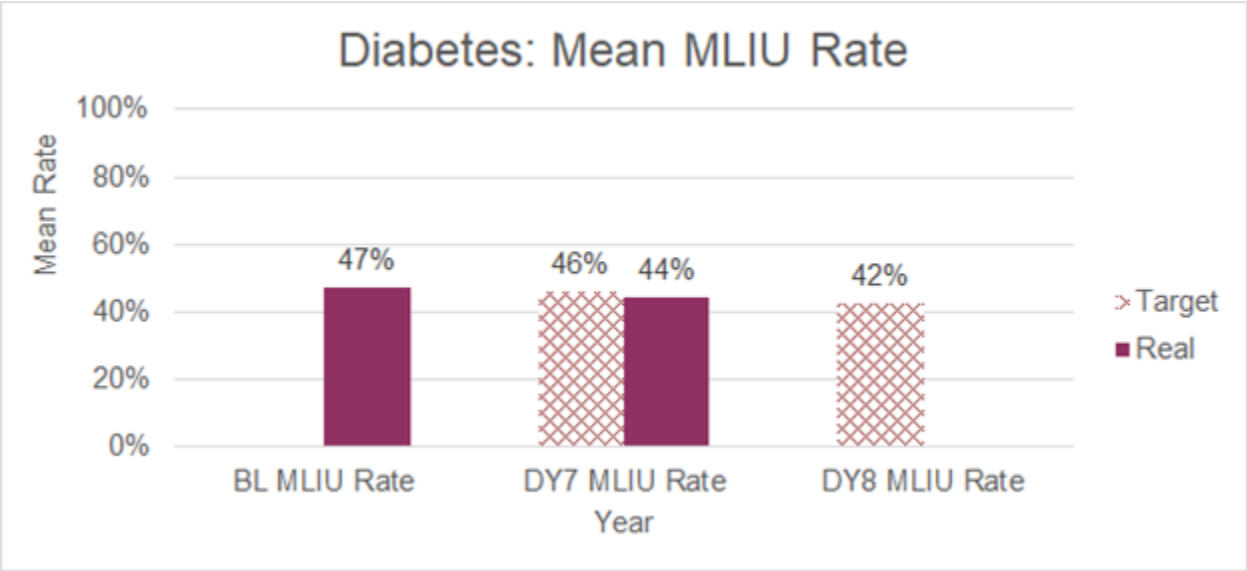
Example measure:

Improved Chronic Disease Management: Diabetes Care (A1-508)

- The objective of the A1: Improved Chronic Disease Management measure bundle is to develop and implement chronic disease management interventions that are geared toward improving management of diabetes and comorbidities, improving health outcomes and quality of life, preventing disease complications, and reducing unnecessary acute and emergency care utilization among the Medicaid and low-income (MLIU) population.
- Activities that performing providers participated in were targeted towards lowering HbA1c levels, providing timely education and medication for self-management, improving care coordination and diabetes management at the health system level, delivering exercising and cooking classes, hiring and training community health worker (CHW) diabetic educators, promoting behavior change and self-management strategies, expanding chronic disease screening opportunities, and developing as well as delivering evidence-based diabetes prevention programs.
- Providers reported baseline and DY7 MLIU rates. Weighted mean rates were created for the A1-508: Reduce Rate of Emergency Department visits for Diabetes measure in order to adjust for the volume of the baseline MLIU as

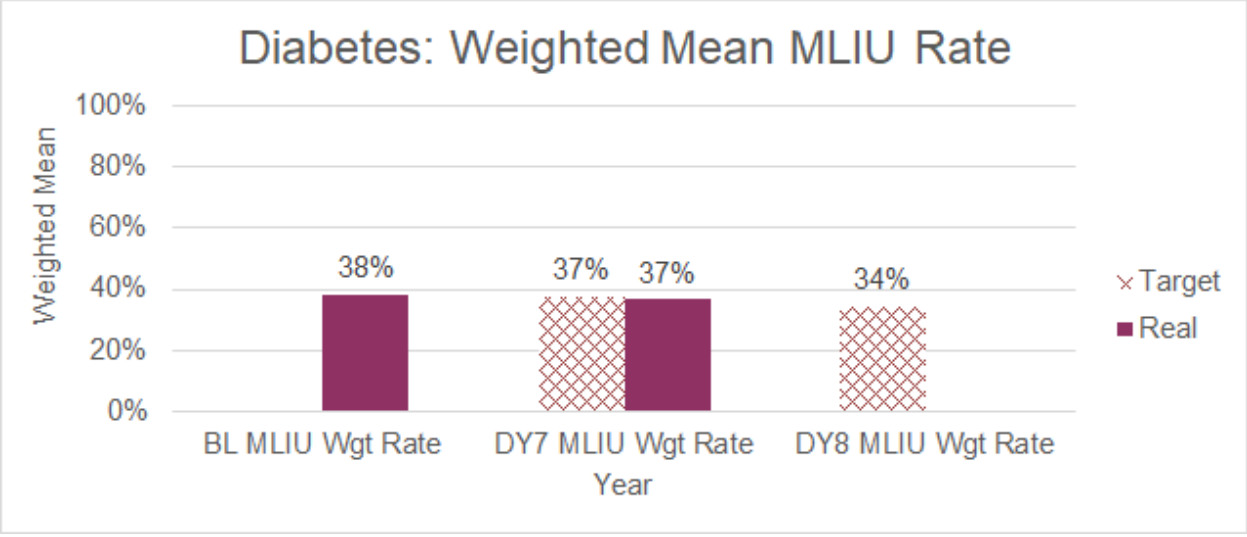
well as DY7 MLIU rates of each performing provider. The denominators of the MLIU baseline population for each performing provider were added up to find the overall denominator, multiplied by the unweighted rate, and summed to get the final weighted mean rates.

Figure 1. MLIU Mean Rate for Diabetes, Measure ID=A1-508 (N=22)



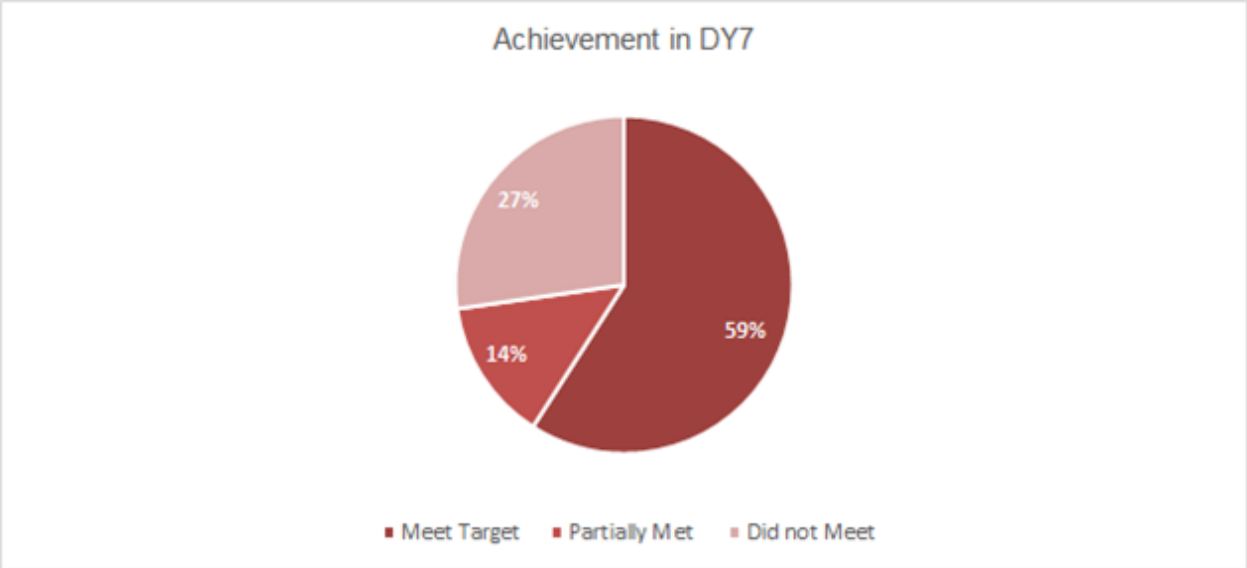
- Numerator: Total number of ED visits with a primary or secondary diagnosis of diabetes (E101, E131, E110, E130, E10641, E11641, E106, E116, E108, E118, E109, E119)
- Denominator: DSRIP attributed target population for the provider system.
- Difference between baseline rate and DY7 rate not statistically significant after conducting Wilcoxon Signed Rank Sum test (p=0.1021).

Figure 2. MLIU Weighted Mean Rate for Diabetes, Measure ID=A1-508 (N=22)



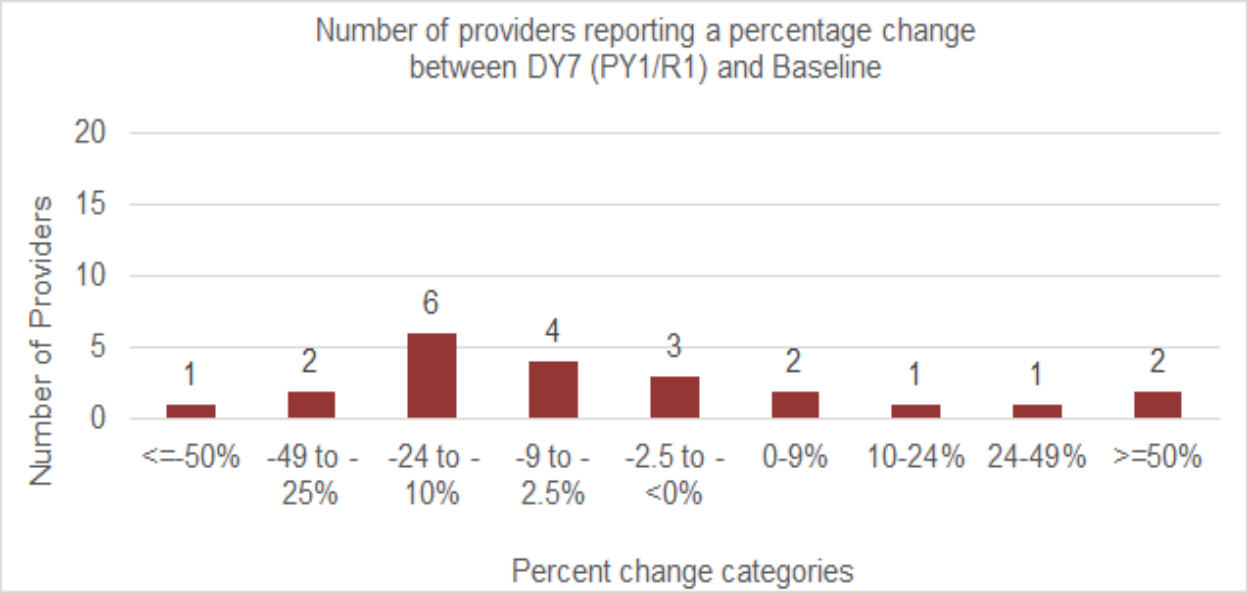
- Numerator: Total number of ED visits with a primary or secondary diagnosis of diabetes (E101, E131, E110, E130, E10641, E11641, E106, E116, E108, E118, E109, E119)
- Denominator: DSRIP attributed target population for the provider system
- Difference between baseline rate and DY7 rate not statistically significant after conducting Wilcoxon Signed Rank Sum test (p=0.1021).

Figure 3. Achievement in DY7 for Diabetes, Measure ID=A1-508 (N=22)



- DY7 goal = 2.5% improvement over baseline
- Partially met indicates than although an improvement was seen these providers did not meet the DY7 goal

Figure 4. Number of providers reporting a percentage change between DY7 (PY1/R1) and Baseline for Diabetes, Measure ID=A1-508 (N=22)



- DY7 goal = 2.5% improvement over baseline
- DY8 goal = 10% improvement over baseline (DY8 results are not available at this time, however, some providers saw a 10% or greater improvement in DY7)
- On the x-axis, the negative values represent favorable improvement

For each of the remaining measures:

- Improved Chronic Disease Management: Heart Disease (A2-509)
- Behavioral Health and Appropriate Utilization (H2-510)
- Primary Care Prevention - Healthy Texans (C1-502)
- Pediatric Primary Care (D1-503)

The weighted mean rates between baseline and DY8 are shown in the graphs below. The goals of 2.5% and 10% improvement for DY7 and DY8 remain the same for each measure.

Figure 5. MLIU Weighted Mean Rate for Heart Disease, Measure ID=A2-509 (N=12)

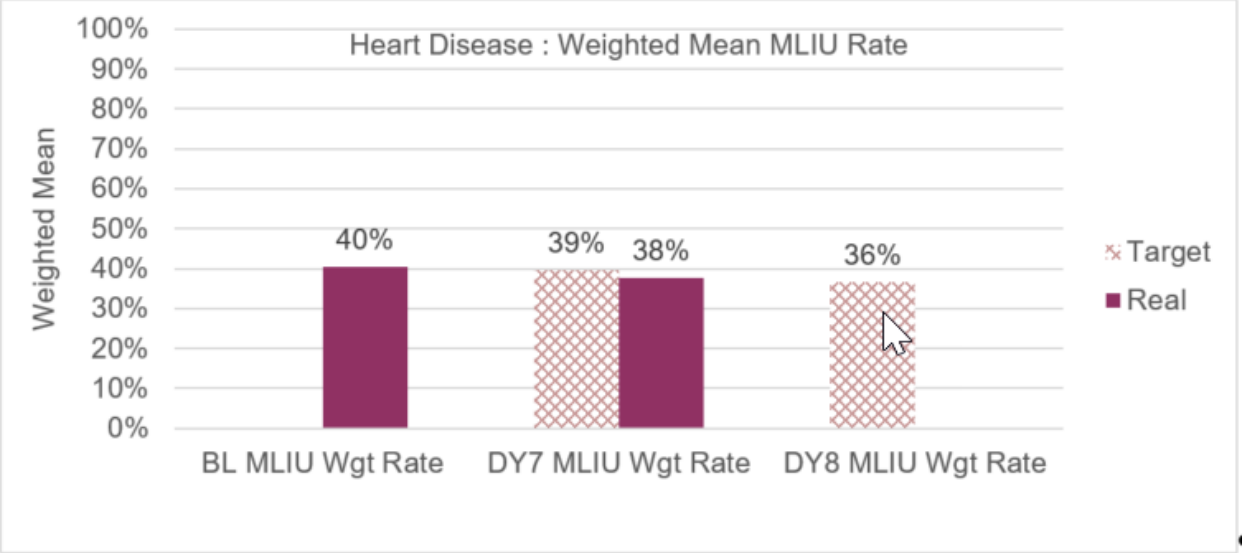


Figure 6. MLIU Weighted Mean Rate for Behavioral Health, Measure ID=H2-510 (N=7)

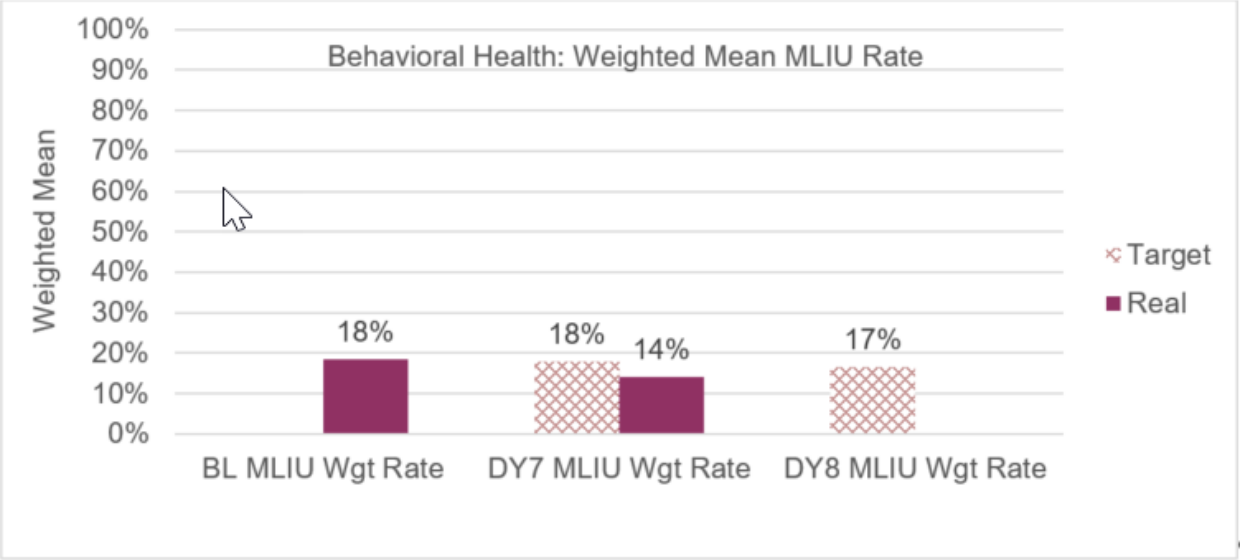


Figure 7. MLIU Weighted Mean Rate for Primary Care Prevention, Measure ID=C1-502 (N=18)

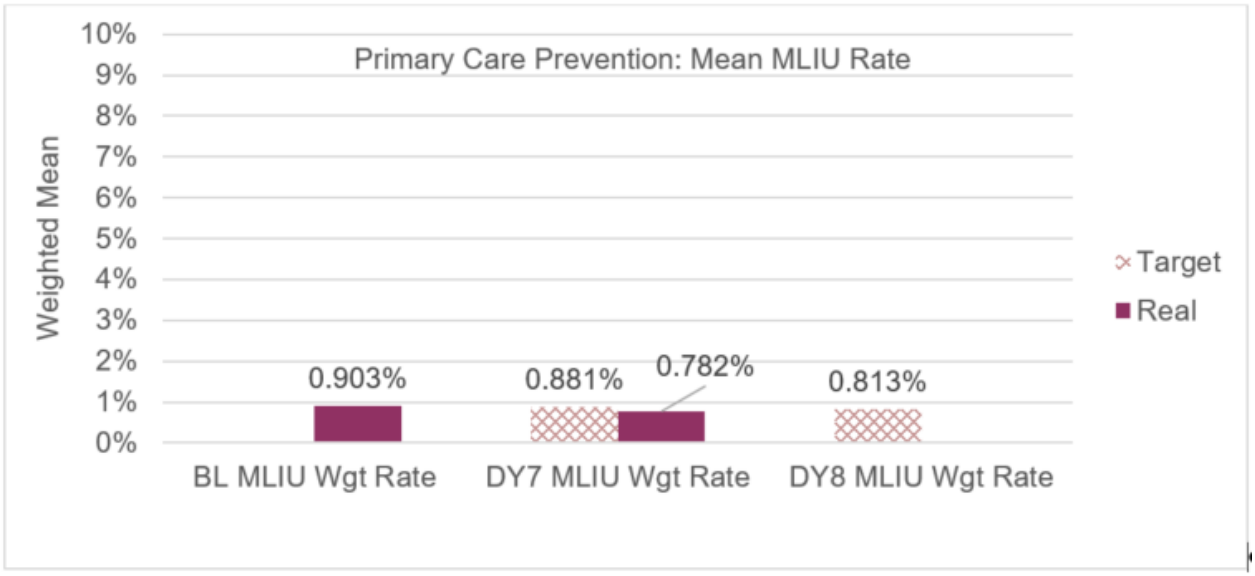
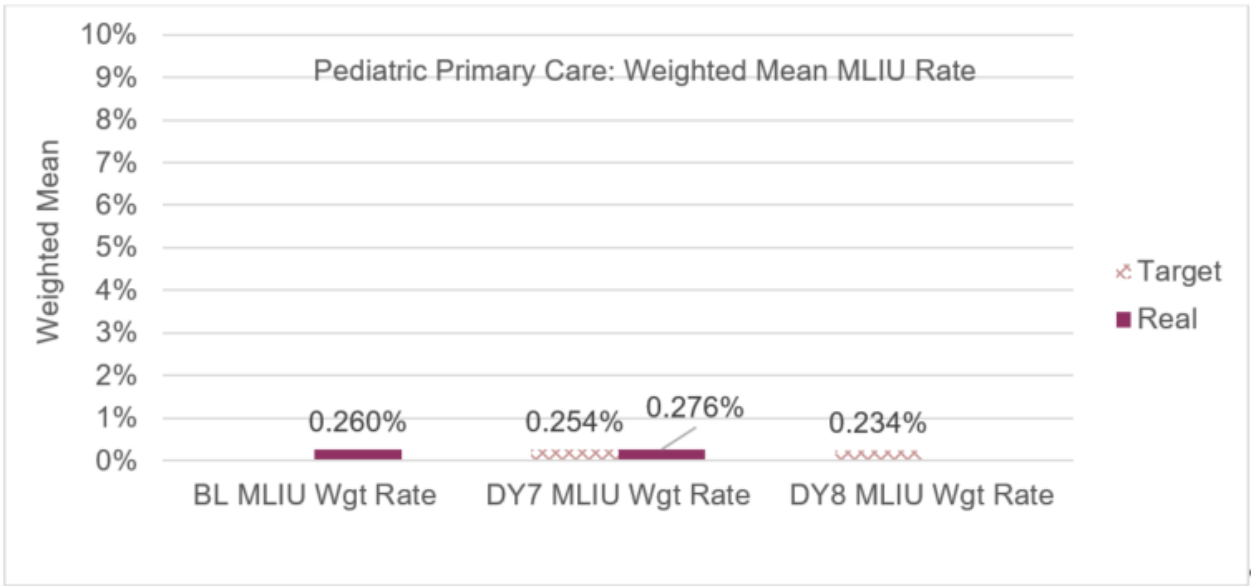


Figure 8. MLIU Weighted Mean Rate for Pediatric Primary Care, Measure ID=D1-503 (N=10)



Tentative Observations

- Performing providers had a mixture of successes and challenges with meeting their DY7 and DY8 targets. While some were able to meet both of their goals in one year, others reported an increase from baseline or did not see enough of a decrease from baseline to meet specified targets for the MLIU population.
- The Primary Care and CHF/Angina/Heart failure measures (2 out of 5 measures for this evaluation question) revealed statistically significant decreases from baseline thus indicating that there is some improvement which may be linked to DSRIP activities of performing providers.

Category D Population Health Outcomes

Hypothesis 1.4 DSRIP transformed the health care system, resulting in improvements in population health, specified as DSRIP Category D outcomes.

This hypothesis question was evaluated using the following measures for performing providers:

- Potentially preventable admissions (PPA)
- Potentially preventable emergency department visits (PPV)
- Potentially preventable readmissions (PPR)
- Potentially preventable complications (PPC)

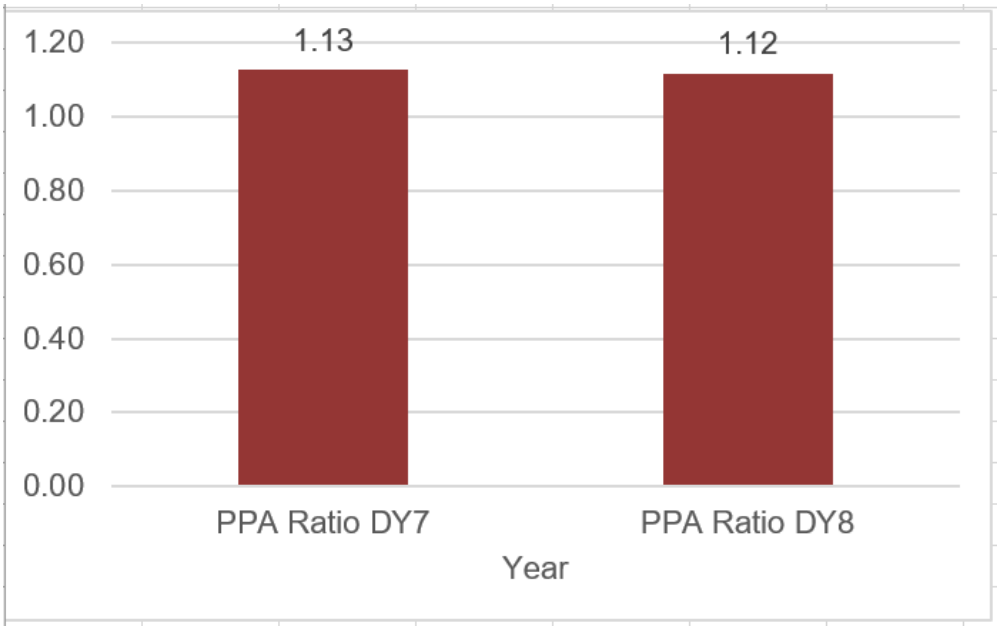
Example measure:

Potentially preventable Admissions (PPA)

- Potentially preventable admissions (PPA) are facility admissions that may have resulted from the lack of adequate access to care or ambulatory care coordination. This measure is 1 of 4 in the Category D Hospital Statewide Reporting Measure Bundle specified in the Measure Bundle Protocol.
- This RHP-level measure includes hospital admissions for any of the following ambulatory care sensitive conditions: congestive heart failure, diabetes, behavioral health/substance abuse, chronic obstructive pulmonary disease, adult asthma, pediatric asthma, angina and coronary artery disease, hypertension, cellulitis, respiratory infection, pulmonary edema and respiratory failure, and other.

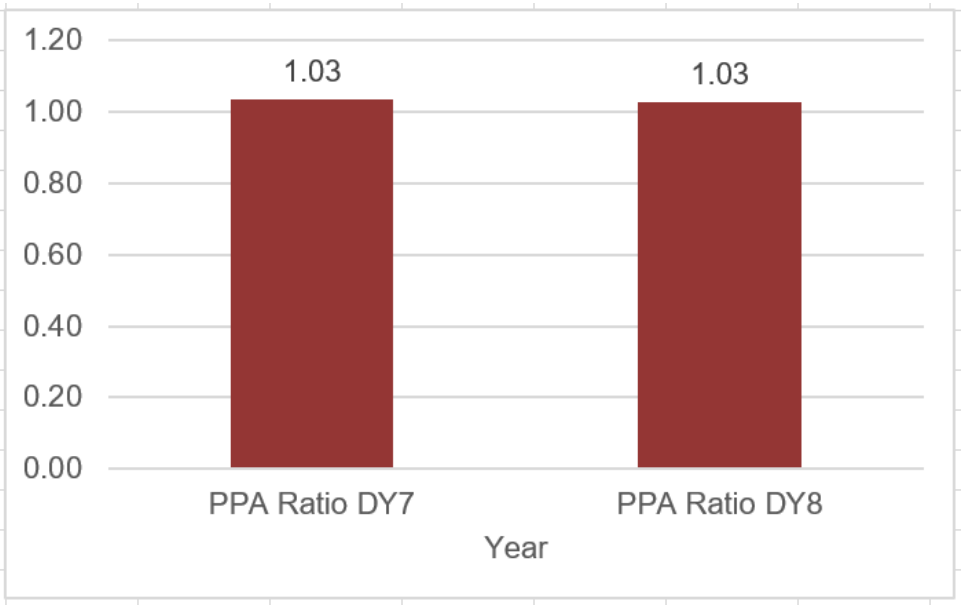
- Providers reported PPA ratios for DY7 and DY8. Weighted mean ratios were created for the PPA measure in order to adjust for the volume of PPAs in each RHP using the actual number of PPAs reported for each performing provider. The actual number of PPAs reported for each provider was added up to find the overall denominator, multiplied by the unweighted ratio, and summed to get the final weighted ratio.

Figure 9. Potentially preventable admissions (PPA) unweighted mean ratio, N=21



- Includes 20 RHPs and one NA group. The NA group consists of performing providers that could not be linked to an RHP.
- Difference between 2017 and 2018 ratio not statistically significant after conducting Wilcoxon Signed Rank Sum test (p=0.37).

Figure 10. Potentially preventable admissions (PPA) weighted mean ratio, N=21



- Includes 20 RHPs and one NA group. The NA group consists of performing providers that could not be linked to an RHP.
- Difference between 2017 and 2018 ratio not statistically significant after conducting Wilcoxon Signed Rank Sum test (p=0.37).

For each of the remaining measures:

- Potentially preventable emergency department visits (PPV)
- Potentially preventable readmissions (PPR)
- Potentially preventable complications (PPC)

The weighted mean rates between baseline and DY8 are shown in the graphs below.

Figure 11.Potentially preventable readmissions (PPR) weighted mean ratio, N=21

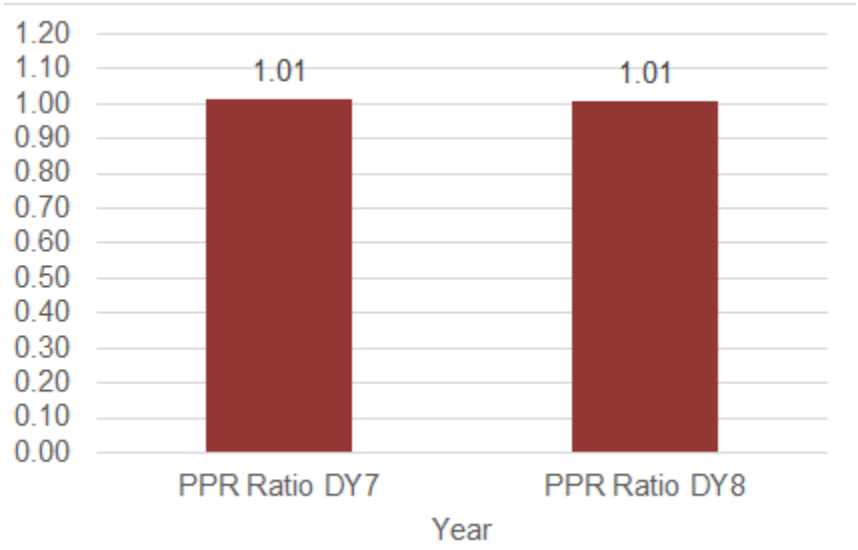


Figure 12. Potentially preventable complications (PPC) weighted mean ratio, N=21

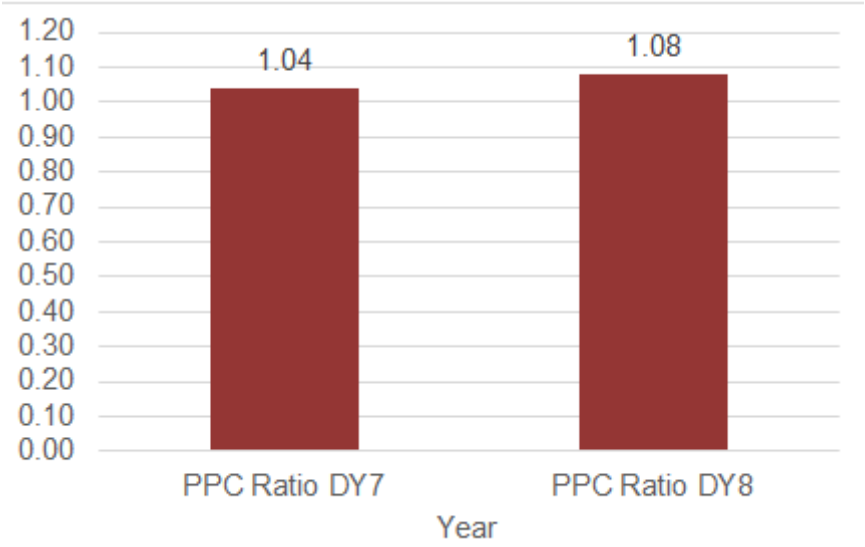
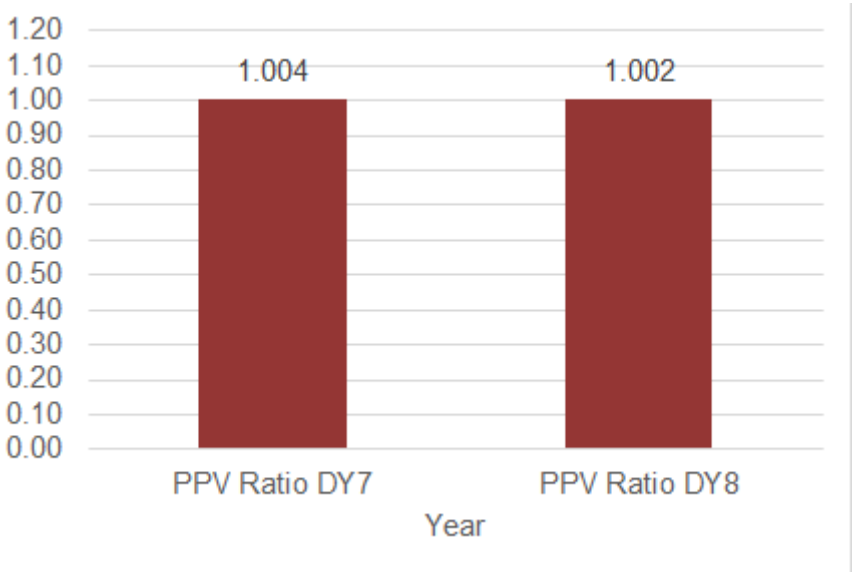


Figure 13. Potentially preventable ED visits (PPV) weighted mean ratio, N=21



Tentative Observations

- At the RHP level, potentially preventable events- including potentially preventable admissions (PPA), potentially preventable emergency department visits (PPV), potentially preventable complications (PPC), and potentially preventable readmissions (PPR)- did not decrease significantly between DY7 and DY8 (i.e. after weighting, the ratios were not different from 1).
- These results only include data for DY7 to DY8. The overall measure will be calculated using data from DY7-DY11. As a result there is still time to assess if DSRIP transformed the health care system, resulting in improvements in population health.

Summary of Early Results from the DSRIP Evaluation

Evaluation Question 1: Did the DSRIP program incentivize changes to transform the health care system for the MLIU population in Texas?

While many of the analyses remain underway, DSRIP providers have shown increased collaboration in a few areas (tangible resource sharing and data sharing agreements) but less in others (joint service delivery) since the beginning of the 1115 Waiver. Improvements have been seen for certain Category C clinical outcome measures [Improved Chronic Disease Management: Heart Disease (A2-509) and Primary Care Prevention - Healthy Texans (C1-502)] since the beginning of the Waiver renewal, when measures began to be evaluated at the provider level. Significant changes in Category D population health measures have not yet been found since the beginning of the Waiver renewal. As these are descriptive trends, causal inferences should not be made at this time. Once additional data are available and the claims analysis is complete, a better sense of the impact of the program on the measures outlined in the DSRIP Claims Based Analysis will be feasible.

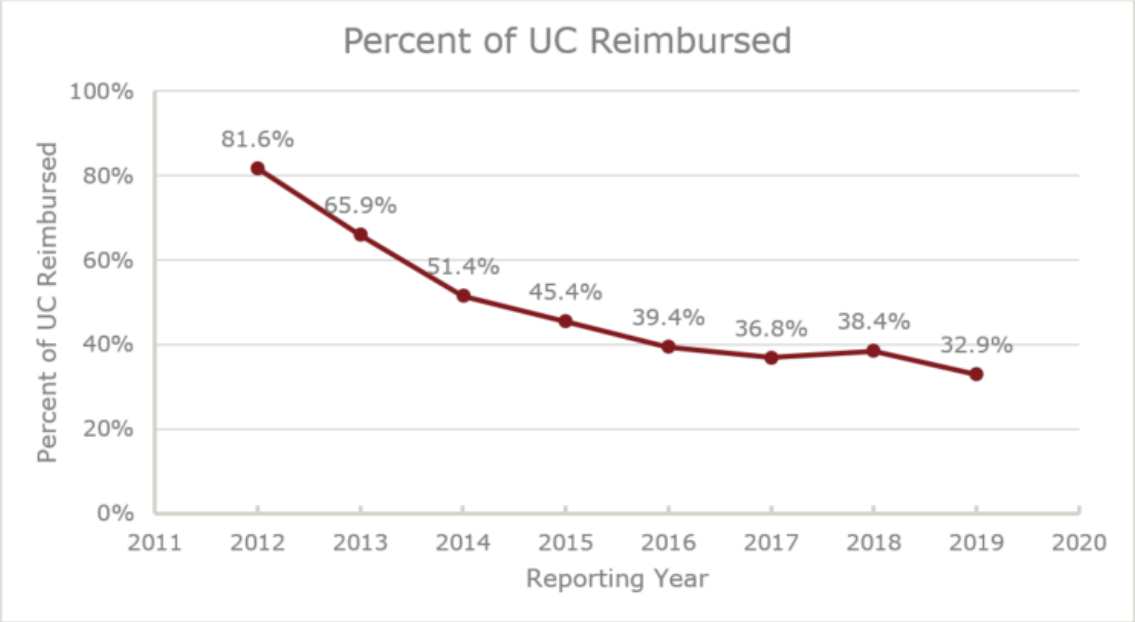
B. Uncompensated Care

Evaluation Question 2: Did the Demonstration impact unreimbursed costs associated with the provision of care to the MLIU population for UC providers?

Hypothesis 2.1 The percentage of UC costs reimbursed through UC payments for each type of UC (overall, Medicaid shortfall, uninsured shortfall) will decrease throughout DY1-DY8.

We measure the percentage of UC cost reimbursed for each hospital by dividing the total amount of UC reimbursed received by the hospital's total UC costs among hospitals receiving UC payments. To provide a comparable time trend across DY1 to DY8, we restricted the data to hospitals who received UC payments in seven or all (eight) demonstration years. We then plotted the average annual reimbursement rate in each year for all hospitals in Figure 14. Unfortunately, we could not perform the same analysis at the Medicaid and uninsured shortfall reimbursed costs because only overall reimbursement data was collected.

Figure 14. Percentage of Overall UC cost reimbursed through UC payments



Note: X-axis displays results for DY1 (2012 UC report using 2010 data) to DY8 (2019 UC report using 2017 data). The vertical red line separates the time period of the first waiver to the current waiver.

Tentative Results & Observations:

- The percentage of UC cost reimbursed as measured decreased from about 81.6% in DY1 to about 32.9% in DY8.
- However, some of this decline over time may be attributable to changes over time in specific details in the UC payment system used to determine hospital UC costs eligible for reimbursement. Thus, annual estimates of percentage of UC cost reimbursed may not be directly comparable overtime without additional adjustments.

Hypothesis 2.2 The UC cost growth rate will slow over time for UC providers participating in the Demonstration.

We measure the change in UC cost growth from DY1 to DY8 by estimating a linear relationship between the UC growth rate and time in a regression model that adjusted for time varying hospital changes to account for hospital specific differences over time that may affect UC cost growth. We included hospital information from the American Hospital Association (AHA) on the hospital's bed size, ownership status, whether it had an HMO contract, whether it had a PPO contract, and total hospital admissions volume. We also included information from the UC hospital data, including the Disproportionate Share Hospital (DSH) payment to the hospital, the hospitals UC pool size, the number of hospitals in each UC pool, and hospitals rural hospital classification status. With all this information we estimated the following regression model to evaluate the impact on cost growth:

$$\text{UC Growth Rate}_{it}=\gamma_0+\gamma_1\text{Time}_t+\gamma_2\text{hospital}_{it}+\beta\, X_{it}+\theta_i+\varepsilon_i$$

The term "UC growth rate" is defined as (UC costs – UC costs previous year) / (UC costs previous year). Time_i is a continuous time trend variable and is the variable of interest. Hospital_{it} describes the hospital based on the data in the American Hospital Association survey (total beds, type, HMO contract, etc.). Θ_i represents hospital fixed effects (this variable takes care of time-invariant differences between hospitals). Lastly, X_{it} includes other UC related hospital characteristics, such as the UC program, DSH payment, UC budget pool, number of hospitals in the budget pool, and Rider 38 status.

This analysis is presently underway.

C. Medicaid Managed Care (MMC)

Evaluation Question 3: Did the expansion of the MMC health care delivery model to additional populations and services improve healthcare (including access to care, care coordination, quality of care, and health outcomes) for MMC clients?

Methods

Evaluation Question 3 was answered through two approaches and four primary data sources, as described below.

Descriptive Analysis

The Nursing Facility Quality Review (NFQR) Survey and the Consumer Assessment of Healthcare Providers and Systems Health Plan (CAHPS) Survey were utilized. The analysis for these surveys were descriptive statistics that were explored temporally as data was available. No pre-data was available for the CAHPS survey as the first year the child survey was conducted was 2019 and adults was 2020. Pre-data for the NFQR survey includes 2010, 2013, and 2015.The only NFQR post-data currently available is 2015.

In addition to the two surveys, a few of the other measures used descriptive analysis when Interrupted Time Series was not appropriate.

Interrupted Time Series Approach

To address many of the hypotheses under evaluation question 3, fee-for-service (FFS) claims and MMC encounter data were used to examine the impact of transitioning from FFS to MMC. We constructed interrupted time series (ITS) models, as indicated in Attachment A and where feasible given available data. The ITS models were used to identify two types of changes pre- versus post MMC implementation: a change in slope or trend and a change in intercept or level. One change point was included in most cases unless there was a clear rationale for modeling additional change points. Statistically significant changes were indicated at the $p<0.05$ level of significance. The pre-period was defined as the 24 months prior to MMC implementation. For measures where insufficient data were available, fewer months were included. The ITS models were specified as follows:

For one change point:

$$Y_t = \beta_0 + \beta_1 * time + \beta_2 * MMC + \beta_3 * postslope + \varepsilon_t$$

For two change points

$Y_t = \beta_0 + \beta_1$*time + β_2* MMC1 + β_3*postslope1 + β_4* MMC2 + β_5*postslope2 + ε

Where β_0 =baseline level of outcome at beginning of pre-MMC period

β_1 = trend pre-MMC (slope)

β_2= immediate impact of MMC (level)

β_3= trend post-MMC (slope)

Access to Care

Hypothesis 3.1 Access to care will improve among clients whose Medicaid benefits shift from FFS to a MMC health care delivery model.

Hypothesis 3.1 was addressed mainly through ITS modeling based on the FFS claims and MMC encounter data. Figure 15 displays the percent of child clients who received at least one preventive dental visit during the reporting period. Initially post-MMC implementation, there was a decrease in the percentage level and a change to a steeper increasing slope, both statistically significant. The observed patterns support Hypothesis 3.1.

Figure 15. Percent of child clients who received at least one preventive dental visit (Measure 3.1.1)

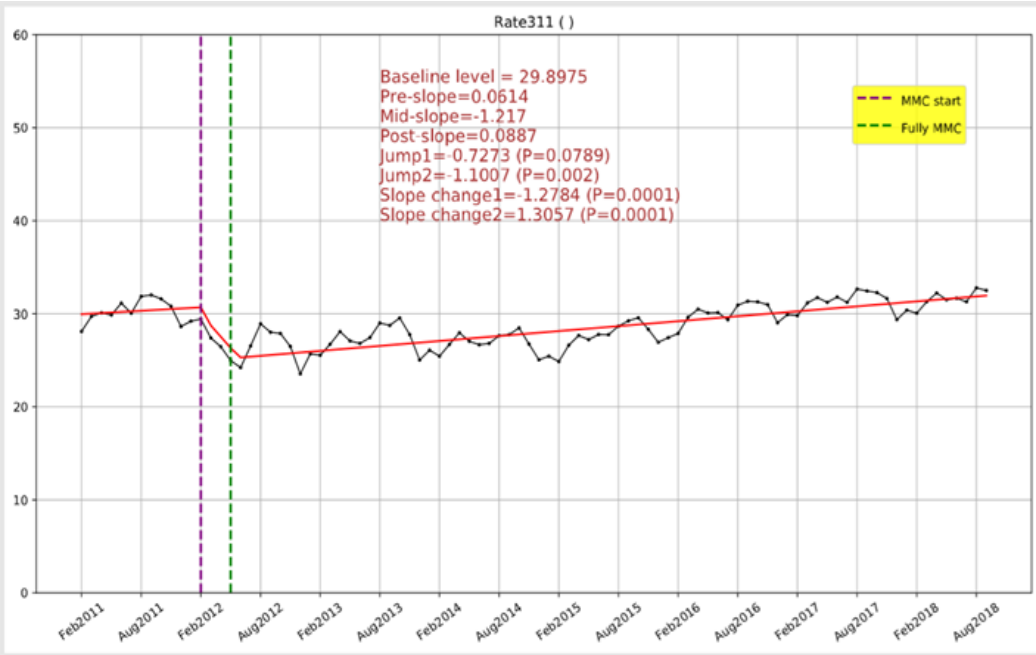


Figure 16 displays the percent of FFCC members who had at least one ambulatory or preventive care visit in the last year. There was a change from an increasing trend to a decreasing trend from September 2017 to September 2018. However, MMC was not fully implemented until after September 2018. Therefore, additional months of data are needed to fully assess this measure.

Figure 16. Percent of FFCC members who had at least one ambulatory or preventive care visit in the last year (Measure 3.1.2)

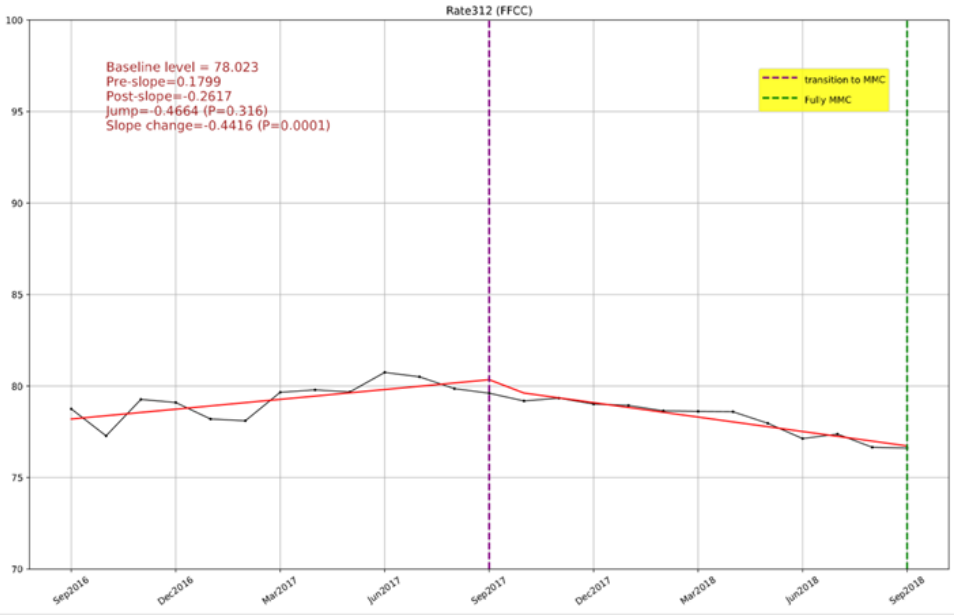


Figure 17 displays the percentage of MBCC members who had at least one ambulatory or preventive care visit in the last year. There was no observed difference after implementation of MMC. However, MMC was not fully implemented until after September 2018. Therefore, additional months of data are needed to fully assess this measure.

Figure 17. Percent of MBCC members who had at least one ambulatory or preventive care visit in the last year (Measure 3.1.2)

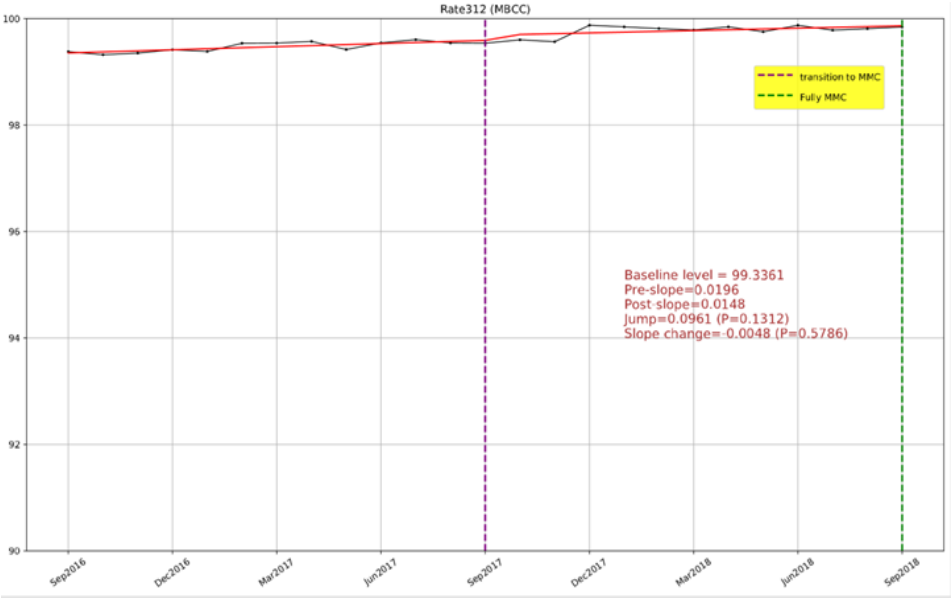


Figure 18 displays the percentage of NF members who had at least one ambulatory or preventive care visit in the last year. Immediately post-MMC implementation, there was a statistically significant change in slope to become steeper than the increasing trend pre-MMC. Once MMC was fully implemented in March 2016, the slope changed again (statistically significant) to become less steep, but still increasing.

Figure 18. Percent of NF members who had at least one ambulatory or preventive care visit in the last year (Measure 3.1.2)

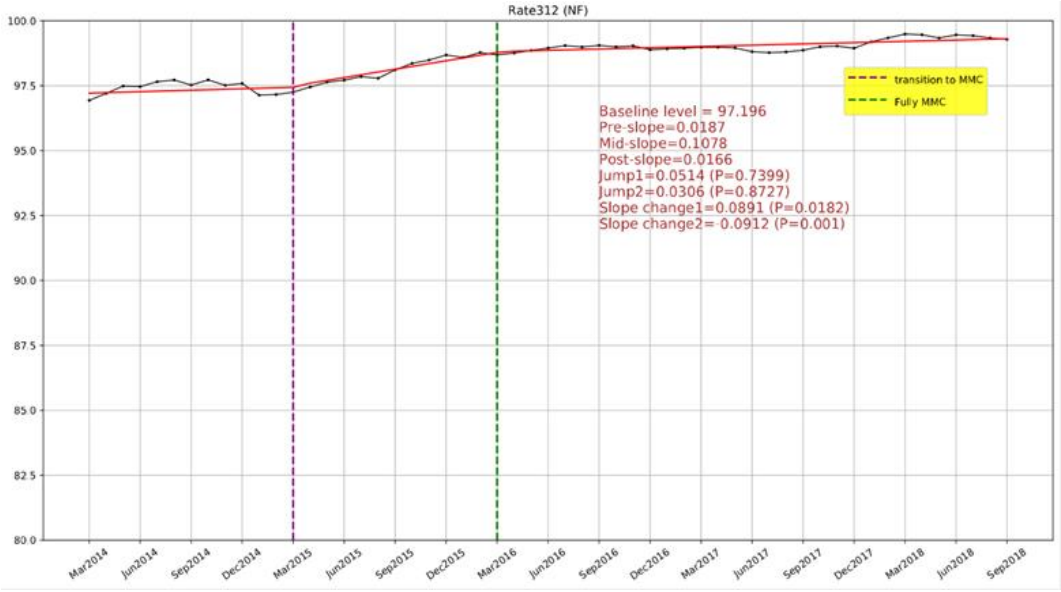


Figure 19 displays the percentage of AA members who had at least one visit with a PCP in the measurement year. There was a statistically significant change immediately following implementation of MMC in September of 2017 with respect to an increase in the percentage level and the slope remained increasing but steeper.

Figure 19. Percent of AA members who had at least one visit with a PCP in the measurement year (Measure 3.1.3)

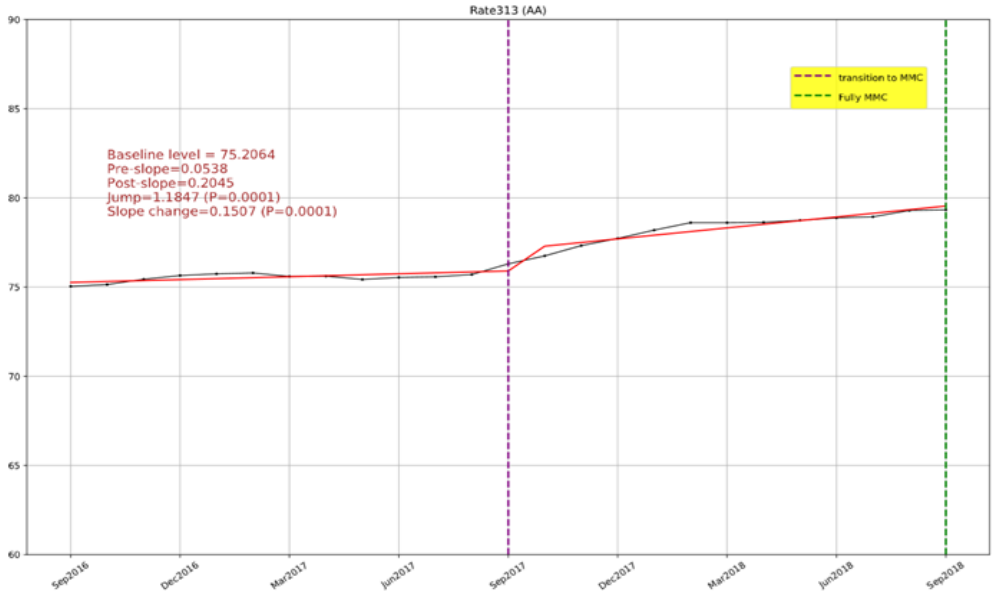


Table 11 presents a summary of the ITS findings for Hypothesis 3.1. Statistics are presented for the baseline level, the slope/trend values pre and post MMC, and level changes post-MMC implementation.

Table 11. Summary of ITS results for Hypothesis 3.1

Measure	Baseline Value	Pre MMC Trend	Post MMC Level Change I	Post MMC Trend I	Post MMC Level Change II	Post MMC Trend II	Endline Value
3.1.1: Percent of child clients who received at least one preventive dental visit	29.90	0.06	0.72	**-1.22**	**-1.10**	**0.09**	31.96
3.1.2: Percent of FFCC members who had at least one ambulatory or preventive care visit in the last year.	78.02	0.18	-0.47	**-0.26**	n/a	n/a	76.73

Measure	Baseline Value	Pre MMC Trend	Post MMC Level Change I	Post MMC Trend I	Post MMC Level Change II	Post MMC Trend II	Endline Value
3.1.2: Percent of MBCC members who had at least one ambulatory or preventive care visit in the last year.	99.34	0.02	0.10	0.015	n/a	n/a	99.87
3.1.2: Percent of NF members who had at least one ambulatory or preventive care visit in the last year.	97.20	0.02	0.05	**0.11**	0.03	**0.02**	99.31
3.1.3: Percent of AA members who had a visit with a PCP in the measurement year.	75.20	0.05	**1.18**	**0.20**	n/a	n/a	79.55

Note: Results in bold are significant at the $p<0.05$ level.

Key takeaways:

- There was an increasing trend in preventive dental care visits among child clients after full implementation of MMC. This trend was statistically significant. This finding is in line with the findings from 3.4.1 where a decreasing trend was observed for the percent of child clients who had tooth decay. This finding supports Hypothesis 3.1.
- For MBCC members, significant changes were not observed for the percentage of members who had at least one ambulatory or preventive care visit in the last year. However, the baseline values for both populations were already close to 100 percent.
- For the FFCC members, additional months of data are needed to be able to adequately assess the impact of MMC implementation.
- For the NF members, the baseline increasing slope/trend became steeper (statistically significant) with no change in level. At full implementation of MCC one year after initial implementation, the slope changed again to become less steep, although still increasing and was statistically significant. This finding supports Hypothesis 3.1.

- For the percentage of AA members who had at least one visit with a PCP in the measurement period, there was a statistically significant increasing trend post MMC implementation. This finding supports Hypothesis 3.1.

Care Coordination

Hypothesis 3.2 Care coordination will improve among clients whose Medicaid benefits shift from FFS to a MMC health care delivery model.

Hypothesis 3.2 was addressed mainly through ITS modeling based on the FFS claims and MMC encounter data.

Figure 20 displays the rate of service coordination utilization in NF members. The rate is presented as the number of encounters per 1,000 member months. There was a small but statistically significant decrease in the level of the rate post-MMC implementation. There was no change in slope/trend, which remained increasing.

Figure 20. Rate of service coordination utilization per 1,000 member months in NF (Measure 3.2.1)

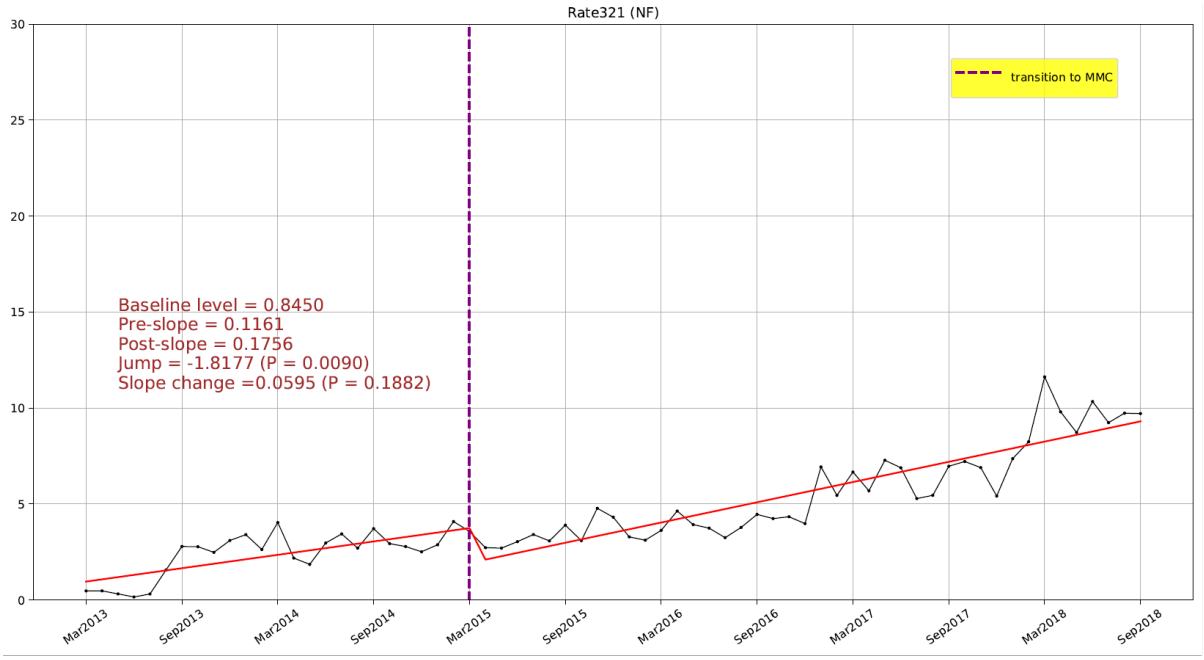


Figure 21 displays the rate of service coordination utilization in FFCC members. As with Figure 21, the rate is presented as the number of encounters per 1,000 member months. There was a small decrease in level for the rate post-MMC implementation that was not statistically significant. There was no change observed in slope/trend and it remained increasing.

Figure 21. Rate of service coordination utilization per 1,000 member months in FFCC (Measure 3.2.1)

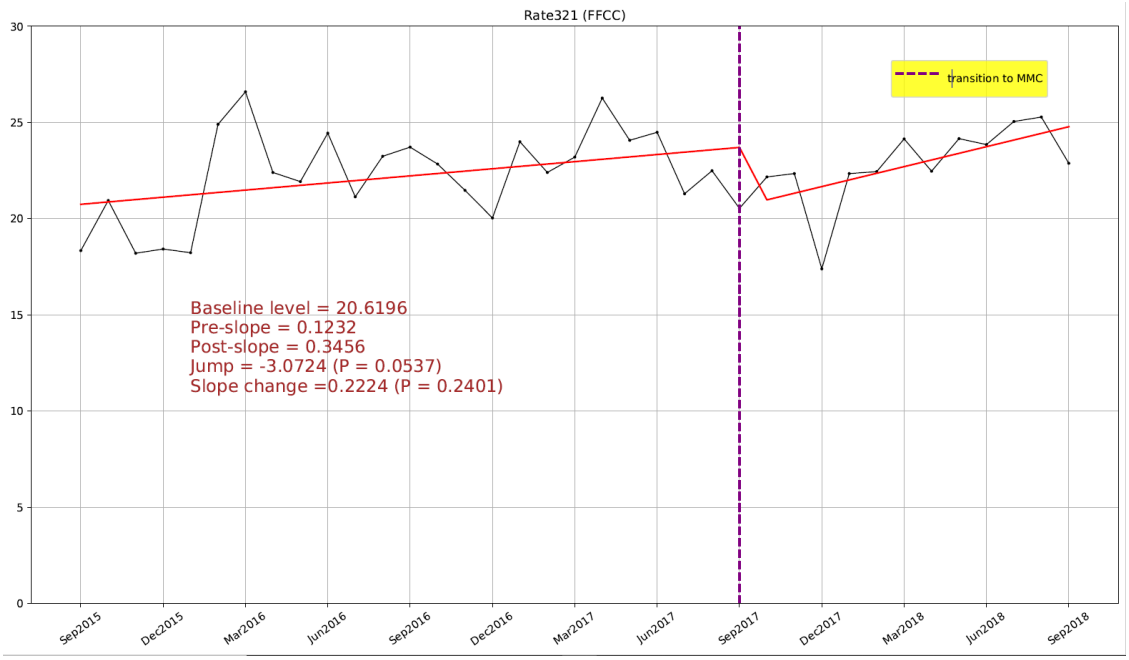


Figure 22 displays the rate of service coordination utilization in MBCC members. In line with Figures 20 and 21, the rate is presented as the number of encounters per 1,000 member months. There were no observed changes in level or slope/trend. The slope/trend remained relatively flat.

Figure 22. Rate of service coordination utilization per 1,000 member months in MBCC (Measure 3.2.1)

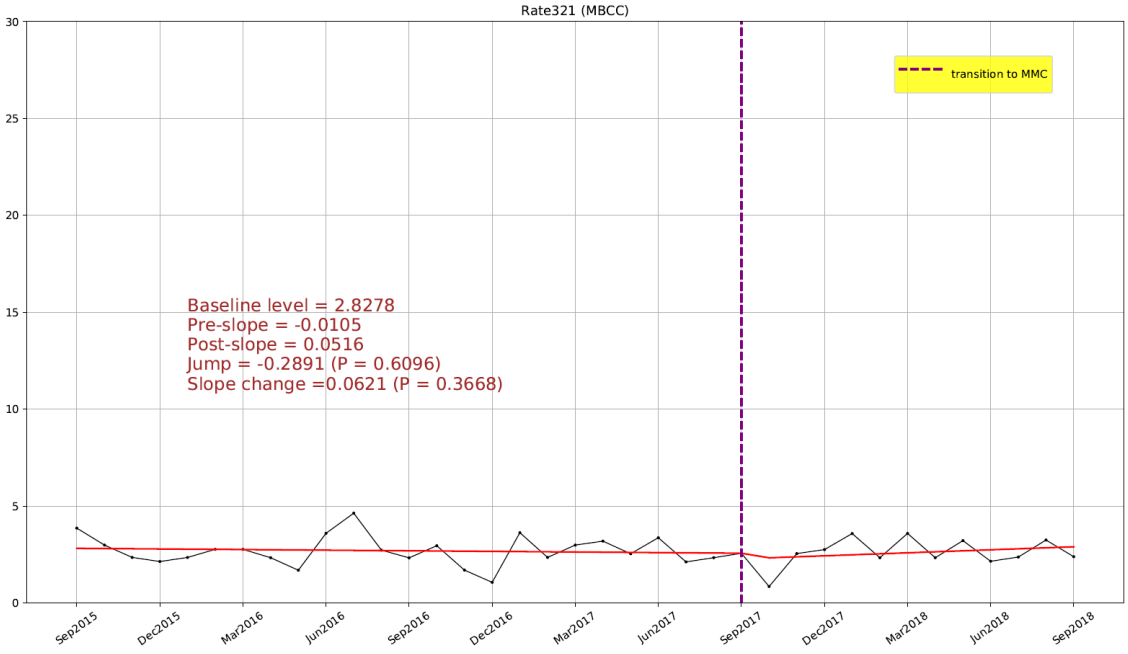


Figure 23 displays the rate (i.e., percentage) of the level of utilization of targeted case management among FFCC clients with SPMI. There was a statistically significant decrease in the level of the rate post-MMC, but the slope/trend remained unchanged and increasing.

Figure 23. Rate of the level of utilization of targeted case management among FFCC clients with SPMI (Measure 3.2.2)

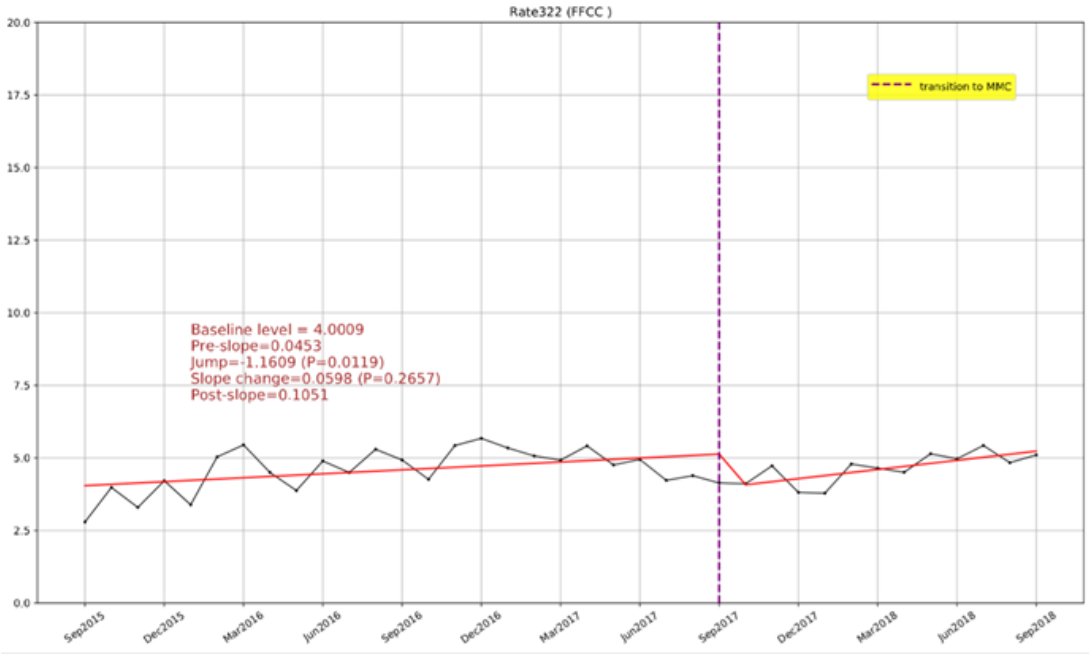


Figure 24 displays the rate (i.e., percentage) of the level of utilization of targeted case management among AA clients with SPMI. There was a statistically significant increase in the level of the rate post-MMC, but the slope/trend remained unchanged and increasing.

Figure 24. Rate of the level of utilization of targeted case management among AA clients with SPMI (Measure 3.2.2)

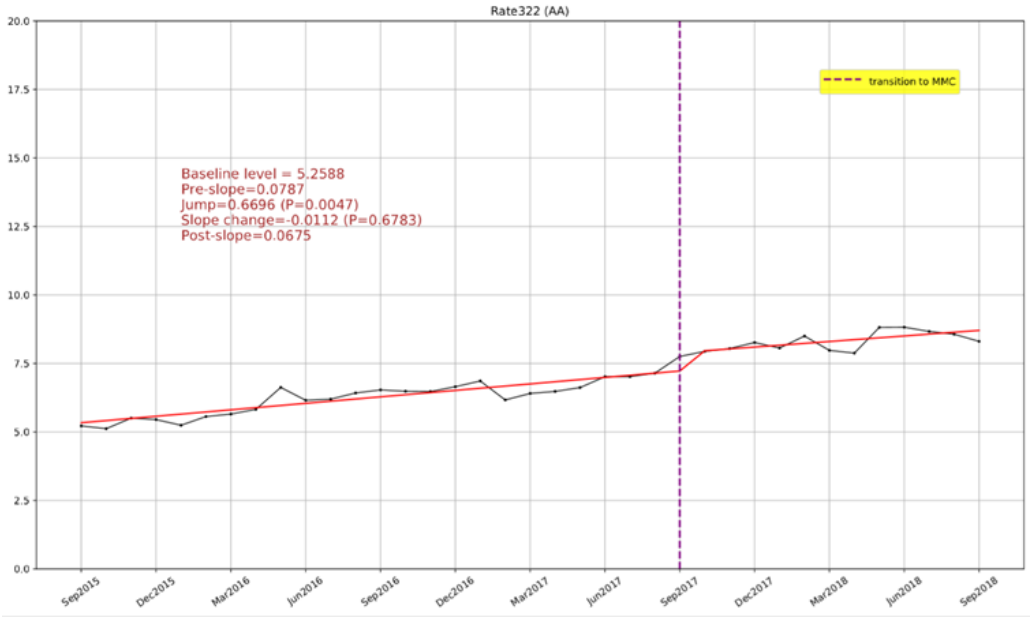


Figure 25 displays the rate (i.e., percentage) of the level of utilization of targeted case management among PCA clients with SPMI. There was no change in level of the rate post-MMC, and the slope/trend remained unchanged and increasing.

Figure 25. Rate of the level of utilization of targeted case management among PCA clients with SPMI (Measure 3.2.2)

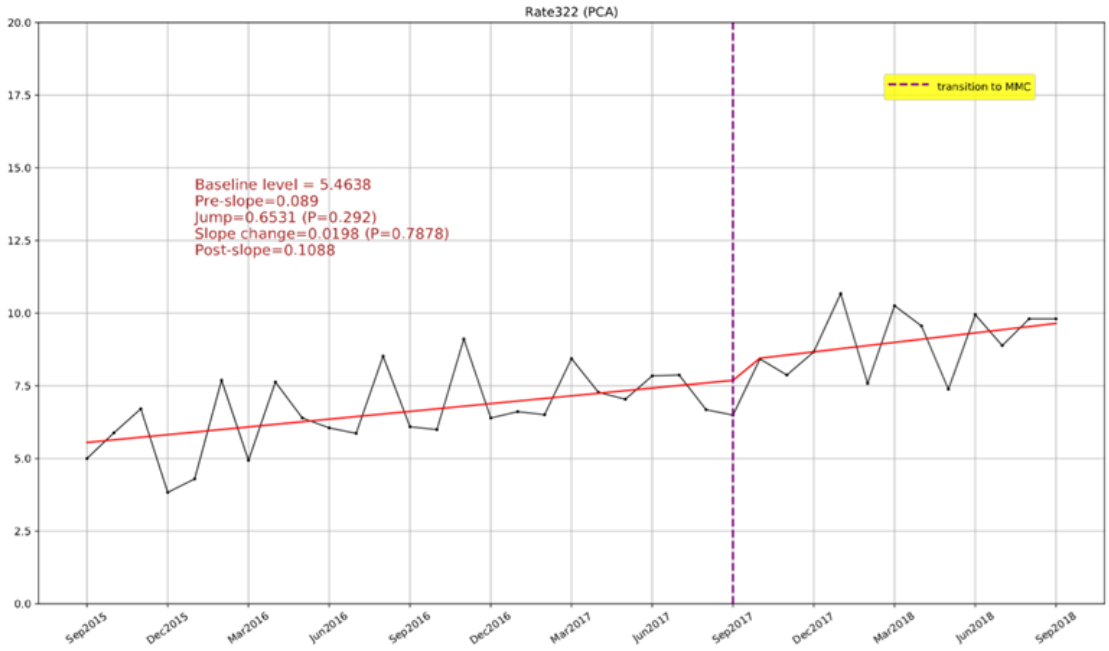


Table 12 presents a summary of the ITS findings for Hypothesis 3.2. Statistics are presented for the baseline level, the slope/trend values pre and post MMC, and level changes post-MMC implementation.

Table 12. Summary of ITS results for Hypothesis 3.2

Measure	Baseline Value	Pre MMC Trend	Post MMC Level Change I	Post MMC Trend I	Endline Value
3.2.1: Rate of service coordination utilization in NF.	0.85	0.12.	**-1.82**	0.18	0.93
3.2.1: Rate of service coordination in FFCC.	20.62	0.12	-3.07	0.35	24.77
3.2.1: Rate of service coordination in MBCC.	2.83	-0.01	-0.30	0.05	2.90
3.2.2: Rate of the level of utilization of targeted case management among FFCC clients with SPMI.	4.00	0.05	**-1.16**	0.11	5.23
3.2.2: Rate of the level of utilization of targeted case management among AA clients with SPMI.	5.26	0.08	**0.67**	0.07	8.71
3.2.2: Rate of the level of utilization of targeted case management among PCA clients with SPMI.	5.46	0.09	0.65	0.11	9.65

Note: Results in bold are significant at the $p<0.05$ level.

Key takeaways:

- For the rate of encounters per 1,000 member months for service coordination among FFCC and MBCC, there was no evidcence of changes due to the transition to MMC. This finding does not support Hypothesis 3.2.
- For the rate of encounters per 1,000 member months for service coordination among NF, there was an initial and minimal decrease in level that was statistically significant, but no change in slope/trend. This finding does not support Hypothesis 3.2.
- For clients who have SPMI, the rate (i.e., percentage) of targeted case management did not change among PCA clients. For AA clients, there was a statistically significant increase in level post MMC, but not the slope/trend. For FFCC clients, there was a statistically significant, minimal decrease in level, but no change in slope. These findings are mixed with respect to Hypothesis 3.2.

Quality of Care

Hypothesis 3.3 Quality of care will improve among clients whose Medicaid benefits shift from FFS to a MMC health care delivery model.

The claims analysis is pending.

In addition to the claim analysis, the NFQR survey was used to examine behavior modification in clients whose Medicaid benefits shifted from FFS to an MMC health care delivery model (measure 3.3.4). Specifically, the NFQR survey was used to examine the percentage of NF clients on psychotropic medications with behavior modifications in their care plan. The two survey questions examined, included:

1. Is there an active prescription for any psychoactive medication (including antipsychotics/neuroleptics, anti-anxiety agents, antidepressants, sedative/hypnotics or psychomotor stimulants), on a routine and/or as needed basis?
2. Does the resident's care plan include behavior modification interventions, addressing the specific behaviors for which psychoactive medications were prescribed?

The questions to examine psychotropic medications use were not added until 2015; thus, only post MMC implementation data is reported. The 2015 NFQR survey found that 78.4% of NF clients had an active prescription for psychoactive medications with behavior modifications included in their care plan.

Health and Health Care Outcomes

Hypothesis 3.4 Health and health care outcomes will improve among clients whose Medicaid benefits shift from FFS to a MMC health care delivery model.

Initially, FFS claims and MMC encounter data were used to examine the impact of the implementation of MMC on health and health care outcomes (measures 3.4.1 and 3.4.2). ITS models were constructed to examine the impact on tooth decay and cavities in children and pressure ulcers in the NF population.

Figure 26 displays the percentage of children ages 0-20 years who had tooth decay or cavities during the measurement period. Post-MMC implementation there were statistically significant changes in the level and slope/trend. The percentage level dropped and the slope changed direction from increasing pre-MMC to decreasing post-MMC.

Figure 26. Percentage of children, ages 0-20 years, who have had tooth decay or cavities during the measurement period (CMS Core Child Measure) (Measure 3.4.1)

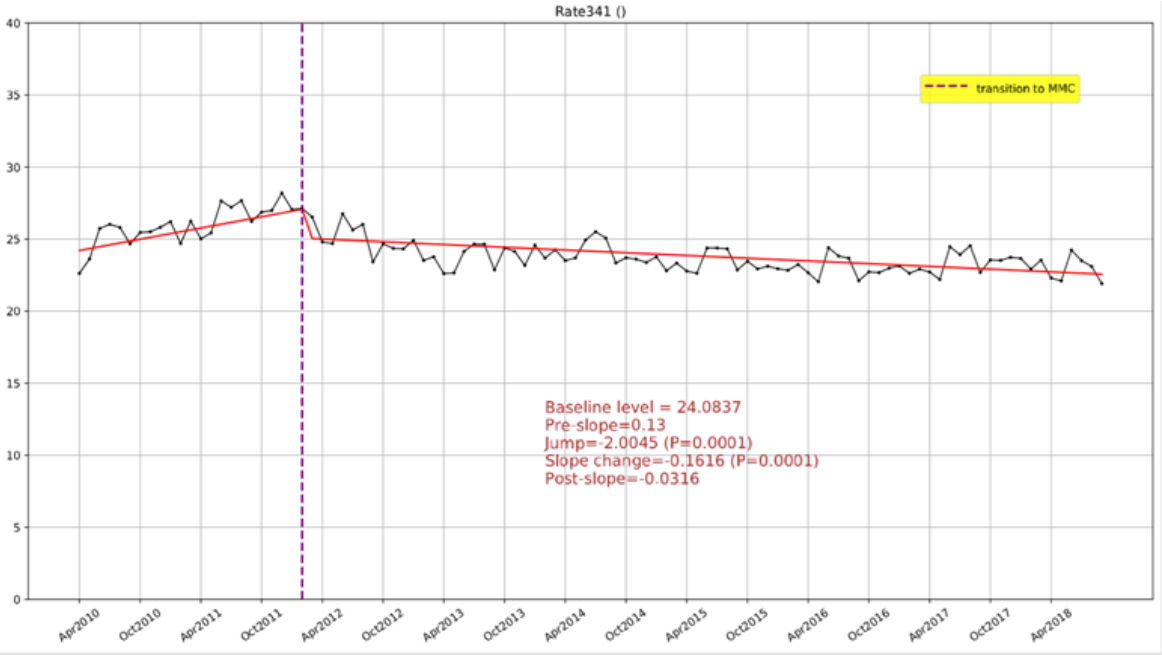


Figure 27. Rate (number of pressure ulcers/1,000 member months) of pressure ulcers among NF clients (Measure 3.4.2)

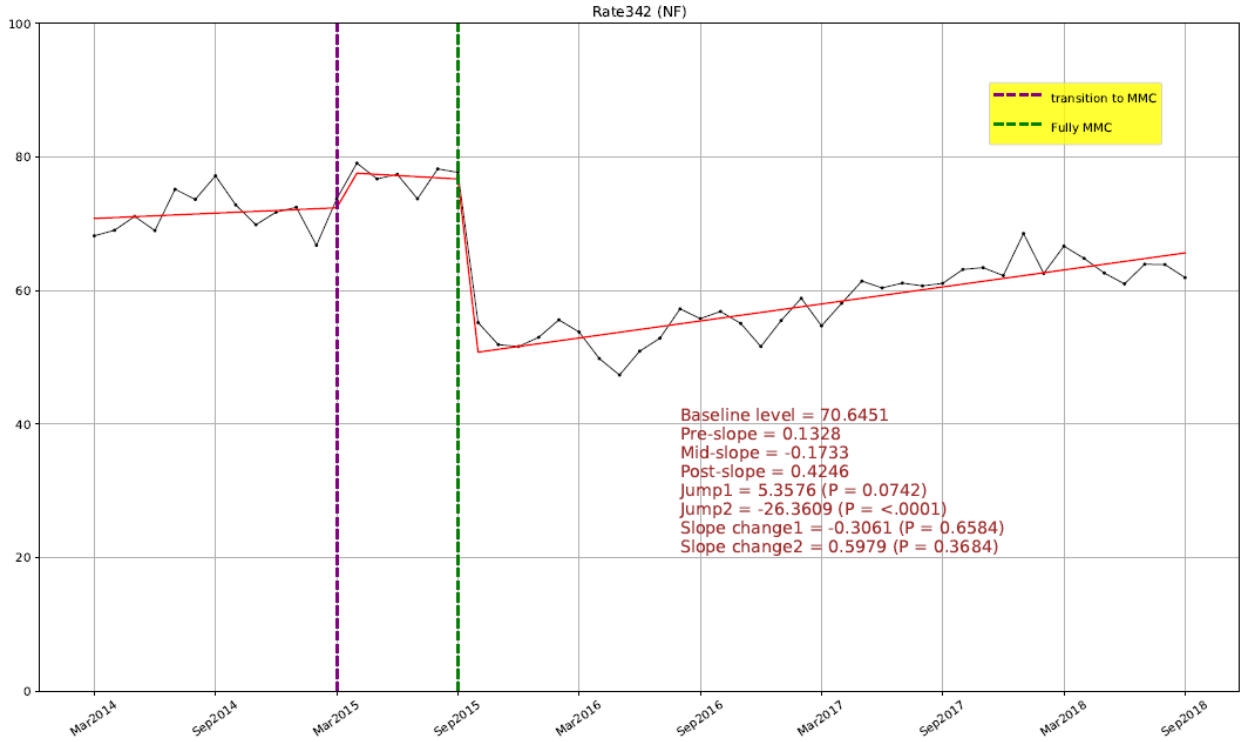


Table 13 presents a summary of the ITS findings for Hypothesis 3.4. Statistics are presented for the baseline level, the slope/trend values pre and post MMC, and level changes post-MMC implementation.

Table 13. Summary of ITS results for Hypothesis 3.4

Measure	Baseline Value	Pre MMC Trend	Post MMC Level Change I	Post MMC Trend I	Post MMC Level Change II	Post MMC Trend II	Endline Value
3.4.1: Percentage of children, ages 0-20 years, who have had tooth decay or cavities during the measurement period.	24.08	0.13	**-2.00**	**-0.03**	n/a	n/a	22.57
3.4.2: Rate of pressure (number of pressure ulcers/ 1,000 member months) ulcers among NF clients.	70.64	0.13	**5.36**	-0.17	**-26.36**	0.42	65.62

Note: Results in bold are significant at the $p<0.05$ level.

Key takeaways:

- For the percentage of child clients who had tooth decay, the slope/trend was increasing pre-MMC, and post-MMC the slope/trend changed direction to decreasing (statistically significant). There was also a statistically significant decrease in level. This finding corroborates the pattern observed for 3.1.1 where a pattern of increased preventive dental care visits was observed. This finding supports Hypothesis 3.4.1.
- For the rate of pressure ulcers per 1,000 member months, there was a level decrease post-MMC that was statistically significant, but this decrease was observed approximately 5 to 6 months after MMC implementation. There was no change in the increasing slope/trend pre-MMC to post-MMC. This finding provides some support for Hypothesis 3.4.2.

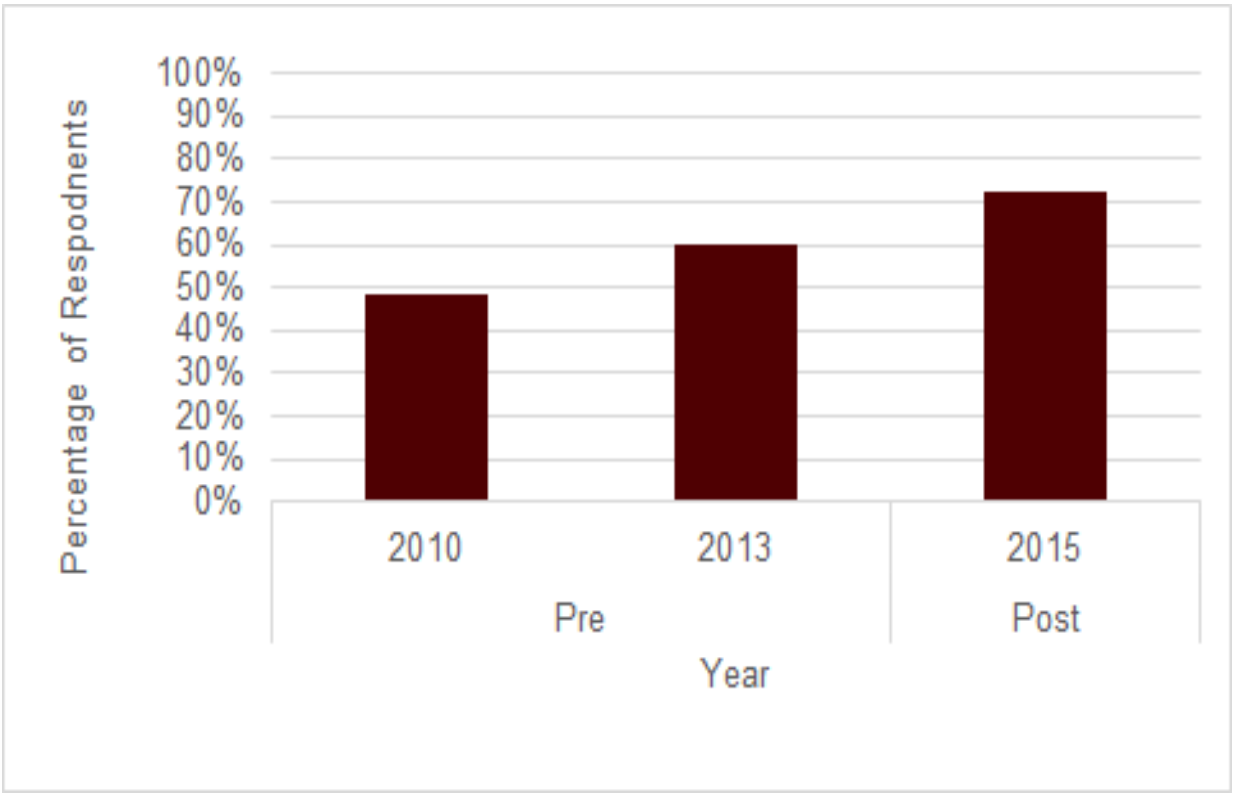
In addition to the claim analysis, the NFQR survey was used to examine health and health care outcomes following the shift from FFS to a MMC health care delivery model (Measure 3.4.3). The NFQR survey examined NF residents with

improvements in depressive symptoms with treatments by exploring the percentage of clients diagnosed with depression who reported improvement with treatment. The NFQR survey questions examined, included:

1. Has the resident been diagnosed with a depressive disorder (major depression, clinical depression, bipolar disorder, seasonal-affective disorder or dysthymia)?
2. What type of treatment is the resident receiving for depression?
3. Does the chart indicate that the resident has responded to treatment?

The questions to examine depression were not added until 2010. Overall on average the NFQR survey found that 60% of NF clients with depression reported an improvement with treatment. The percentage has been increasing since 2010, from 48% to 72.6% in 2015 (see Figure 28).

Figure 28. Nursing Facility Quality Review (NFQR) Reported Percentage of NF Clients with Depression with an Improvement with Treatment, by Survey Year (Measure 3.4.3)



Client satisfaction

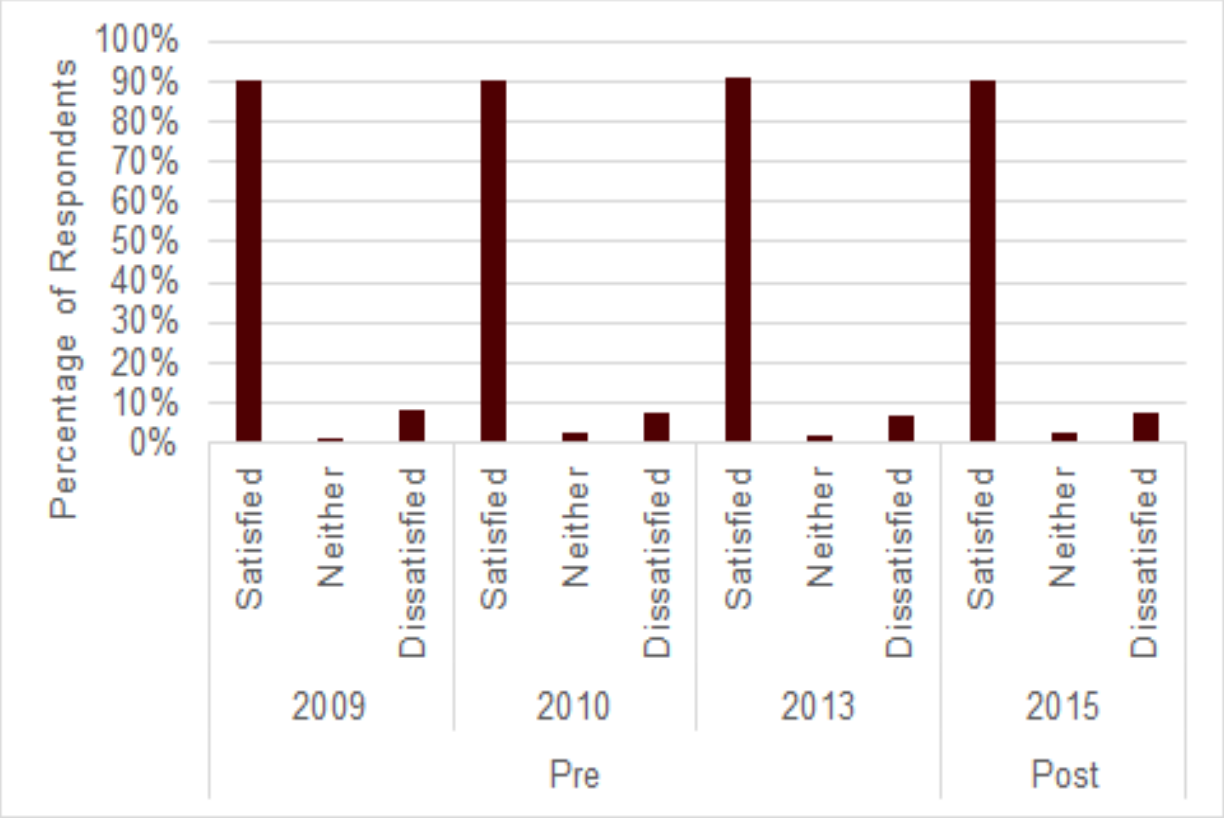
Hypothesis 3.5 Client satisfaction will improve among clients whose Medicaid benefits shift from FFS to a MMC health care delivery model.

Hypothesis 3.5 was answered using NFQR and CAHPS surveys. The NFQR survey was used to examine client satisfaction with the nursing facility population through four survey questions (Measure 3.5.1). The questions included:

1. Overall, how satisfied are you with your (or your family member's) experience in this nursing facility?

Figure29 below displays the responses by survey year. Overall the average percentage of respondents who reported being satisfied with their experience in the nursing facility was 89.4% which was consistent over time. There was no difference between pre- and post-MMC implementation.

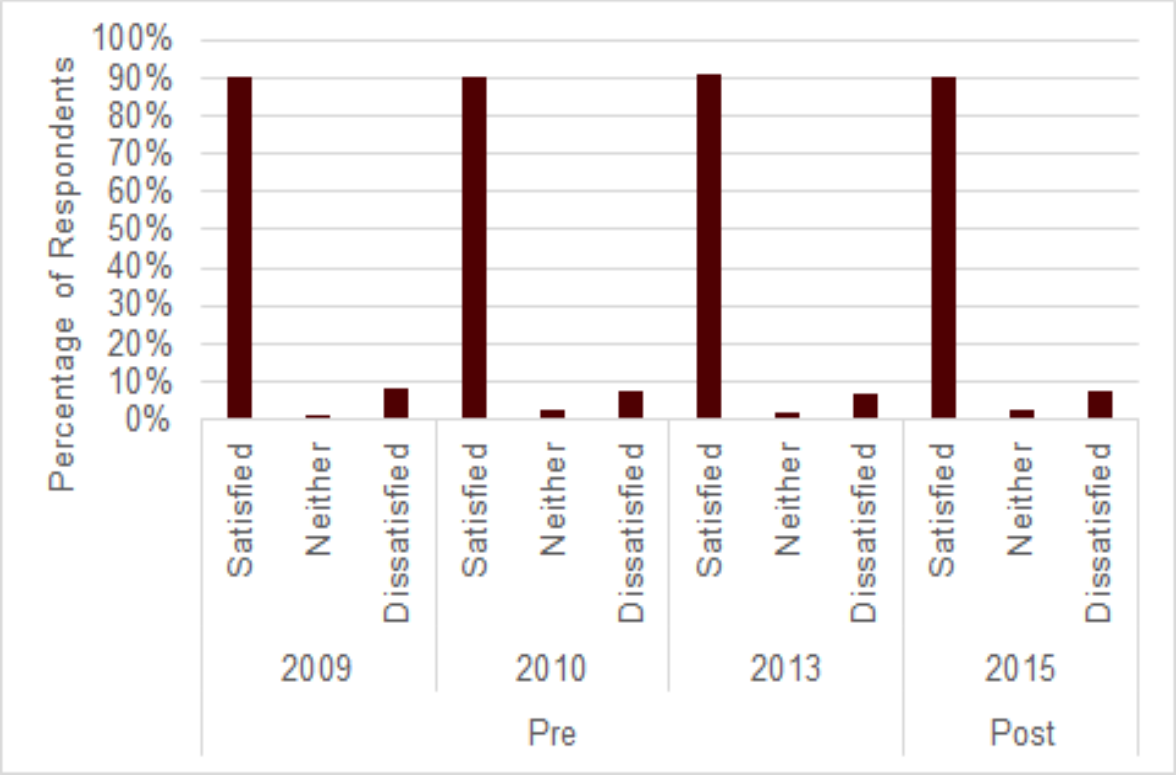
Figure 29. Nursing Facility Quality Review (NFQR) Reported Satisfaction with Experience in Nursing Facility, by Survey Year (Measure 3.5.1)



2. Overall, how satisfied are you with your (or your family member's) health care services?

Figure 30 below displays the responses by survey year. Overall the average percentage of respondents who reported being satisfied with their (or their family member's) health care services was 90.2% which was overall consistent. The highest percentage reported was in 2013 with 90.9% of respondents. There was a slight difference between pre- and post-MMC implementation, 90.3% vs. 89.4%, respectively.

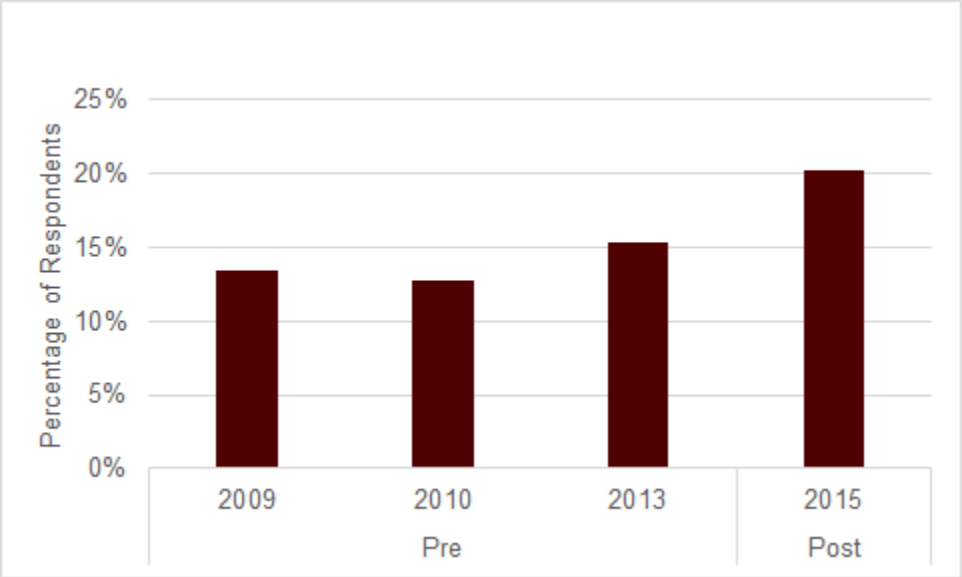
Figure 30. Nursing Facility Quality Review (NFQR) Reported Satisfaction with Health Care Services Received, by Survey Year (Measure 3.5.1)



3. Do you ever have concerns that the facility does not address?

Figure 31 below displays the responses by survey year. Overall the average percentage of respondents who reported having concerns that the facility did not address was 15.4%. There was a slight difference between pre- and post-MMC implementation, 13.8% vs 20.2%, respectively.

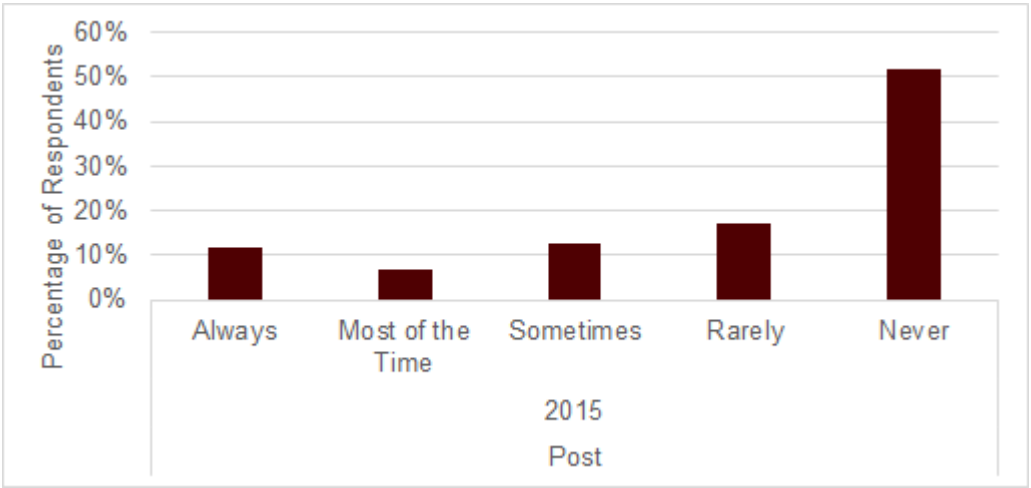
Figure 31. Nursing Facility Quality Review (NFQR) Reported Percentage of Clients with Concerns the Facility Did not Address, by Survey Year (Measure 3.5.1)



4. Do you participate in meetings for planning your care?

Figure 32 below displays the responses for 2015 the only year the survey question was asked. Overall almost 19% of respondents reported always or most of the time participating in meetings for planning their care.

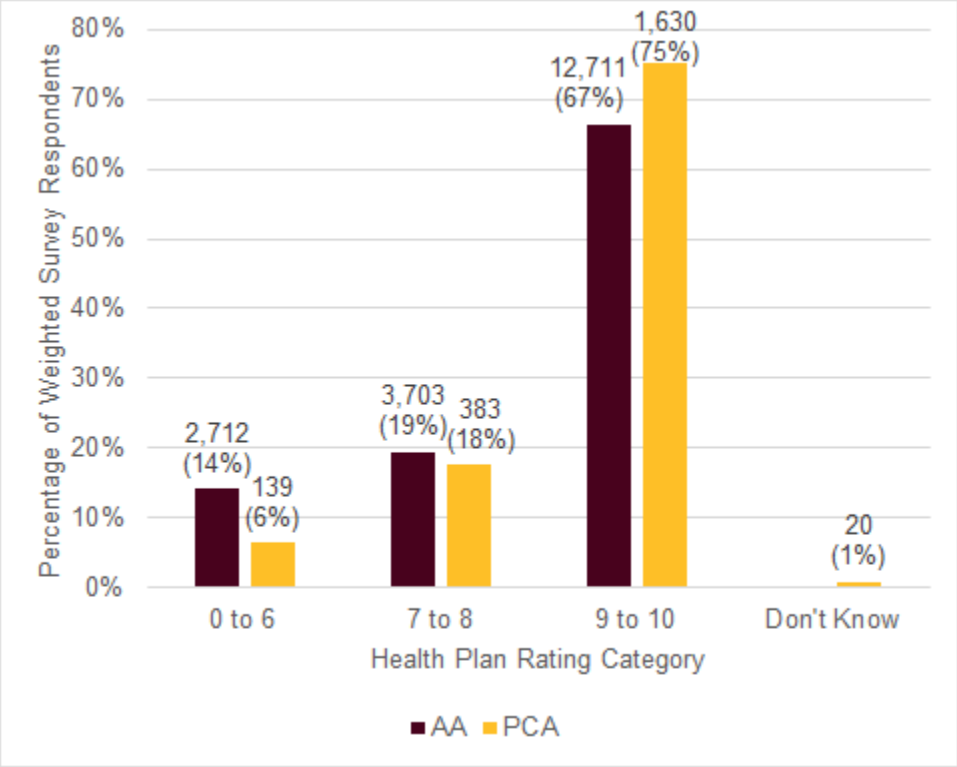
Figure 32. Nursing Facility Quality Review (NFQR) Reported Participation in Care Plan Meetings, 2015 (Measure 3.5.1)



Next, the CAHPS Health Plan Survey was utilized to examine client satisfaction (Measure 3.5.2). At this time, only results from the 2019 CAHPS Health Plan Survey-Child were available. The 2020 CAHPS Health Plan Survey-Adult will be presented in the interim report. Client satisfaction was examined based on

responses to "Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your child's health plan?". Overall 75% of the PCA population surveyed and 67% of the AA population surveyed rated their health plan as 9 to 10 (see Figure 33). The AA population had a higher percentage of respondents report ratings from 0 to 6, 14% vs 6%, respectively.

Figure 33. Consumer Assessment of Healthcare Providers and System (CAHPS) Health Plan Rating by Population (Measure 3.5.2)



Key takeaways:

- The NFQR survey found:
  - Consistent percentages of survey respondents were satisfied with their experience in the nursing facility and health care services received pre- and post-MMC implementation.
  - A slightly higher percentage of survey respondents reported having concerns in the one post-demonstration available compared to pre-demonstration surveys.
  - Almost 19% of survey respondents reported participating in care plan meetings; unfortunately, there is no pre-data available to determine the impacts.

- The CAHPS survey demonstrated that a majority of those that completed the CAHPS Health Plan Survey-Child rated their health plan in the highest category. The survey was not conducted until 2019; thus, we are unable to make comparisons pre- and post- MMC implementation. There were slight differences between reported health plan ratings among AA and PCA populations.

Summary of Early Results from the MMC Evaluation

Evaluation Question 3: Did the expansion of the MMC health care delivery model to additional populations and services improve healthcare (including access to care, care coordination, quality of care, and health outcomes) for MMC clients?

- The full impact of the expansion of MMC health care delivery model to additional populations and services cannot be fully examined until additional years of data are available
- Preliminary analysis provides some support for hypotheses:
  - 3.1: Access to care will improve among clients whose Medicaid benefits shift from FFS to MMC health care delivery model.
  - 3.4: Quality of care will improve among clients whose Medicaid benefits shift from FFS to an MMC health care delivery model.

D. Overall

Alternative Payment Models (APM)

Evaluation Question 4: Did the Demonstration impact the development and implementation of quality-based payment systems in Texas Medicaid?

The DSRIP program in the Texas Healthcare Transformation and Quality Improvement Program Medicaid 1115 Demonstration (Waiver) ran from 2012 sunsetting in September 2022. From there on out, managed care organizations (MCOs) and DSRIP providers will be required to move toward alternative payment models (APMs). Hence, it remains imperative to evaluate APMs throughout the Medicaid Program in Texas.

Development and Implementation of APMs

Hypothesis 4.1.1 The Demonstration will result in the development and/or implementation of a variety of APMs in Texas Medicaid.

We answered this question using Category A reporting data.

We described the pooled Category A reporting data for DY7 (2018) and DY8 (2019) through:

- Percentage of providers that have APMs
  - For Overall Texas
  - Per RHP
- Percentage of types of APM/value-based payment (VBP) arrangements for each DY
- Percentage of providers with types of APM framework for each DY

Results

Figure 34. Percentage of providers that have APMs (overall Texas)

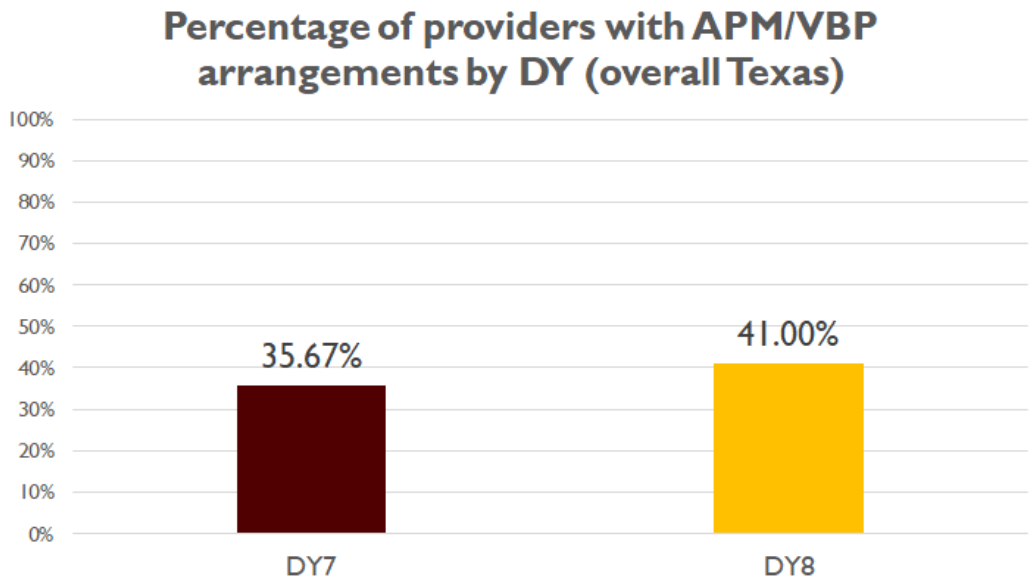
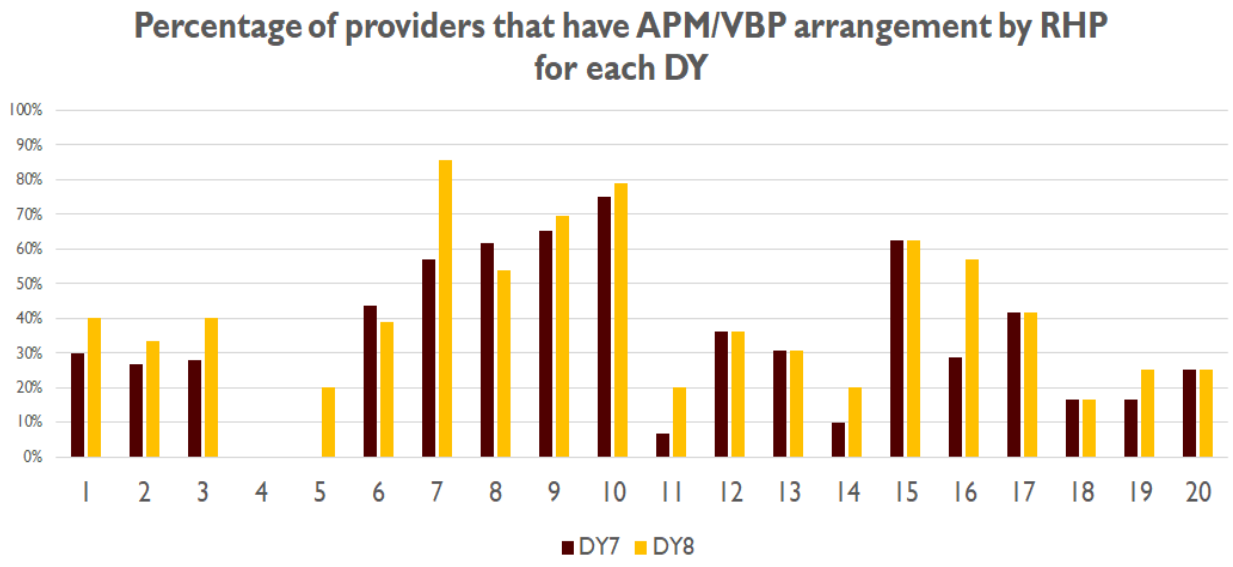


Figure 35. Percentage of providers that have APMs (per RHP)



We divided the types of APM/VBP arrangements based on APM framework by the Health Care Payment Learning & Action Network (LAN) into the 4 categories shown in the Figure 36 below:

Figure 36. APM framework.

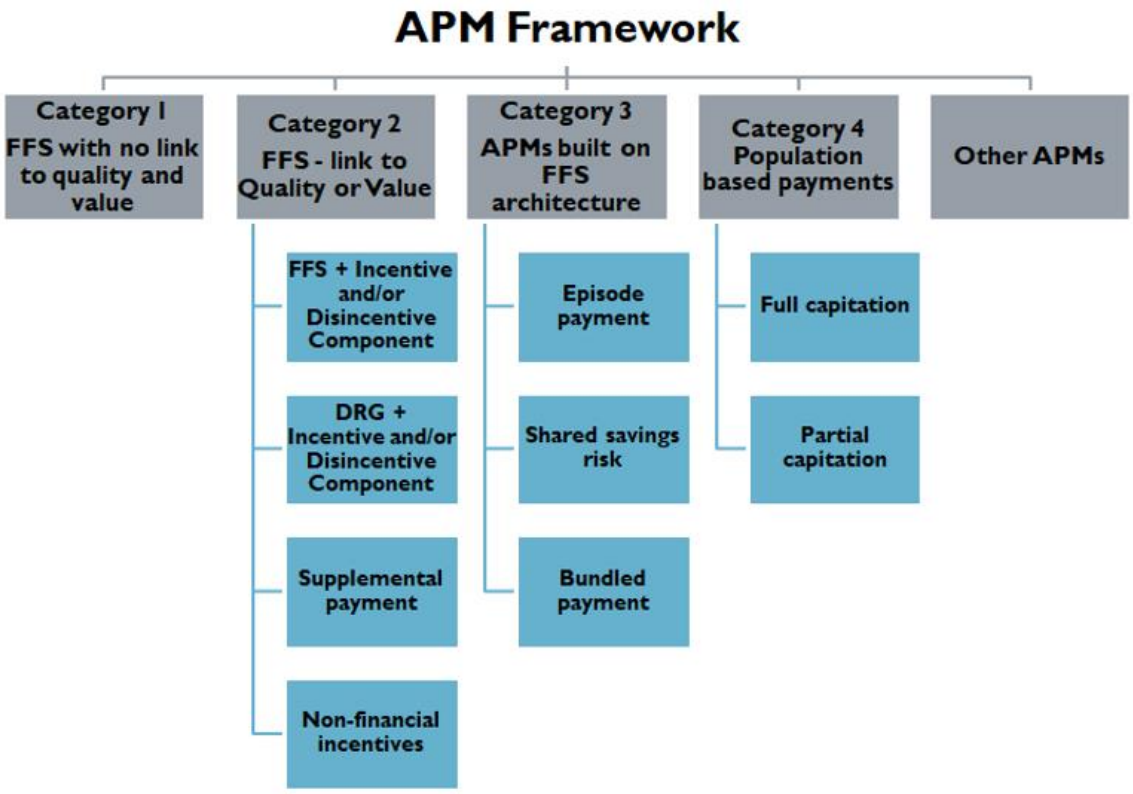
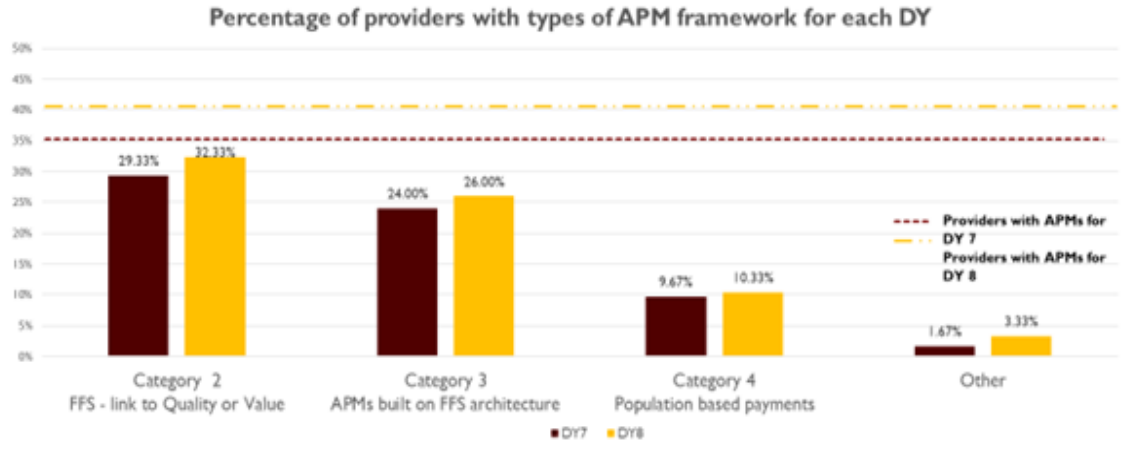


Figure 37. Percentage of providers with types of APM framework for each DY



Barriers and benefits to developing and/or implementing APMs

Hypothesis 4.1.2 Perceived barriers to developing and/or implementing alternative payment models

Hypothesis 4.1.3 Perceived benefits to developing and/or implementing alternative payment models

Hypothesis 4.1.2 and 4.1.3 primarily used the APM section of the DSRIP wave 1 data (June 2020). The main analytical approach used was descriptive statistics for Likert scale questions and content analysis for the open-ended questions on benefits and challenges of APMs. Likert scale was 1 for strongly disagree and 5 for strongly agree.

Results

We received a total of 229 responses. Below are the graphs for mean scores by RHP with overall Texas average for the likert scale questions.

Figure 38. Mean Likert Scores for APMs in Texas Medicaid improving population health within organizations

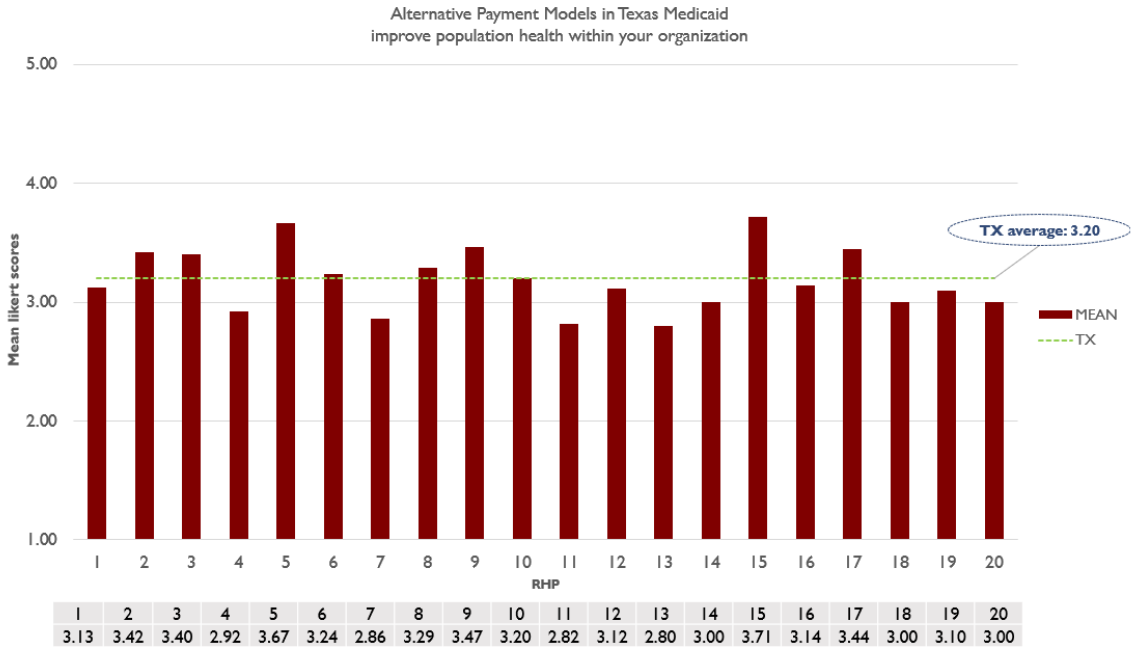
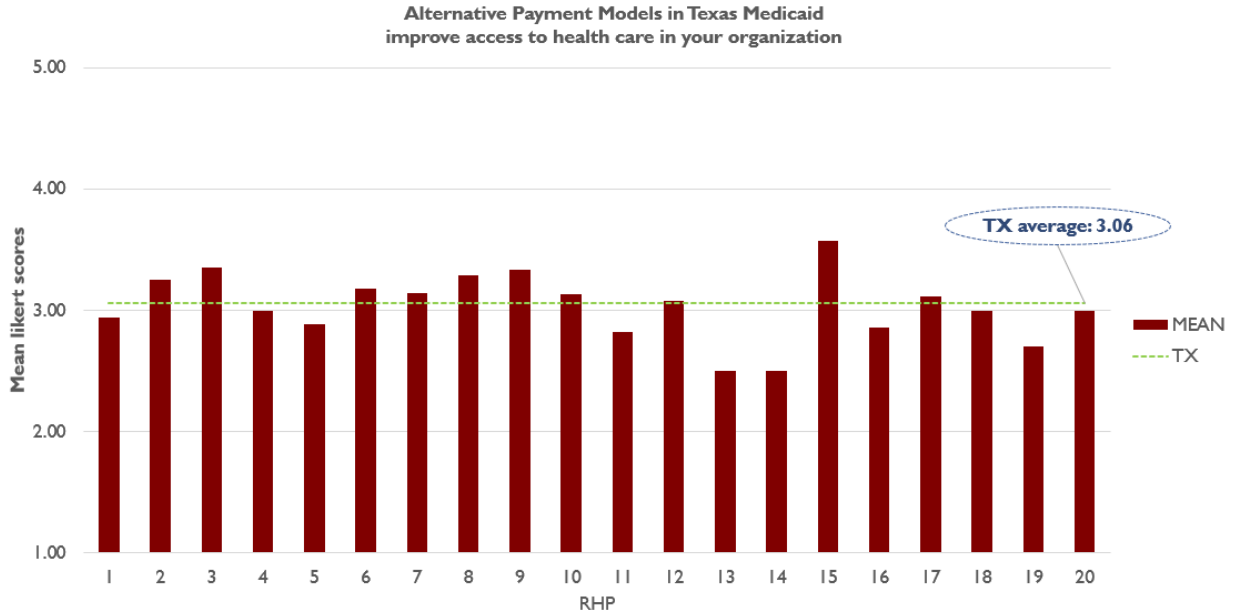
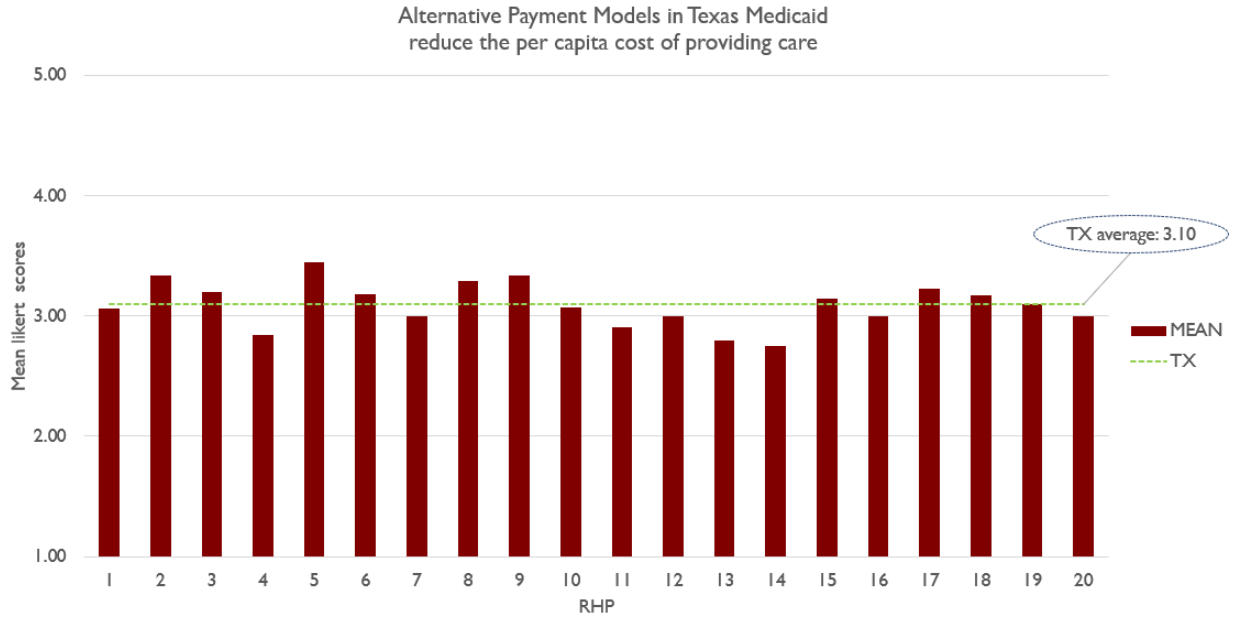


Figure 39. Mean Likert Scores for APMs improving access within organizations



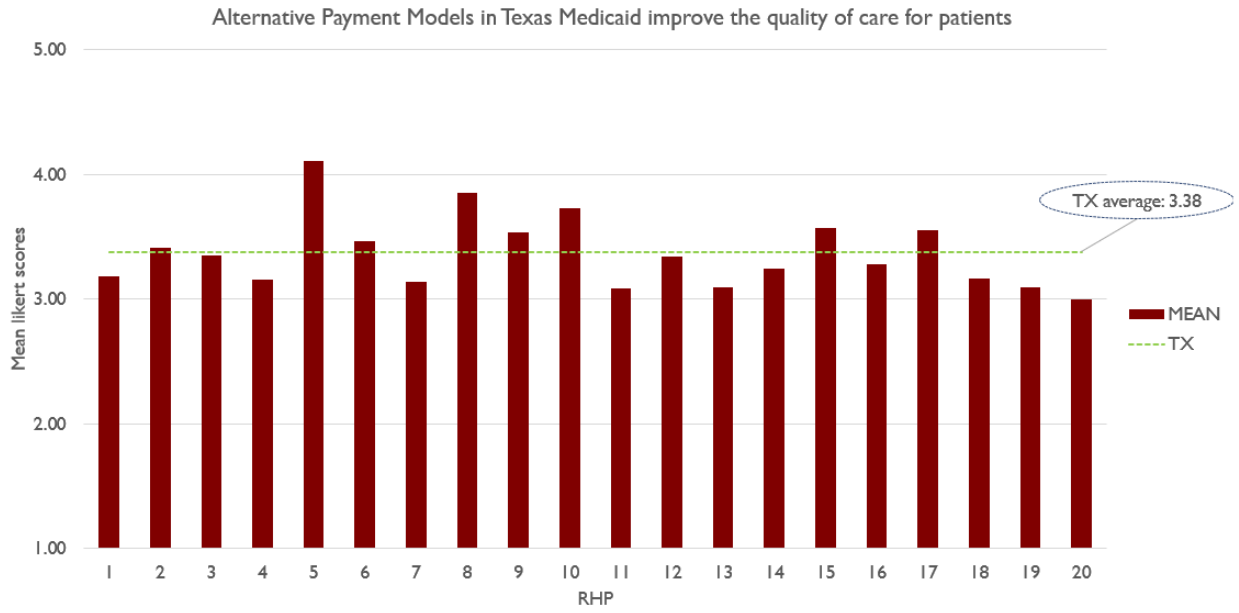
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2.94	3.25	3.35	3.00	2.89	3.18	3.14	3.29	3.33	3.13	2.82	3.08	2.50	2.50	3.57	2.86	3.11	3.00	2.70	3.00

Figure 40. Mean Likert Scores for APMs in Texas Medicaid reducing per capita cost of providing care within organizations



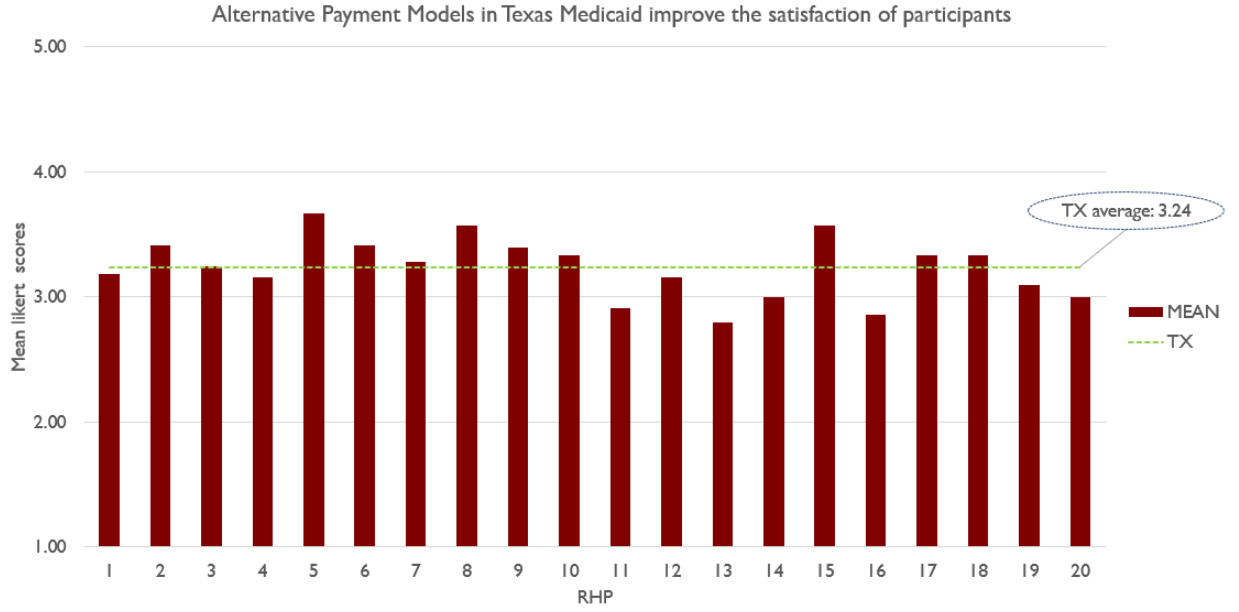
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3.06	3.33	3.20	2.85	3.44	3.18	3.00	3.29	3.33	3.07	2.91	3.00	2.80	2.75	3.14	3.00	3.22	3.17	3.10	3.00

Figure 41. Mean Likert Scores for APMs in Texas Medicaid improving quality of care for patients



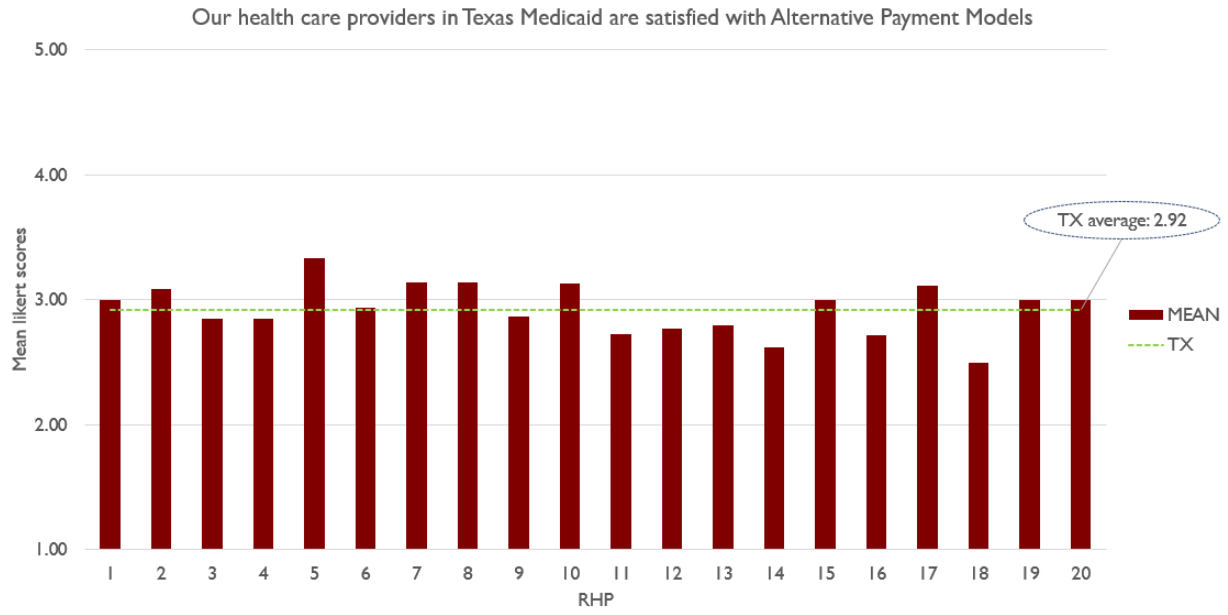
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3.19	3.42	3.35	3.15	4.11	3.47	3.14	3.86	3.53	3.73	3.09	3.35	3.10	3.25	3.57	3.29	3.56	3.17	3.10	3.00

Figure 42. Mean Likert Scores for APMs in Texas Medicaid improving satisfaction of participants



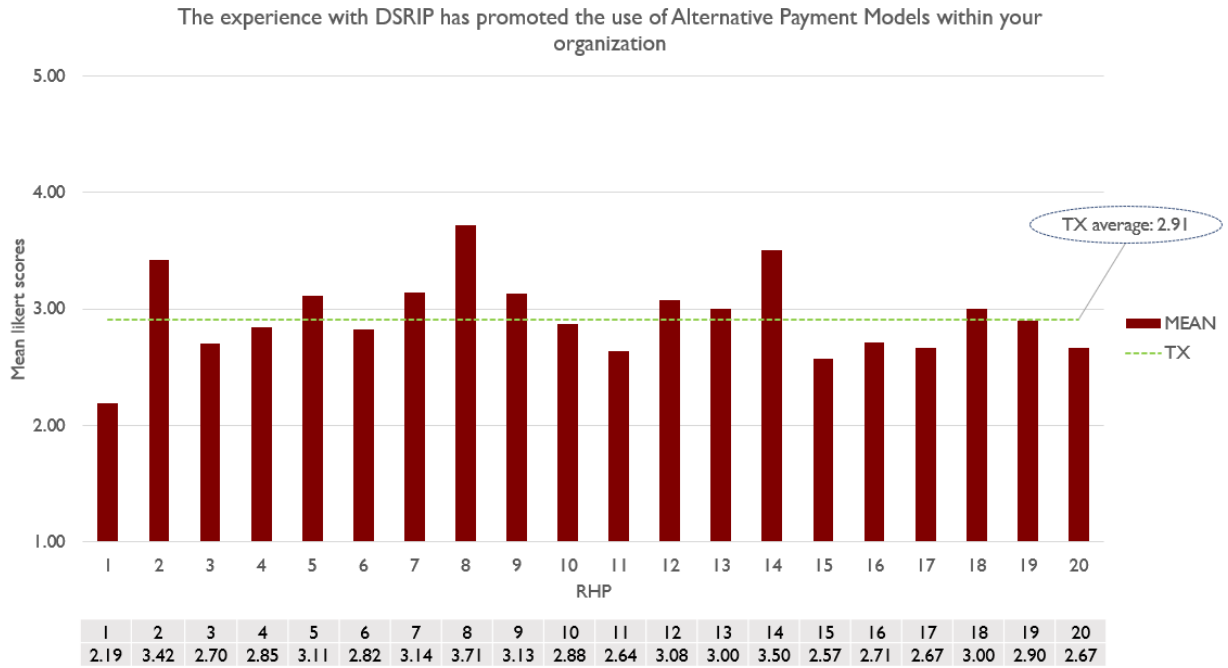
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3.19	3.42	3.25	3.15	3.67	3.41	3.29	3.57	3.40	3.33	2.91	3.15	2.80	3.00	3.57	2.86	3.33	3.33	3.10	3.00

Figure 43. Mean Likert Scores for provider satisfaction with APMs in Texas Medicaid



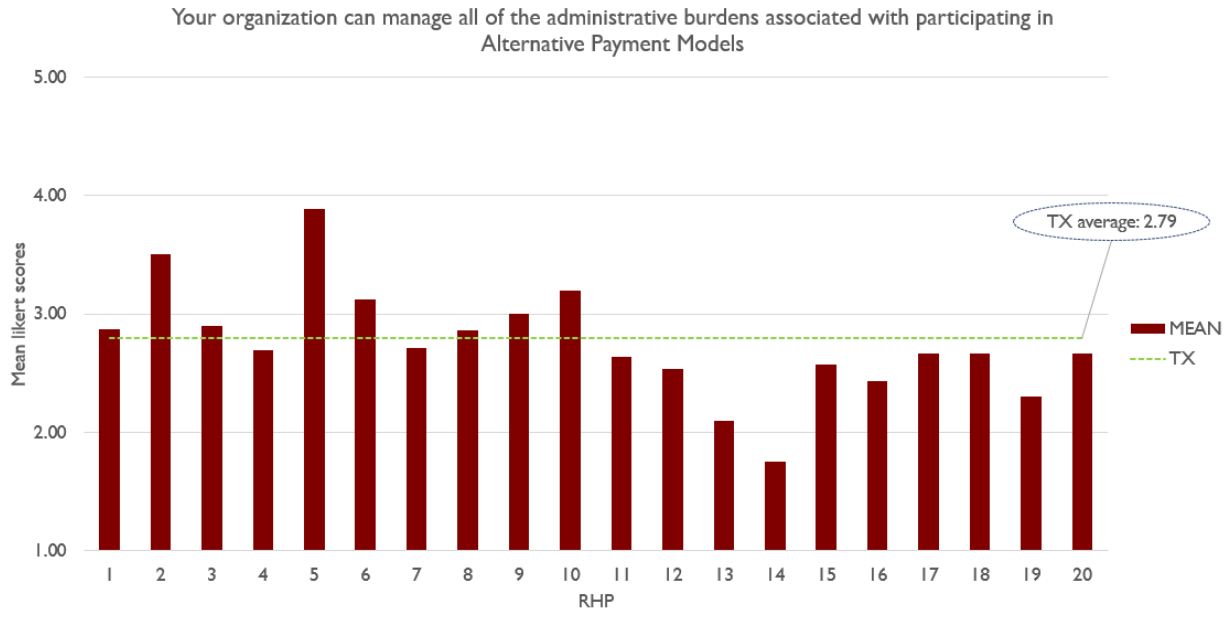
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3.00	3.08	2.85	2.85	3.33	2.94	3.14	3.14	2.87	3.13	2.73	2.77	2.80	2.63	3.00	2.71	3.11	2.50	3.00	3.00

Figure 44. Mean Likert Scores for DSRIP promoting use of APMs within organizations



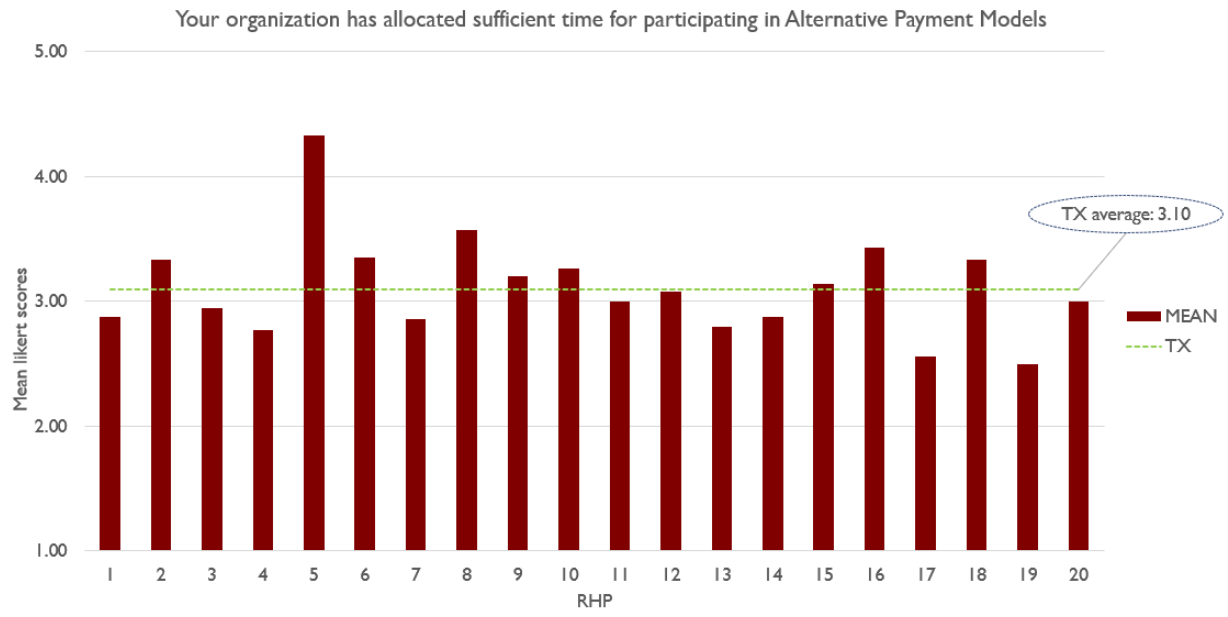
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2.19	3.42	2.70	2.85	3.11	2.82	3.14	3.71	3.13	2.88	2.64	3.08	3.00	3.50	2.57	2.71	2.67	3.00	2.90	2.67

Figure 45. Mean Likert Scores for organizations being able to manage all of the administrative burden associated with participating in APMs



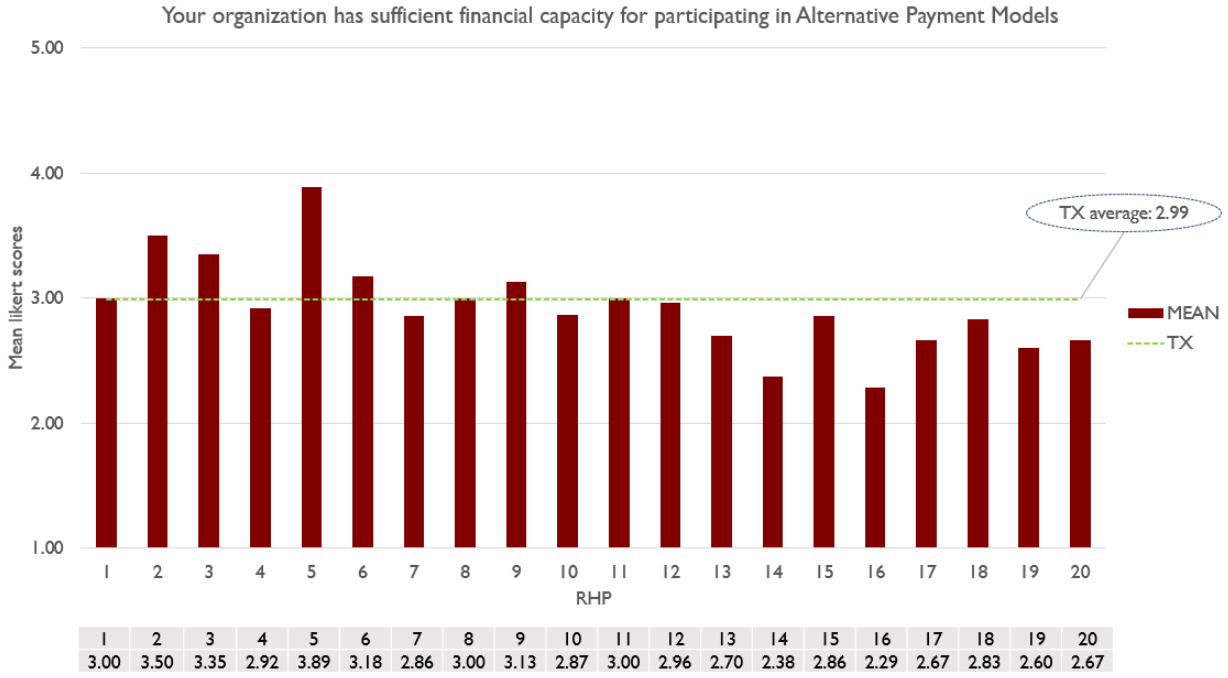
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2.88	3.50	2.90	2.69	3.89	3.12	2.71	2.86	3.00	3.20	2.64	2.54	2.10	1.75	2.57	2.43	2.67	2.67	2.30	2.67

Figure 46. Mean Likert Scores for organizations being able to allocate sufficient time for participating in APMs



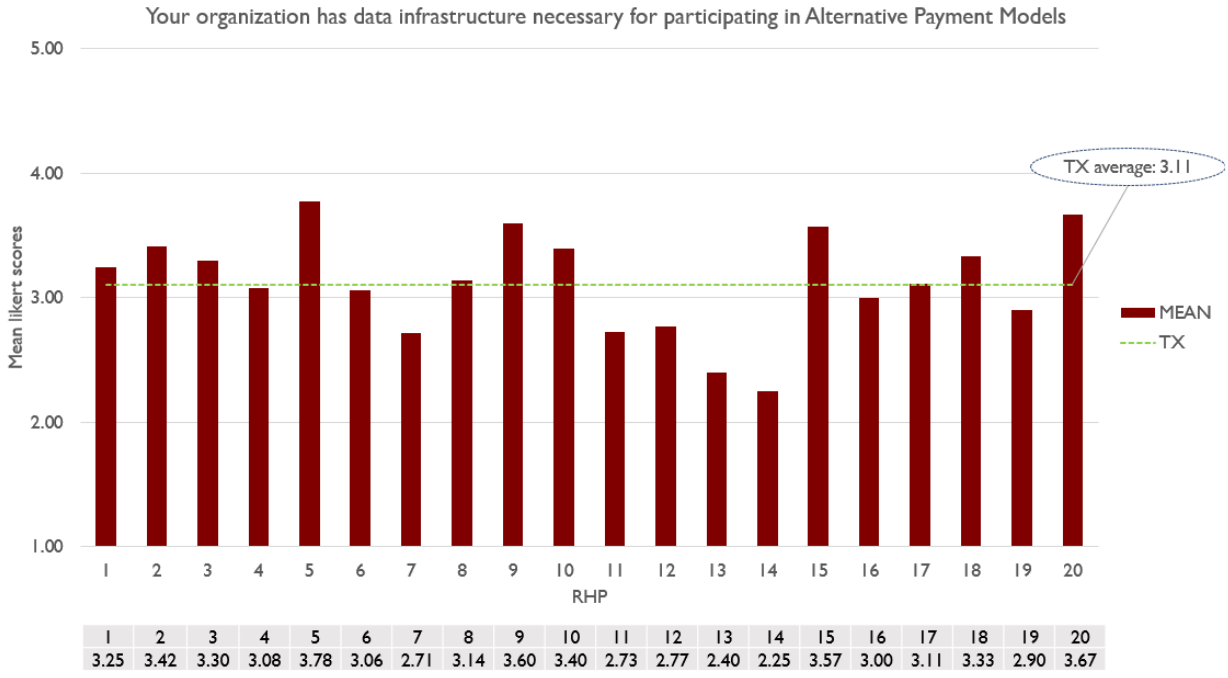
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2.88	3.33	2.95	2.77	4.33	3.35	2.86	3.57	3.20	3.27	3.00	3.08	2.80	2.88	3.14	3.43	2.56	3.33	2.50	3.00

Figure 47. Mean Likert Scores for organizations having sufficient financial capacity for participating in APMs



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3.00	3.50	3.35	2.92	3.89	3.18	2.86	3.00	3.13	2.87	3.00	2.96	2.70	2.38	2.86	2.29	2.67	2.83	2.60	2.67

Figure 48. Mean Likert Scores for organizations having data infrastructure necessary for participating in APMs



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3.25	3.42	3.30	3.08	3.78	3.06	2.71	3.14	3.60	3.40	2.73	2.77	2.40	2.25	3.57	3.00	3.11	3.33	2.90	3.67

Content Analysis

Below are the results of content analysis of the open-ended questions to assess the perceived benefits and barriers to participating in Alternative Payment Model Initiatives.

Main themes for perceived benefits were financial efficiency, data sharing, quality of care, collaboration and care coordination are summarized in Table 14.

Table 14. Main themes and quotes for perceived benefits to developing and/or implementing APMs

Themes	Quotes
Financial efficiency	"Participation in APMs have resulted in some increased revenue for the organization.."
Data sharing	"Finally, data sharing is a critical ingredient in the success for APMs. BTCS has recently seen an increased willingness from the MCOs to implement data sharing processes. Some MCOs are more advanced, having a more robust ability to share timely data reports. BTCS has also been able to grow the data sharing capacities through the implementation of Care Coordination, which has been incorporated into some of the APM agreements..."
Quality of care	"Benefits for alternative payment model participation include improved quality of patient care…"
Collaboration	"One of the benefits we have noted in participation in APMs is a better sharing of client data between Burke and the MCO. We have also been able to develop a more collaborative relationship with the MCOs, and have been able to demonstrate the value that Burke provides to the MCOs members.."
Care coordination	"Alternative arrangements have allowed Integral Care to invest in the areas demonstrably better for the client such as care coordination."

Main themes for perceived barriers were lack of MCO engagement, administrative burden, low volume setting, small organization, rurality, non-uniformity of quality/performance measures, and financial burden are described in Table 15.

Table 15. Main themes and quotes for perceived barriers to developing and/or implementing APMs

Themes	Quotes
Lack of MCO engagement	"MCOs have not been very willing and open partners to this - they struggle to share data in a timely and meaningful way. It took over a year to come to an agreement, get data sources identified and vetted and then the payout was not all that significant.." "MCO's have not been willing to work due to the low volume of patients that we serve who receive Medicaid."

Themes	Quotes
Administrative burden	"Challenges for alternative payment model participation include increased administrative burden regarding documentation and reporting…"
Low volume setting	"Organization is a small rural critical access hospital. Small volumes make it difficult to adopt APMs."
Small organization	"We are a small non-profit with very limited administrative bandwidth.." "As a smaller entity we don't have the resources.."
Rurality	"When a provider such as a small rural hospital does not have the depth of patients in any one insurance provider, participating in an APM would be tremendously risky financially."
Non-uniformity of quality/performance measures	"A major challenge faced by entering into VBP arrangements is the disparity in performance measurement criteria from different payers, which may not align with an organizations quality goals or governmental performance criteria. Tracking multiple quality metrics in a meaningful way places a heavy burden on a health system's resources."
Financial burden	"While we have definitely achieved success, it has been difficult to sustain positive performance and we continue to leave significant dollars on the table."

Tentative Results & Observations:

- Percentage of providers with APM/VBP arrangements in Texas increased from 35.67% in DY7 to 41.00% in DY8
- Most RHPs showed an increase in APM/VBP arrangements with the exception of RHP 4, 6, and 8.
- Through the APM section of the DSRIP wave 1 survey, we found that most organizations had neutral responses about how APMs improved access, population health, reduced costs, improved quality of care and satisfaction for participants.
- We also found that the organizations slightly disagreed that providers were satisfied with APMs. They also slightly disagreed that DSRIP promoted the use of APMs and that APMs were an administrative burden.
- Through content analysis we explored the perceived benefits and barriers to participation in APMs.
  - Most organizations perceived financial efficiency as a benefit to participation in APMs.
  - Lack of MCO engagement was perceived as the top barrier to participation in APMs.

Health Care System for the MLIU population in Texas

Evaluation Question 5: Did the Demonstration transform the health care system for the MLIU population in Texas?

Emergency Department (ED) Analysis use for the MLIU population

Hypothesis 5.1: The Demonstration will result in a reduction of potentially preventable ED use for the MLIU population.

HHSC will be submitting a revised Evaluation Design Plan to CMS with adjustments to Measure 5.1.1 (potentially preventable emergency department use). We have obtained 2018 data for a feasibility analysis that has been completed. We have submitted Texas DSHS IRB to obtain 2016, 2017, and 2019 data to conduct ITS. We expect to receive all data needed to complete this section by January 2020.

Budget Neutrality

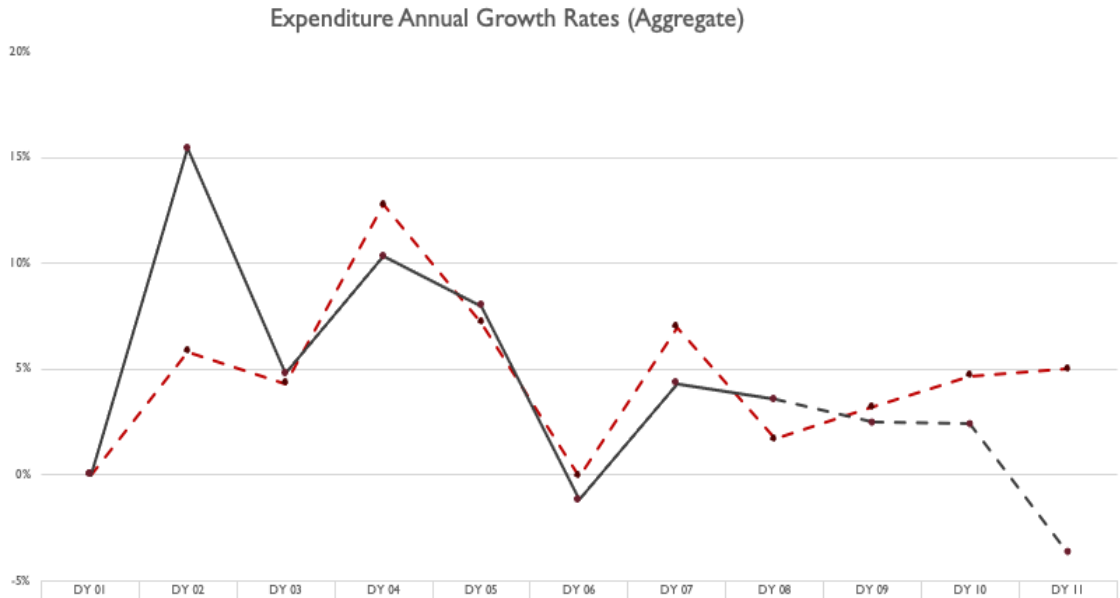
Hypothesis 5.2: The Demonstration will result in overall cost savings compared to the Medicaid program without the Demonstration, as shown in the budget neutrality calculation.

HHSC provided the team with a Demonstration Budget Neutrality Worksheet which was used to examine annual growth rates pre- and post-demonstration (see Figures 49 and 50).

Tentative Results & Observations:

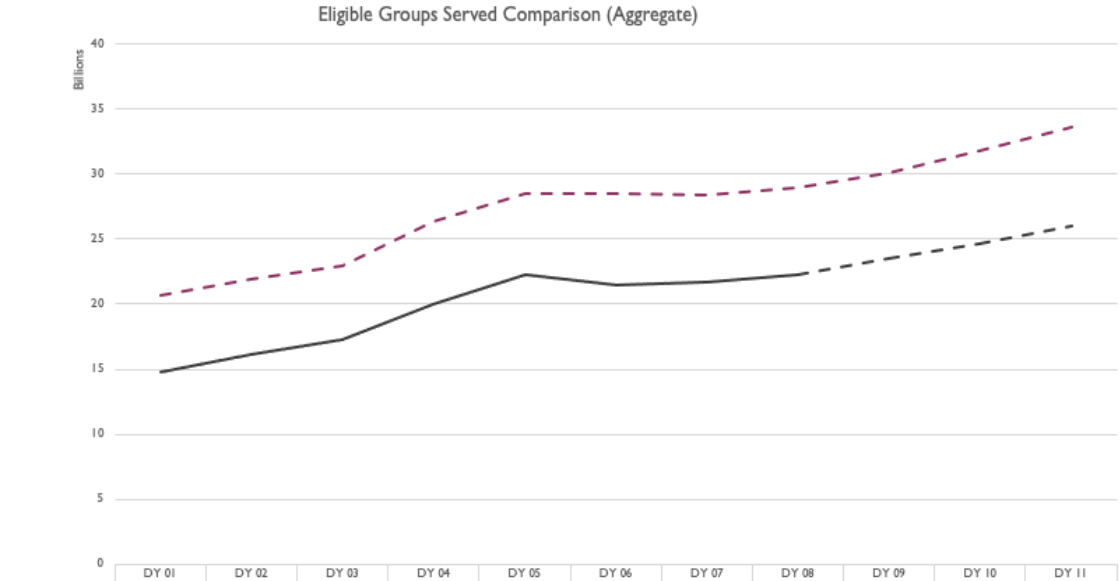
- The Demonstration has resulted in overall cost savings compared to the Medicaid program without the demonstration, as shown in the budget neutrality calculation.
- The projected spending also suggests that this trend in cost savings will continue.

Figure 49. Expenditure Annual Growth Rate (Aggregate)



	DY 01 (FFY 12)	DY 02 (FFY 13)	DY 03 (FFY 14)	DY 04 (FFY 15)	DY 05 (FFY 16)	DY 06 (FFY 17)	DY 07 (FFY 18)	DY 08 (FFY 19)	DY 09 (FFY 20)	DY 10 (FFY 21)	DY 11 (FFY 22)
WoW (Baseline)	0.00%	5.83%	4.32%	12.74%	7.18%	-0.06%	6.98%	1.71%	3.21%	4.66%	5.00%
WW	0.00%	15.40%	4.78%	10.33%	7.97%	-1.19%	4.33%	3.55%	2.49%	2.41%	-3.67%

Figure 50. Eligible Groups Served (Aggregate)



	DY 01 (FFY 12)	DY 02 (FFY 13)	DY 03 (FFY 14)	DY 04 (FFY 15)	DY 05 (FFY 16)	DY 06 (FFY 17)	DY 07 (FFY 18)	DY 08 (FFY 19)	DY 09 (FFY 20)	DY 10 (FFY 21)	DY 11 (FFY 22)
WW EGS Total Expenditures	14,724,701,146	16,170,034,376	17,293,268,170	19,998,390,261	22,265,778,623	21,506,266,643	21,714,643,963	22,217,416,852	23,457,664,119	24,648,314,240	26,003,087,936
WoW EGS Total Expenditures	20,648,115,262	21,935,711,693	22,910,305,585	26,405,397,563	28,486,367,595	28,467,715,108	28,407,572,618	28,972,794,020	30,072,341,960	31,746,459,946	33,637,696,593