

In collaboration with the GE_NMF Primary Care Leadership Program (PCLP) and AltaMed: The Effect of Interdisciplinary Team (IDT) Meetings On Hospital Readmission, Follow-Up Rates, And Provider Satisfaction

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Introduction

Healthcare reform has increased incentives for healthcare systems to meet IHI triple aim measures, namely to improve patient experience, the health of populations, and reduce the per capita cost of health care. As a result, health systems are developing innovative ways to improve quality, while decreasing costs. One of the methods that has been emphasized is the use of interprofessional collaboration. However, it has had mixed results. A Cochrane review conducted in 2009 evaluated 5 studies that utilized either interprofessional inpatient rounding or interprofessional meetings showed that some had improvements in drug use, length of hospital stay, and total hospital charges, while others had no impact (Zwarenstein 2009). A similar Cochrane review of 51 studies that reviewed various interventions, including interdisciplinary teams, to improve continuity of care in patients with cancer also showed mixed results (Aubin 2012). Only a limited numbers of studies showed improvements in. psychological health, satisfaction of providers, or process of care measures. Both the data from both reviews showed promising results in process improvements and health outcomes, i.e. shorter length of treatment or length of stay, most of the studies were limited by a number of factors including smaller sample sizes, variability of interventions, and an inconsistent method of measuring team work.

In recent years several programs have had more promising results, one of which is the Guided Care program at John Hopkins. They focused on improving health care of multi-morbid older adults through 5 components: (1) Geriatric assessment, (2) Comprehensive care plan, (3) Evidence based primary care with proactive f/u of chronic conditions, (4) Coordination of the efforts of health professionals across all health care settings, and (5) Facilitated access to community resources. They found that it improved physician-patient communication (Marsteller 2010), family caregivers' perception of quality (Boyd, 2008) (Boyd, 2010), physician's satisfaction with chronic care, job satisfaction among nurses (Boult, 2008), patient perception of care quality and may reduce use of expensive services, and reduces the use of services in an integrated delivery system (Boult 2011). Although the perceived quality of care increased, it is worthwhile to note that health outcomes did not show statistically significant improvement (Boult 2013).

With the objective of improving the coordination of complex high risk patients and reducing readmission rates, AltaMed adopted Guided Care’s model in the implementation of Interdisciplinary Team (IDT) meetings. The interdisciplinary teams were composed of a physician, clinical care coordinator, medical records specialist, and pharmacist. They met for one hour every week to discuss the management of patients who had been discharged from the hospital in the past week, as well as complex patient identified by providers in each respective clinic. An evaluation of the effectiveness of the IDT meetings will be discussed in this paper based on 6 metrics: (1) ER visits (2) Readmission rates (3) Follow-up rates at 5 and 10 days, (4) admits/1000, (5) Provider satisfaction, (6) Home health service episodes. We hypothesized that the Interdisciplinary Team meetings would predominantly improve 5 and 10 day follow-up, provider satisfaction, and coordination of care, while it would not significantly affect ER visits, readmission rates, and admits/1000.

Methods

In October 2012, IDT meetings were implemented at AltaMed clinic ELA Boyle Heights and later expanded in April 2013 to include Huntington Beach. By July 2013, IDT meetings had also been started at Pico Rivera and El Monte. Our goal was to implement IDT meetings in all clinics by November 2013.

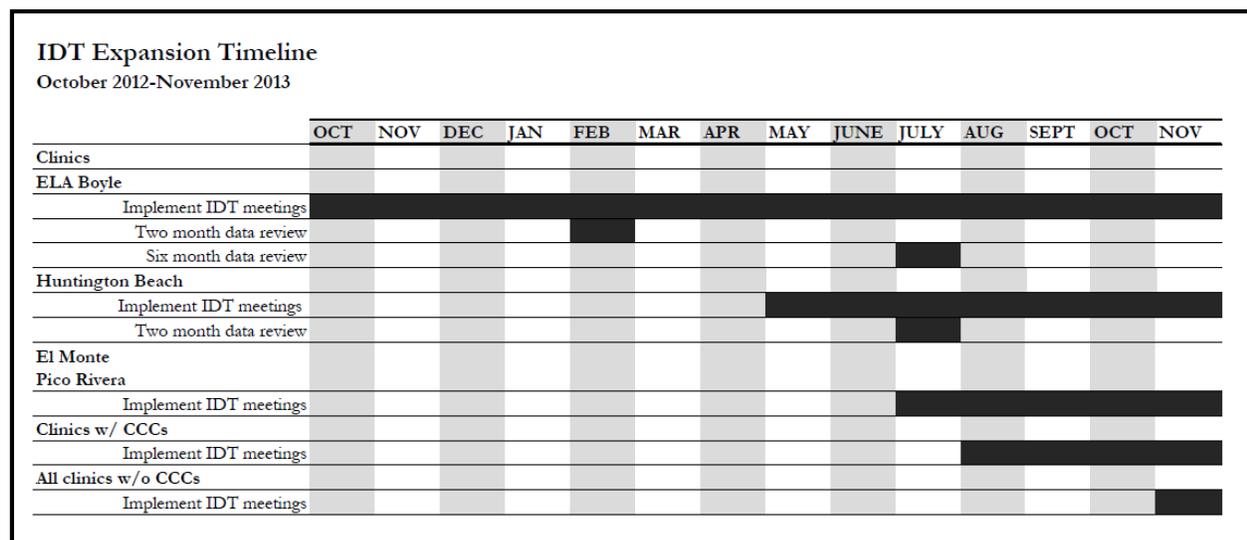


Figure 1: IDT expansion timeline from October 2012 until November 2013. The black bars highlight the period of implementation or review.

Treatment and control groups

In this quasi experimental study, we examined both quantitative and qualitative metrics at our two “treatment clinics,” ELA Boyle Heights and Huntington Beach because they had the most significant intervention period of 9 months and 4 months, respectively. We labeled the remaining clinics as “control” groups, since they had not implemented the IDT meetings. ELA Boyle Heights saw an average of 6 patients every week, while Huntington Beach saw an average of 3 patients every week. P values were not calculated due to the small sample size and period of intervention.

Metrics

We examined 5 quantitative metrics including: (1) ER visits/1000 (2) % readmissions (3) Follow-up rates at 5 days (4) admits/1000, (5) Home Service Referrals/1000 episodes and one qualitative measure (1) provider satisfaction. Pre-intervention data was gathered in both intervention clinics, Boyle Heights (BH) and Huntington Beach (HB), for a period of one year prior to IDT meeting implementations to account for natural variance in values throughout the year. During this same time intervals, pre-intervention data was also gathered in our control groups, i.e. all other clinics that had not implemented the IDT meetings. Post-intervention data was gathered for a variable amount of time depending on how long clinics had implemented the IDT meetings and were 8 months and 2 months for BH and HB, respectively. Readmissions were defined as all cause readmissions within 30 days after discharge.

We sent surveys through SurveyMonkey to providers at ELA Boyle Heights and Huntington Beach to assess provider satisfaction. In particular, we focused our survey on whether IDT meetings had improved coordination of care, decreased utilization of resources, and improved overall provider satisfaction. The survey’s results were made anonymous and consisted of 10 questions.

Results

5 Quantitative metrics

Overall, values of ER visits/1000, admits/1000, % readmitted, 5 day follow-up, and home service referrals/1000 were variable before and after IDT implementation. Admits/1000 and home service referrals/1000 saw a decrease after IDT implementation in comparison to values in the control clinics, while ER visits/1000 and 5 day follow-up percentages varied between BH and HB clinics. Notably, readmissions decreased in intervention clinics, while they increased in control clinics.

1) ER visits/1000

After implementation of IDT meetings, ELA Boyle Heights (BH) had an increase in ER visits/1000 while Huntington Beach (HB) had a decrease in ER visits/1000. Compared to the control, ELA Boyle Heights had an increase in ER visits after IDT implementation of 8.28/1000 visits, while baseline clinics decreased ER visits by about 20.05. On the other hand, Huntington had decrease in ER visits of 163.4, which was greater than baseline clinics of 93.35.

2) Admits/1000

Both BH and HB had a relative decrease in the number of admits/1000 in comparison to baseline clinics.

3) % Readmitted

Both BH and HB saw a relative decrease in their readmissions after implementation of IDT meetings, while the control clinics saw an increase in readmissions during the same time periods.

4) 5 day follow-up %

While 5 day follow-up percentages increased in BH in comparison to control clinics, 5 day follow-up percentages decreased in both HB in comparison to control clinics.

5) Home service referrals/1000

Both BH and HB saw a decrease in home service referrals after IDT implementation.

Table 1: A summary of 5 metrics including (1) ER visits/1000 (2) % readmissions (3) Follow-up rates at 5 days (4) admits/1000, (5) Home Service Referrals/1000 episodes of pre and post IDT interventions. Rows highlighted in blue are the intervention clinics, i.e. ELA Boyle Heights and Huntington Beach with data from "control" clinics in white groups below. Pre-IDT values were all gathered during a year one period for each respective group.

	ELA BOYLE HEIGHTS			HUNTINGTON BEACH		
	Pre-IDT	Post-IDT	Change	Pre-IDT	Post-IDT	Change
ER Visits/1000	299.78	308.06	8.28	618.81	455.41	-163.4
	392.82	372.75	-20.05	394.92	301.57	-93.35
Admits/1000	67.84	53.86	-13.98	107.84	95.54	-12.3
	80.49	70.02	-10.47	72.87	64.78	-8.09
Readmit %	9.65	9.2	-0.45	23.12	23.08	-0.04
	11	12.69	1.69	11.39	14.81	3.42
5 day follow-up%	22.76	25.61	2.85	12.79	10	-2.79
	21.89	24.24	2.35	24.18	22.71	-1.47
Home Service referrals/1000	46.61	43.79	-2.82	52.04	31.85	-20.19
	77.83	43.3	-34.53	68.39	35.67	-32.72

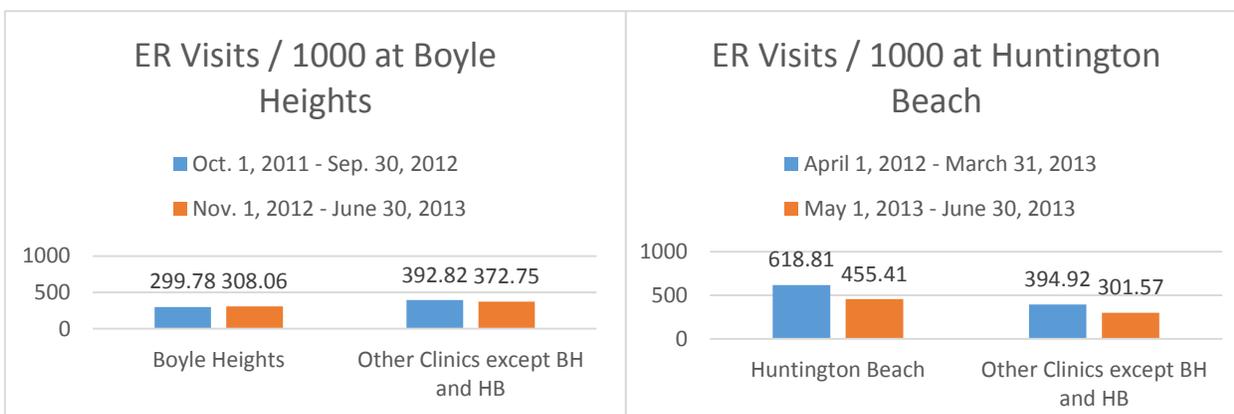


Figure 2: ER visits/1000 at Boyle Heights and Huntington Beach. Blue columns are pre-IDT values and orange columns are post-IDT values.

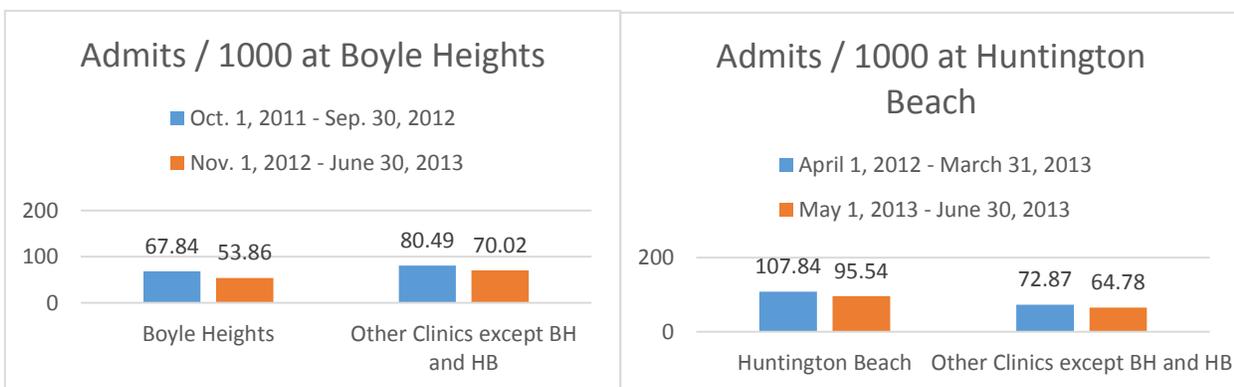


Figure 3: Admits/1000 at Boyle Heights and Huntington Beach. Blue columns are pre-IDT values and orange columns are post-IDT values.

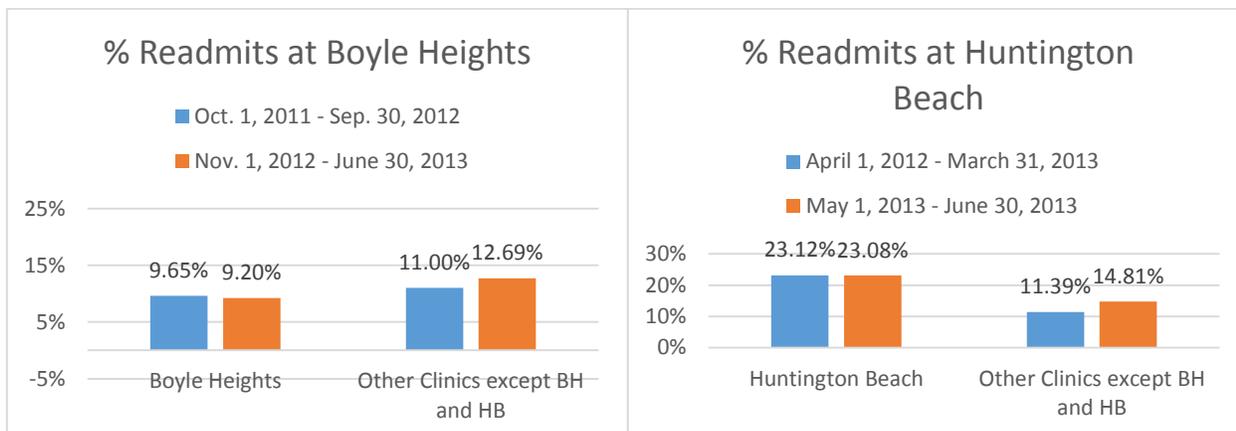


Figure 4: % Readmits at Boyle Heights and Huntington Beach. Blue columns are pre-IDT values and orange columns are post-IDT values.

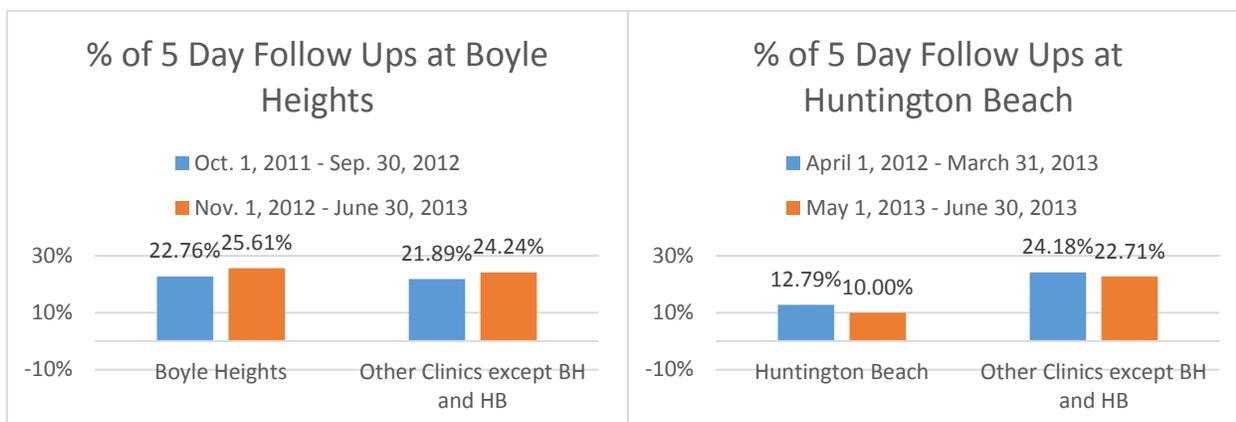


Figure 5: % 5 day follow ups at Boyle Heights and Huntington Beach. Blue columns are pre-IDT values and orange columns are post-IDT values.

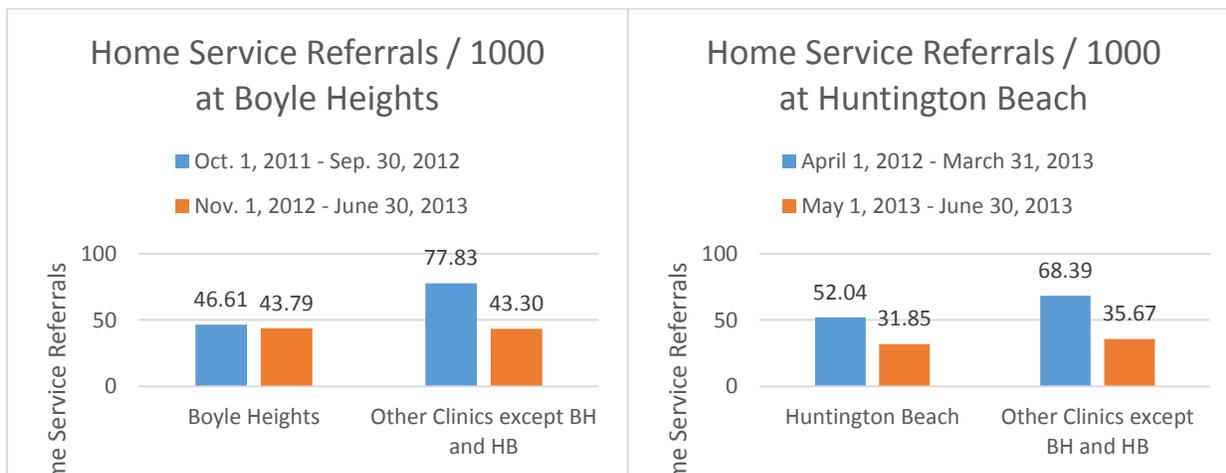


Figure 6: % home service referrals at Boyle Heights and Huntington Beach. Blue columns are pre-IDT values and orange columns are post-IDT values.

Provider Satisfaction

In total, 10 providers responded to the survey. Of the 10, 6 were from ELA Boyle and 4 were from Huntington

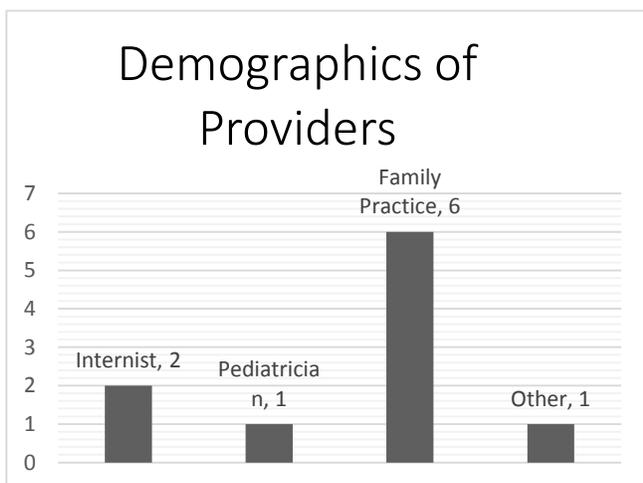


Figure 7: Demographic of providers who responded to the survey

Beach. The majority of providers who responded to the survey were family practice (60%). Overall, providers found the IDT process had been moderately to very helpful in coordinating care with patients. Improvements in workload, referrals and lab orders were less significant and showed no to slight reductions. Of the areas of the IDT meetings that were most beneficial, timely follow-up (60%), medication management (50%), and transition care support (40%) ranked highest. Most providers understood the role of the IDT meetings and all providers (100%) agreed that they should continue. Only 2/10 providers referred complex patients for IDT review.

Items and scales used to evaluate provider satisfaction

Item and scale	Rating Average	Qualitative rating
Provider experience		
How helpful has the IDT process been in coordinating the care of your patients with other departments within AltaMed (with 5 response options, ranging from “not helpful” to “extremely helpful”)?	3.5	Moderately-Very helpful
How has the IDT process (i.e. time spent per patient) changed your workload (with 5 response options, ranging from “no change” to “extremely improved”)?	2.5	Slightly-Moderately improved
Did this reduce the number of referrals and lab orders you need to make (with 5 response options, ranging from “don’t think so” to “significant reduction”)?	1.7	Don’t think so-Mild Reduction
Patient care		
For recently discharged patients, in what areas of patient care did you think the IDT meetings were most helpful? (Check all that apply)		
Timely follow-up appointments	6	60%
Comprehensive discharge planning	3	30%
Medication management	5	50%

Patient and family engagement	3	30%
Transition care support (HHS or SNF) through the clinical care manager	4	40%
Transition communications about pending test results and special needs	3	30%
Did you refer any complex patients for IDT review?		
Yes	2	20%
No	8	80%
Process improvement		
Do you understand the role of the IDT (with 4 response options, ranging from “not at all” to “Yes, definitely”)?	3.5	Yes, somewhat-Yes, definitely
What level of value would you give to the IDT process outcomes/benefits that it has produced (with 5 response options, ranging from “no benefit” to “extremely beneficial”)?	3.6	Moderate-Very beneficial
Do you feel the IDT process should continue?		
Yes	10	100%
No	0	0%

Figure 8: Items and scales used to evaluate provider satisfaction. The survey consisted of 10 questions, which were divided into 3 primary categories including provider experience, patient care, and process improvement.

Discussion

Overall, the quantitative metrics did not show significant changes after IDT meeting implementation. It is worthwhile to note that readmissions decreased in intervention clinics, while they increased in control clinics. However, we cannot draw any conclusive correlations between our metrics and the implementation of IDT meetings due to the limitations of our study. Our limitations included variables such as having a small intervention group and patients who were affected by the IDT Meetings, a limited period of implementation, and variable baseline and intervention values between HB and BH clinics due to our staggered implementation of IDT meetings. Although we attempted to standardize “pre-IDT” values by collecting data one year prior to intervention, “post-IDT” values were variable since they were collected over variable time intervals. Our metrics were limited largely by small intervention groups, which subsequently had a limited effect on our quantitative metrics.

Of note, it is concerning that only 10-20% patients actually had a follow-up appointment within 5 days of discharge. This is in large part to a number of confounding factors outside of the control of providers and clinics, including timely notification by insurance or administration that patients have been discharged, limited appointment availability, and communication of inpatient diagnosis’ and services. Although this is was not a primary objective of the IDT expansion project, it is an important factor to consider moving forward since it may limit the growth and results of the IDT meetings.

In comparison to the quantitative metrics, the qualitative survey of the provider's experience has been positive and argues for the continuation of the IDT meetings. Our survey showed that most providers agreed that the IDT meetings significantly improved coordination of care and mildly improved workload and utilization of resources. Most importantly, all 10 providers who answered the survey agreed that IDT meetings should continue and had valuable benefits and outcomes, namely timely follow-up appointments, medication management, and transition care support to home health service episodes or skilled nursing facilities.

Conclusions

Overall, we were able to achieve our goal to improve coordination of care based on provider surveys. Although readmission rates decreased, it is difficult to correlate this with the implementation of IDT meetings due to our small sample size and it would be worthwhile to re-evaluate the IDT meetings after they have been implemented for a year. In conclusion, IDT meetings are beneficial to providers and should continue.

Some of the quantitative metrics were promising and it would be worthwhile to re-evaluate the IDT meetings in one year, when there is a larger intervention group to determine if they have had a greater influence on quantitative metrics. Nevertheless, the measurable outcomes may continue be limited due to the small number of patients that are affected by IDT meetings in comparison to the number of patients seen at each clinic.

Recommendations

My recommendations focus on three key areas that looks at a similar program called RARE, referral of complex patients, and determining obstacles to improving timely follow-up.

Although Cochrane reviews have not shown an improvement in clinical outcomes due to interprofessional collaboration, it is worthwhile to note that several programs have had success in reducing hospital readmissions. One such program is the Reducing Avoidable Readmissions Effectively (RARE) program in Minnesota, which focuses on 5 key areas proven to reduce readmissions. They are (1) comprehensive discharge planning, (2) medication management, (3) transition care support, (4) transition communications, and (5) patient and family engagement. In two years, they were able to prevent 4,570 readmissions. Although their program is based within hospitals, I believe that we can work on several of

these areas within AltaMed clinics. Based on our provider surveys, our three lowest scoring areas were patient and family engagement, transition care communication, and comprehensive discharge planning. I realize that most of these are focused on the inpatient aspect, but I believe that patient and family engagement is an area that we can improve within our clinics.

Furthermore, the RARE program found that “high risk” patients were two times more likely to re-admitted. As a result, they developed a structured protocol for this subset of patients and I believe that this can be simulated at AltaMed. As IDT meetings progress, it may be beneficial to focus efforts on “high risk” patients identified by CCCs for discussion in IDT meetings. Some factors that the RARE program used to stratify patients included two or more admissions in the last 30 days, two or more ED/APS visits in the last 30 days, and the presence of drug use, depression, renal failure, heart failure, asthma, or race. These same patients received a follow-up phone call post discharge within 24 hours and home care visit within 48 hours.

Secondly, only 2 out of 10 providers referred complex patient for IDT review. I suspect that most providers were not aware that this was also additional function of the IDT meetings. Simply making providers more aware of this resource may help to further prevent readmissions of complex patients.

Lastly, although low 5 day follow up rates were an incidental finding, it cannot be overlooked. As AltaMed continues to strive for quality care without exception, I believe it is critical to determine obstacles to ensure that patients receive timely follow-up. Although there are many confounding factors, including adequate scheduling availabilities and communication from inpatient services, low follow-up rates can significantly limit the benefit that IDT meetings may have.

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