

# COMPARISON OF INPATIENT UTILIZATION FOR TRADITIONAL MEDICAID AND HEALTHY MICHIGAN RECIPIENTS IN DETROIT

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*The Affordable Care Act created the opportunity for states to expand eligibility for Medicaid benefits to persons with household incomes up to 138% of the federal poverty guideline. After gaining approval from the state legislature and from federal authorities, Michigan began enrolling low-income, single adults without children in the Healthy Michigan program in April 2014. Enrollment in the program has since grown to almost 680,000 at its peak, but has fallen to about 535,000 enrollees as of September 2017. The federal government funded 100% of the costs of the expansion for the first three years, and a state match of 10% of the cost is now being phased in.*

*This research, one of a series of studies examining the impact of the Affordable Care Act on the Detroit region, compares utilization of inpatient hospital care by different categories of Medicaid eligibility. The state's Medicaid agency, the Michigan Department of Health and Human Services, and its contractors (Optum, part of UnitedHealth Group) maintain a robust data set with claims and eligibility data for Medicaid recipients, both those enrolled in managed care organizations and in fee-for-service Medicaid. The state prepared excerpted data files for our analysis that included three years of claims and eligibility data, for services provided from July 2013 to June 2016. Data in the files was limited to enrollees residing in the three Detroit area counties—Macomb, Oakland and Wayne—and limited to enrollees in traditional Medicaid and the Healthy Michigan expansion program. All personal identifying information was removed from the files. In addition, the inpatient utilization files do not include hospital stays where the primary diagnosis was for a mental health disorder.*

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## SUMMARY OF FINDINGS

With the launch of the Healthy Michigan expansion of Medicaid eligibility in April 2014, enrollment in Medicaid in the three-county Detroit area increased quickly. By June 2016, area enrollment in Healthy Michigan reached 279,000, most of them single adult males, and most enrolled in a managed care plan. Healthy Michigan enrollees represented one-third of the 884,000 Medicaid beneficiaries in the Detroit area.

Anticipating that these new enrollees would have pent-up needs for care, the state initially set payment rates for their care to be higher than for other Medicaid enrollees. However, this analysis shows that rates of inpatient utilization for those enrolled in the Healthy Michigan managed care plans were relatively low in 2014, the first year of the program.

In the second year of the program, inpatient utilization rates for the newly enrolled Healthy Michigan population increased steadily, and by the middle of 2015, were similar to the rates for traditional Medicaid enrollees in the managed care plans.

While rates of use became similar, types of care being provided were not. Traditional Medicaid was dominated by pregnancy-related conditions, while sepsisemia, acute respiratory and cardiac events, kidney failure, and pancreatitis led the list for Healthy Michigan.

## ELIGIBILITY CATEGORIES

This study describes and compares enrollment and health care utilization of those in the Detroit area newly covered under Michigan’s Medicaid expansion and those historically eligible for Medicaid. The analysis is built around two major eligibility categories: Traditional Medicaid (TM) and the Healthy Michigan Program (HMP). Within each eligibility category, there is a subcategory of recipients enrolled in a managed care plan. A high percentage of the Healthy Michigan enrollees, for example, have Medicaid coverage through a Healthy Michigan managed care plan. We have been careful to avoid what we think is likely double-counting of these Medicaid enrollees and their hospital stays.

## ENROLLMENT BY ELIGIBILITY CATEGORY

Enrollment in Traditional Medicaid in Macomb, Oakland, and Wayne counties grew from about 590,000 in the third quarter of 2013 to about 622,000 six months later. As enrollment in the Healthy Michigan plan grew, beginning in April 2014, enrollment in Traditional Medicaid generally declined.

**Exhibit 1** shows that Healthy Michigan enrollment in these counties grew from 146,000 in the second quarter of 2014 to 279,000 in the second quarter of 2016. About one-third of the state’s Healthy Michigan enrollees reside in the three-county Detroit area. Before the launch of the Healthy Michigan program, about 33,000 single, low-income adults in the area were enrolled in Medicaid with limited benefits under a waiver program.

### EXHIBIT 1

ENROLLMENT IN MAJOR MEDICAID PROGRAMS IN THE DETROIT AREA  
BY QUARTER, SEPTEMBER 2013—JUNE 2016

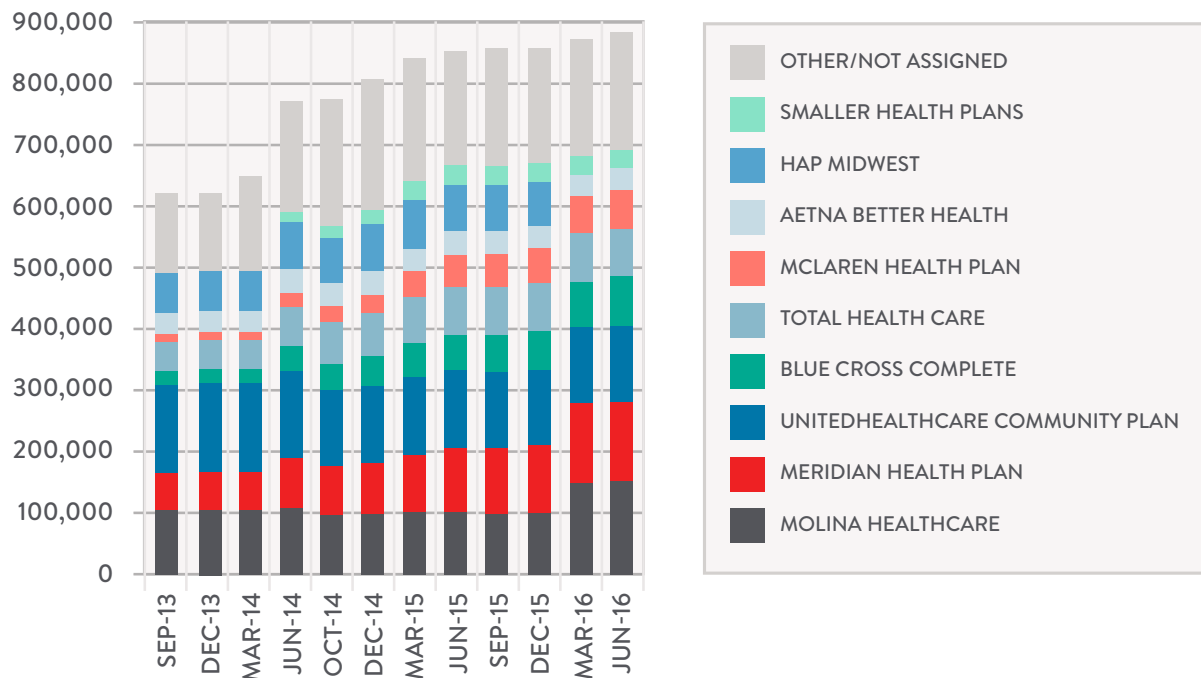


Source: Author’s analysis of Medicaid eligibility files

As of June 2016, 605,000 recipients were enrolled in Traditional Medicaid plans, mostly in managed care plans, but including 116,000 for whom no managed care plan was identified. **Exhibit 2** shows that Molina Healthcare is the largest in the area, with about 199,000 total enrollees (151,000 TM and 48,000 HMP), followed by UnitedHealthcare Community Plan, Meridian Health Plan and Blue Cross Complete. HAP Midwest Health Plan had about 75,000 Medicaid enrollees in December 2015, but then dropped to almost zero, after losing its contracts in the Detroit area. Note that a few enrollees are shown as enrolled in other plans from outside the Detroit, such as Upper Peninsula Health Plan.

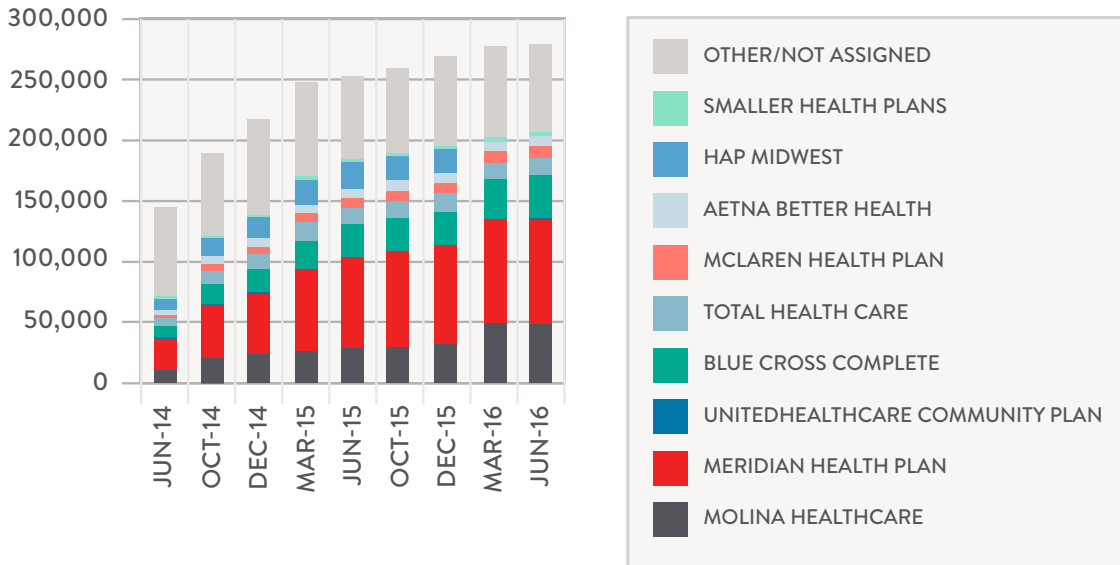
As of June 2016, 279,000 recipients were enrolled in HMP, again mostly in managed care plans, but 36,000 recipients had no plan name in their record. As shown in **Exhibit 3**, Molina Healthcare and Meridian Health are tied for largest plan in the area, followed by UnitedHealthcare Community Plan and Blue Cross Complete.

**EXHIBIT 2**  
**ENROLLMENT IN MEDICAID BY MANAGED CARE ORGANIZATION**  
**BY QUARTER, SEPTEMBER 2013–JUNE 2016**



**EXHIBIT 3**

**ENROLLMENT IN HEALTHY MICHIGAN BY MANAGED CARE ORGANIZATION  
BY QUARTER, SEPTEMBER 2013–JUNE 2016**



**UTILIZATION COMPARISON**

Medicaid officials predicted that utilization for the Healthy Michigan enrollees would be higher than for other enrollees because of pent up demand for medical care. Because of this anticipated demand and some benefit enhancements, payment rates for Healthy Michigan enrollees in the first year were set to be higher than traditional enrollees. As it turned out, the anticipated higher demand for care did not occur in the first year of the Healthy Michigan program, and spending on medical care was well below the payment rates.

We used the inpatient claims and the enrollment data files to calculate three measures of inpatient hospital

utilization for enrollees in each eligibility category: the rate of inpatient admissions per 1,000 enrollees; the number of inpatient days per 1,000 enrollees and the average length of inpatient hospital stay (ALOS). Rates per 1,000 enrollees are widely used measures of inpatient and ambulatory utilization, for example, in health plan HEDIS reports. To avoid concerns over double counting, we made our calculation so that the data on member months for Traditional Medicaid enrollees is used to align with the inpatient claims and days number for Traditional Medicaid enrollees. Similarly, the data on eligibility and utilization for Healthy Michigan Program managed care enrollees is used for that analysis.

## RATES OF INPATIENT ADMISSIONS BY ELIGIBILITY CATEGORY

**Exhibit 4** presents data, by quarter and by eligibility category, on the key elements of this analysis: the number of inpatient claims (or discharges), the number of inpatient days and the number of member months for eligible enrollees. For example, the number of inpatient days in the HMP grew steadily beginning in the second quarter of 2014, and reached 84,000 in the second quarter of 2016. Traditional Medicaid enrollees in managed care saw their inpatient claims decrease steadily, from about 8,600 in the third quarter of 2013 to about 4,400 in the second quarter of 2016.

To fully understand the trends, we translated the number of discharges and inpatient days into rates per 1,000 members. **Exhibit 5** presents those rates for the number of discharges, the number of inpatient days and the average length of stay, calculated as the number of inpatient days divided by the number of discharges or claims.

The rate of inpatient discharges per 1,000 Traditional Medicaid enrollees was 84.34 discharges per 1,000 enrollees in the third quarter of 2013. The rate declined to 52.74 discharges per 1,000 enrollees at the end of 2015. The rate for those in a Traditional Medicaid managed care plan was lower, 70.39 discharges per 1,000 enrollees in the third quarter of 2013, dropping to 48.86 discharges at the end of 2015.

Inpatient utilization rates for HMP managed care enrollees began low, but then increased and caught up with the rate for the TM population in managed care plans. The rate of inpatient discharges for Healthy Michigan managed care enrollees was 33.62 discharges per 1,000 enrollees by the end of 2014. It grew to 46.90 discharges per 1,000 enrollees by the end of 2015. The rate of discharges for TM enrollees in managed care was 56.20 per 1,000 in the second quarter of 2014 and was 48.86 discharges per 1,000 enrollees in the fourth quarter of 2015.

The data show a decline in discharge rates per 1,000 in the first two quarters of 2016. We believe that is not a real decline in inpatient utilization. Rather, it can be explained by a lag time in claims being completed and paid and some number of claims not yet captured in the data files that were prepared for this analysis.

## RATES OF INPATIENT DAYS BY ELIGIBILITY CATEGORY

Recipients enrolled in Traditional Medicaid have very high rates of inpatient hospital days per 1,000 enrollees. In the third quarter of 2013, they were hospitalized at the rate of 8,519 days per 1,000 enrollees. In other words, each enrollee spent an average of 8.5 days in the hospital that year. While that first quarter result may have been an anomaly, the rate for all four quarters in 2015 was above 5,100 days per 1,000 enrollees. Note that these rates are skewed upward by the number of inpatient days of care provided to those enrollees in both TM and HMP that were not enrolled in one of the health plans. Medicaid recipients enrolled in managed care plans reported much lower rates of inpatient days, ranging from 267 in the third quarter of 2013 to 267 days per 1,000 enrollees at the end of 2015.

The utilization for both Traditional Medicaid enrollees and Healthy Michigan enrollees in managed care plans was very similar by the end of 2015. In the fourth quarter of 2014, Healthy Michigan enrollees used inpatient care at the rate of 655 days per 1,000 members. That rate increased to 1,047 days by the fourth quarter of 2015. Those in a managed care plan saw their rate grow from 194 days per 1,000 in the fourth quarter of 2014 to 270 days per 1,000 enrollees by the fifth quarter of 2015.

For both TM and HMP recipients not enrolled in a health plan, it is possible that they had extended stays in a Skilled Nursing Facility or Intermediate Care Facility for persons with Development Disabilities. If those stays were coded as inpatient claims, that would explain the very high rates of inpatient days for 1,000 enrollees, as well as the high average lengths of stay for enrollees in that group that are discussed in the next section.

**EXHIBIT 4**
**INPATIENT CLAIMS AND BED DAYS AND MEMBER MONTHS BY QUARTER FOR ENROLLEES IN TRADITIONAL MEDICAID AND HEALTHY MICHIGAN PROGRAM**

INPATIENT CLAIMS												
Medicaid Plan	2013 Q3	2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4	2016 Q1	2016 Q2
Healthy Michigan	NA	NA	NA	485	1,100	1,340	1,909	1,984	2,438	2,594	2,419	2,189
Healthy Michigan MC	NA	NA	NA	368	898	1,115	1,646	1,705	2,138	2,266	2,007	1,759
Traditional Medicaid	11,811	9,626	9,422	9,395	8,888	8,312	8,763	7,294	7,146	7,250	6,636	5,887
Traditional Medicaid-MC	8,611	7,282	7,137	7,133	6,775	6,408	6,898	5,518	5,486	5,744	5,096	4,418
Adult Benefit Waiver	5	3	6									
Adult Benefit Waiver MC	5	3	6									

INPATIENT BED DAYS												
Medicaid Plan	2013 Q3	2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4	2016 Q1	2016 Q2
Healthy Michigan	NA	NA	NA	10,568	22,658	29,942	41,437	40,424	49,638	61,475	76,873	84,280
Healthy Michigan MC	NA	NA	NA	1,651	5,005	6,418	13,245	8,732	11,334	13,022	10,761	9,085
Traditional Medicaid	1,192,980	801,279	771,808	769,711	779,726	712,938	631,882	635,736	604,345	466,245	472,692	478,011
Traditional Medicaid-MC	32,603	27,088	26,908	27,792	26,420	25,938	28,716	24,902	24,228	31,339	22,265	17,857
Adult Benefit Waiver	12	13	19									
Adult Benefit Waiver MC	12	13	19									

MEMBER MONTHS												
Medicaid Plan	2013 Q3	2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4	2016 Q1	2016 Q2
Healthy Michigan	NA	NA	NA	361,553	466,058	548,554	645,387	671,747	685,893	704,893	736,306	727,452
Healthy Michigan MC	NA	NA	NA	148,090	304,724	397,973	483,487	536,945	565,685	579,743	600,208	617,443
Traditional Medicaid	1,680,453	1,678,037	1,737,263	1,753,573	1,714,264	1,652,735	1,657,737	1,668,865	1,668,399	1,649,590	1,635,407	1,638,014
Traditional Medicaid-MC	1,467,891	1,470,036	1,467,067	1,523,136	1,440,680	1,363,278	1,383,819	1,418,709	1,413,410	1,410,709	1,446,133	1,469,739
Adult Waiver	101,961	92,617	85,784									
Adult Waiver MC	99,293	90,733	84,126									

**EXHIBIT 5**

**INPATIENT DISCHARGES, INPATIENT DAYS AND AVERAGE LENGTHS OF STAY FOR MEDICAID ENROLLEES: RATES PER 1,000 ENROLLEES**

Discharges Per 1,000 Enrollees	2013 Q3	2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4
Healthy Michigan	NA	NA	NA	16.10	28.32	29.31	35.49	35.44	42.65	44.16
Healthy Michigan MC	NA	NA	NA	29.82	35.36	33.62	40.85	38.10	45.35	46.90
Traditional Medicaid	84.34	68.84	65.08	64.29	62.22	60.35	63.43	52.45	51.40	52.74
Traditional Medicaid-MC	70.39	59.44	58.38	56.20	56.43	56.41	59.82	46.67	46.58	48.86
Adult Benefit Waiver	0.59	0.39	0.84							
Adult Benefit Waiver MC	0.60	0.40	0.86							

Inpatient Days Per 1,000 Enrollees	2013 Q3	2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4
Healthy Michigan	NA	NA	NA	350.75	583.40	655.00	770.46	722.13	868.44	1,046.54
Healthy Michigan MC	NA	NA	NA	133.78	197.10	193.52	328.74	195.15	240.43	269.54
Traditional Medicaid	8,518.99	5,730.12	5,331.20	5,267.26	5,458.15	5,176.42	4,574.06	4,571.27	4,346.77	3,391.72
Traditional Medicaid-MC	266.53	221.12	220.10	218.96	220.06	228.31	249.02	210.63	205.70	266.58
Adult Benefit Waiver	1.41	1.68	2.66	NA	NA	NA	NA	NA	NA	NA
Adult Benefit Waiver MC	1.45	1.72	2.71	NA	NA	NA	NA	NA	NA	NA

Average Length of Stay	2013 Q3	2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4
Healthy Michigan	NA	NA	NA	21.79	20.60	22.34	21.71	20.38	20.36	23.70
Healthy Michigan MC	NA	NA	NA	4.49	5.57	5.76	8.05	5.12	5.30	5.75
Traditional Medicaid	101.01	83.24	81.92	81.93	87.73	85.77	72.11	87.16	84.57	64.31
Traditional Medicaid-MC	3.79	3.72	3.77	3.90	3.90	4.05	4.16	4.51	4.42	5.46
Adult Benefit Waiver	2.40	4.33	3.17	NA	NA	NA	NA	NA	NA	NA
Adult Benefit Waiver MC	2.40	4.33	3.17	NA	NA	NA	NA	NA	NA	NA

## AVERAGE LENGTH OF STAY BY ELIGIBILITY CATEGORY

The average length of stay (ALOS, calculated as number of inpatient days divided by discharges) for a Traditional Medicaid enrollee was 101 days in the third quarter of 2013, declining to 64 days at the end of 2015. The ALOS was much less for Traditional Medicaid enrollees in managed care plans, increasing from almost four days in the third quarter of 2013 to 5.5 days at the end of 2015. For Healthy Michigan enrollees, the average was 22.34 days in the last quarter of 2014 and 23.7 days in the fourth quarter of 2015. The average length of stay was lower for enrollees in Healthy Michigan managed care plans, about 5.7 days in the fourth quarter of 2014 and again in 2015. Again, the high number of inpatient days for those not enrolled in a managed care plan, either for Traditional Medicaid or Healthy Michigan, skewed those averages much higher.

## TOP 10 ADMISSION DIAGNOSES BY ELIGIBILITY CATEGORY

**Exhibit 6** summarizes, for the four eligibility categories, the 10 leading diagnoses at the time of hospital admission for discharges occurring in calendar year 2015. It shows, for example, that Healthy Michigan enrollees residing in the three counties were admitted to hospitals 231 times with a diagnosis of Septicemia, which was also the leading diagnosis on admission for Healthy Michigan enrollees in managed care plans. Other frequent diagnoses for those populations were Acute Respiratory Failure, Atrial Fibrillation, Acute Kidney Failure and Acute Pancreatitis. Only one of the top ten diagnoses for Healthy Michigan Plan enrollees was related to childbirth: Delivery After Previous Cesarean Delivery.

These findings are not surprising given that the Healthy Michigan population is primarily male. By comparison, most adults in Traditional Medicaid are female. The most frequent diagnosis for hospital admission for that population is Normal Delivery (here called Single Hospital Birth). There were 1,451 such admissions in 2015 for Traditional Medicaid enrollees. In fact, all but three of the 10 most frequent diagnoses for Traditional Medicaid enrollees is related to childbirth.



**EXHIBIT 6**
**TOP TEN ADMISSION DIAGNOSES BY ELIGIBILITY CATEGORY, 2015**

TRADITIONAL MEDICAID		TRADITIONAL MEDICAID –MANAGED CARE	
Single Hospital Birth, Without C-Section	1,451	Single Hospital Birth, Without C-Section	1,435
Previous Cesarean Delivery, Delivered	683	Previous Cesarean Delivery, Delivered	672
Single Hospital Birth, C-Section	630	Single Hospital Birth, C-Section	617
Post-Term Pregnancy, Delivered	555	Post-Term Pregnancy, Delivered	544
Other Current Condition, Delivered	465	Other Current Condition, Delivered	461
Abnormality in Fetal Heart Rate or Rhythm	465	Abnormality in Fetal Heart Rate or Rhythm	461
Septicemia in Labor	453	Septicemia in Labor	396
Acute Ill Defined Cerebrovascular Disorder	377	1st Degree Perineal Laceration	350
1st Degree Perineal Laceration	352	Normal Delivery	275
Acute Respiratory Failure	336	Cord Entanglement Around Neck	269

HEALTHY MICHIGAN PLAN		HEALTHY MICHIGAN PLAN –MANAGED CARE	
Septicemia Not Specified	231	Septicemia Not Specified	222
Acute Respiratory Failure	107	Acute Pancreatitis	81
Atrial Fibrillation	93	Sepsis, Unspecified Organism	78
Acute Kidney Failure, Unspecified	91	Coronary Atherosclerotic of Coronary Arteries	75
Acute Pancreatitis	81	Acute Respiratory Failure	75
Sepsis, Unspecified Organism	81	Acute Kidney Failure, Unspecified	73
Coronary Atherosclerotic of Coronary Arteries	80	Previous Cesarean Delivery, Delivered	72
Care Involving Other Specified	79	Care Involving Other Specified	70
Cerebral Artery Occlusion	75	Cellulitis of Leg	65
Previous Cesarean Delivery, Delivered	72	Post-Term Pregnancy, Delivered	57