# 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

[1]Harris L, Graetz I, *et al. J Emerg Med* 2016; 50(4):e203-e214

[2]Murphy D, Neven S. *J Emerg Med* 2014; 47(2):223–231

[3]Health Partners. 2012. https://www.healthpartners.com/ucm/groups/public/@hp/@public/documents/documents/cntrb_029679.pdf

[4]Scaletta 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% |

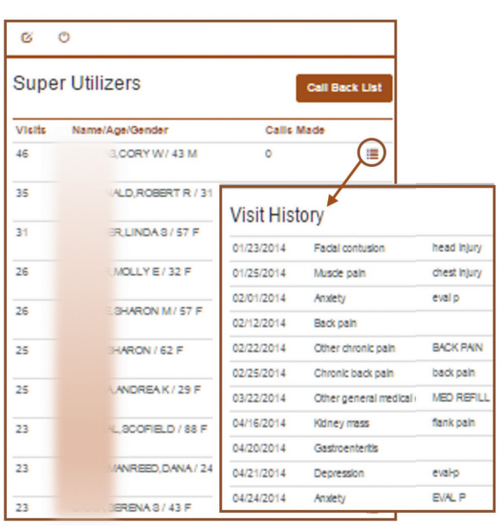
### Figure 2

Categorization Framework[4]

| 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<br>Private pay | • Individualized care plan, nurse navigator, high-risk clinic, caregiver education, end-of-life plan |

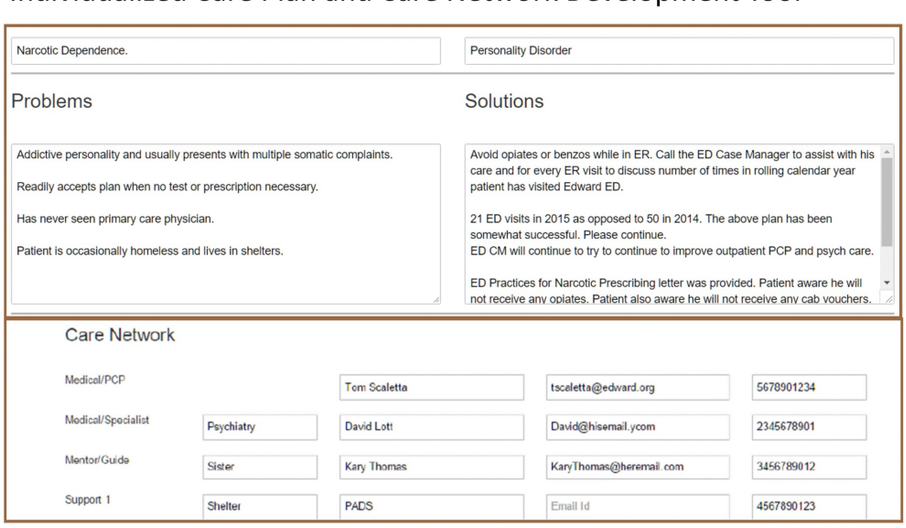
### Figure 3

List and Individual Visit History




### Figure 4

Individualized Care Plan and Care Network Development Tool

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