

Automated ED Care Coordination

Taking control of your most expensive patients

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Assumptions

- Emergency department super utilizers (EDSUs) are defined as those with greater than twelve (12) ED visits per year.
- EDSUs with multiple chronic problems and hospitalizations are exceptionally responsive to ED case management.¹
- The annual net cost reduction per EDSU with care coordination is about \$5,000.^{2,3}

Study Methodology

The EEH EDs in Naperville and Plainfield, IL combined manage 100,000 annual ED visits and participated in the study. In 2016, 88 EDSUs accounted for 1,383 ED visits (range 12-35, mean 16). SmartControl™ (Smart-ER, La Grange, IL) is an automated ED care coordination technology that was used to define the demography (Figure 1), organize EDSU categories and tactics (Figure 2), facilitate case review (Figure 3), house individual care plans and care networks (Figure 4) and automate team communication about ED visits.⁴ While no EDSUs were excluded, staffing constraints allowed application of only one-quarter of the optimal amount of case management time dedicated to EDSU coordination.

EDSU Care Coordination Requirements

- Dedicate case manager time and initiate SmartControl™
- Identify/categorize EDSUs and initiate behavior control tactics
- Create individualized care plans and assign providers (e.g. PCP) and partners (e.g., family caregiver) to care network
- Flag EDSUs on the ED patient tracker board

Study Results

SmartControl™ significantly reduces EDSU visit frequency. The potential savings in two EEH EDs with 100,000 annual volume is \$440,000. Yearly program cost is \$55,000 (\$25,000 for 0.2 FTE of a case manager dedicated to EDSU tasks and \$30,000 for software licensing). The system was viewed favorably by hospital leaders, legal counsel and ED/on-call staff. Moreover, it improves EDSU care continuity and health outcomes.

Typical Scenario

Joe, a 41-year-old male with opioid dependence and chronic abdominal pain, had eighteen (18) ED visits (28% requiring hospitalization) in the pre-intervention year and one (1) ED visit (not hospitalized) in the post-intervention year.

Summary

This study verified published research and proved that automating EDSU care coordination reduces unreimbursed services with net investment return eight (8) times the cost of case management staffing plus SmartControl™ licensing.²

References

¹Harris L, Graetz I, et al. *J Emerg Med* 2016; 50(4):e203-e214
²Murphy D, Neven S. *J Emerg Med* 2014; 47(2):223–231
³Health Partners. 2012. https://www.healthpartners.com/ucm/groups/public/@hp/@public/documents/documents/cntrb_029679.pdf
⁴Scaletta T. *EngagingPatients.org* 2015. <http://www.engagingpatients.org/emergency-medicine-2/emergency-case-management-emergency-medicine-2/part-ii-frequent-ed-users-transitioning-volume-value/>

Figure 1
Demography

Gender	
Female	61%
Male	39%
Age (years)	
Range	2-90
Mean	43
Payer	
Medicare	28%
Medicaid	17%
Managed Medicaid	19%
Private PPO	28%
Private HMO	7%

Figure 2
Categorization Framework⁴

Categories	Scenarios	Payers	Behavior Control Tactics
Convenience Visitors	No PCP or unavailable PCP	Medicaid	• Improve PCP linkage, encourage prudent ED use
	No time to wait despite high co-pay	Private pay	• Recommend urgent care for minor emergencies
Substance Users	Narcotic seekers	All payers	• Use state database, deny narcotic prescriptions
	Alcohol-related	Uninsured	• Encourage family support and rehabilitation
Psychiatrically-Fragile	Psychoses – homeless	Uninsured	• BH specialist linkage, family oversight
	Neuroses – anxiety, borderline PD	Private pay	• Reassurance, psychologist referral for CBT
Medically-Fragile	Asthma/COPD, Cancer, CAD/CHF, CVA/Dementia, DM, ESRD, Paralysis	Medicare	• Individualized care plan, nurse navigator, high-risk clinic, caregiver education, end-of-life plan
		Private pay	

Figure 3
List and Individual Visit History

Super Utilizers			
Visits	Name/Age/Gender	Call Made	
46	CORY W / 43 M	0	
35	ALD, ROBERT R / 31		
31	ERLINDA S / 57 F		
26	MOLLY E / 32 F		
26	SHARON M / 57 F		
25	SHARON / 62 F		
25	ANDREA K / 29 F		
23	SCOFIELD / 88 F		
23	ANNE D, DANA / 24		
23	ERENA S / 43 F		

Visit History

01/23/2014	Facial contusion	head injury
01/25/2014	Muscle pain	chest injury
02/01/2014	Anxiety	eval p
02/12/2014	Back pain	
02/22/2014	Other chronic pain	BACK PAIN
02/25/2014	Chronic back pain	back pain
03/22/2014	Other general medical	MED REFILL
04/16/2014	Kidney mass	flank pain
04/20/2014	Gastroenteritis	
04/21/2014	Depression	eval p
04/24/2014	Anxiety	EVAL P

Figure 4
Individualized Care Plan and Care Network Development Tool

Narcotic Dependence.

Personality Disorder

Problems

Solutions

Addictive personality and usually presents with multiple somatic complaints.

Avoid opiates or benzos while in ER. Call the ED Case Manager to assist with his care and for every ER visit to discuss number of times in rolling calendar year patient has visited Edward ED.

Readily accepts plan when no test or prescription necessary.

21 ED visits in 2015 as opposed to 50 in 2014. The above plan has been somewhat successful. Please continue.

Has never seen primary care physician.

ED CM will continue to try to continue to improve outpatient PCP and psych care.

Patient is occasionally homeless and lives in shelters.

ED Practices for Narcotic Prescribing letter was provided. Patient aware he will not receive any opiates. Patient also aware he will not receive any cab vouchers.

Care Network

Medical/PCP	Tom Scaletta	tscaletta@edward.org	5678901234	
Medical/Specialist	Psychiatry	David Lott	David@hisemail.ycom	2345678901
Mentor/Guide	Sister	Kary Thomas	KaryThomas@heremail.com	3456789012
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