Learnings from EDIE Implementation in San Francisco Bay Area

Maria Raven, MD, MPH, MSc
Emergency Department Information Exchange Program (EDIE)

Platform that identifies patients who reach specific threshold of ED use: counts ED visits for all EDs on platform (not just your hospital)

- Visits to ≥3 different EDs in the last 3 months
- 5 or more ED visits to any ED on platform in last 12 months.
Why do we need a platform like EDIE?

• Frequent ED users represent a vulnerable (and at times, high cost) population
  • Higher admission rates, poorer social determinants of health, high tri-morbid illness, many unmet needs
• EDIE allows accurate classification of frequent ED users based on data from multiple sites
• Care Guideline input allows care coordination and notifications
• ED staff notified in real time, can take action
What motivated the SF Bay Area?

• Desire to tackle the issue of frequent ED use as a symptom of larger delivery system problems
• Easy to use, inexpensive product
• Incentivized by local Medi-Cal Health Plan (San Francisco Health Plan)
  • Allows for improved care coordination for their high risk members
How does EDIE work?

Patient registers in the ED

Patient data sent to EDIE

EDIE applies criteria

EDIE sends notification to ED

• EDIE is integrated with EPIC with its own dedicated column on the patient track board

• EDIE report includes ED visit history, primary care physician contact information, current medications, existing care plans, security alerts

EDIE Criteria
• 5 Visits in the last 12 months
• 3 different EDs in the last 2 months
• Care Guideline in place
EDIE in EPIC
Care Provider Info

Care Guidelines

PreManage ED ALERT 05/27/2016 04:12 AM Darwin, Charles (DOB: 02/12/1909)

This patient has registered at the Henry Medical Center Emergency Department. You are being notified because this patient has recommended Care Guidelines. For more information please login to EDIE and search for this patient by name.

Care Providers

<table>
<thead>
<tr>
<th>Provider</th>
<th>Type</th>
<th>Phone</th>
<th>Fax</th>
<th>Service Dates</th>
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<tbody>
<tr>
<td>Ben A. Zanelli MD</td>
<td>Primary Care</td>
<td>(206) 555-1213</td>
<td>(206) 555-1212</td>
<td>Current</td>
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<tr>
<td>Robert Oser MD</td>
<td>Cardiology</td>
<td>(206) 231-3125</td>
<td>(206) 231-3126</td>
<td>Current</td>
</tr>
<tr>
<td>Sarah Jung PhD</td>
<td>Psychology</td>
<td>(206) 782-2342</td>
<td>(206) 782-2343</td>
<td>Current</td>
</tr>
</tbody>
</table>

ED Care Guidelines from Henry Medical Center

Care Recommendation:

Patient’s pain is cardiac related; please use nitroglycerin (CHF and cardiac protocols) for pain. Please do not use controlled substances in the ER unless there are new findings as patient is very sensitive to opiates.

Additional Information:

1. Please see ECG attached below for pre-existing cardiac pathology.
2. Cardiologist office responds to overnight pages.

These are guidelines and the provider should exercise clinical judgment when providing care.

Care Guidelines

Care History

Security Event

PDMP Information

Visit History

<table>
<thead>
<tr>
<th>Recent Visit Summary</th>
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<tbody>
<tr>
<td>Visit Date</td>
</tr>
<tr>
<td>03/04/2016</td>
</tr>
<tr>
<td>12/21/2015</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>ED Visit Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
</tr>
<tr>
<td>04/18/2016</td>
</tr>
<tr>
<td>05/04/2016</td>
</tr>
<tr>
<td>12/21/2015</td>
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<td>01/03/2015</td>
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</table>

ED Visit Count (1 Yr.)

<table>
<thead>
<tr>
<th>Location</th>
<th>Visits</th>
</tr>
</thead>
<tbody>
<tr>
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<td>37</td>
</tr>
<tr>
<td>Henry Medical Center</td>
<td>6</td>
</tr>
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<td>Wallace Memorial Hospital</td>
<td>47</td>
</tr>
</tbody>
</table>

Note: Visits indicate total known visits.

The above information is provided for the sole purpose of patient treatment. Use of this information beyond the terms of Data Sharing Memorandum of Understanding and license agreement is prohibited. In certain cases not all visits may be represented. Consult the aforementioned facilities for additional information.
# AB-40 CURES database: health information technology system (2017-2018)

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/01/17</td>
<td>In Senate. Read first time. To Com. on RLS. for assignment.</td>
</tr>
<tr>
<td>05/31/17</td>
<td>Read third time. Urgency clause adopted. Passed. Ordered to the Senate.</td>
</tr>
<tr>
<td>05/30/17</td>
<td>Read second time. Ordered to third reading.</td>
</tr>
<tr>
<td>05/26/17</td>
<td>Read second time and amended. Ordered returned to second reading.</td>
</tr>
<tr>
<td>05/26/17</td>
<td>From committee: Amend, and do pass as amended. (Ayes 16, Noes 0.) (May 26).</td>
</tr>
<tr>
<td>05/17/17</td>
<td>In committee: Set, first hearing. Referred to APPR. suspense file.</td>
</tr>
<tr>
<td>05/10/17</td>
<td>In committee: Hearing postponed by committee.</td>
</tr>
<tr>
<td>04/25/17</td>
<td>From committee: Do pass and re-reference to Com. on APPR. with recommendation: To Consent Calendar. (Ayes 7, Noes 0.) (April 25). Re-referred to Com. on APPR.</td>
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How does EDIE differ from an HIE?

- Less expensive
- Data integration across a given region (city, county) and states/nation
- Can work on top of existing HIEs or other databases
  - CURES/PDMPs; Jail data; Advanced directive registries; EMS data
- Pushes notifications to providers based on risk (HIE’s require a provider to look up or query data)
- Integrates into physicians native workflow (ED track board)
- Includes ED-specific care recommendations
- Tracks security risks and infectious disease risks
- Provides real-time analytics on patients specific to provider’s / hospitals risk criteria
- Less data
  - Unlike HIE, does not focus on lab values, imaging results, or case notes
Implementing EDIE

• At UCSF, ED-based Health Care Navigators (HCNs) use interview tool to assess factors (medical, behavioral, social determinants) that may impact ED use.
  • Provide resources, coordinate with other providers, and do phone-based follow-up.
  • Create EDIE care plans
Optimizing use of EDIE

• Creation of Care Guidelines is critical but takes time
• Some sites who are implementing EDIE use existing staff: others hire new, dedicated EDIE staff
• UCSF has hired 2 Health Care Navigators (HCNs); ZSFG is using an existing ED social worker “champion”
• Considerations
  • Funds to hire new FTE
  • Degree to which you expect docs/other providers to be proactive
Prioritization of EDIE Patients for intervention

Threshold: 3+ hospitalizations in a 3 month period, OR 5+ hospitalizations in 12 months

- San Francisco Health Plan members
- Patients already seen by providers in the ED
- Referrals from ED staff
- Patients on 5150s usually seen by ED social work
UCSF Screening tool

- Structured interview used to collect data from patients on reasons for coming to the ED, medical and behavioral conditions, and social determinants of health that may be influencing health care utilization
Data April 2017 – April 2018

- UCSF has entered 378 active care plans
  - 339 patients interviewed
  - 38 patients referred by UCSF or community providers
ED use among interviewed EDIE patients

- Data from single site doesn't tell the whole story
  - Visits at UCSF: 8.4 per person/year (range 1-119)
  - Total visits at all EDs on EDIE platform: 21.3 per person/year (range 5 – 236)
Demographics

- Age
  - 18-24
  - 25-34
  - 35-44
  - 45-54
  - 55-64
  - 65-74
  - 75-84
  - 85+

- Gender (self-identified)
  - Male (52.2%)
  - Female (47.8%)
  - Transgender (0.6%)

- Race/Ethnicity (self-identified)
  - White (43.6%)
  - African American/Black (38.9%)
  - Hispanic/Latino (12.7%)
  - Asian (4.2%)
  - American Indian/Alaska Native (.9%)
  - Native Hawaiian/Other Pacific Islander (.3%)

Declined to...
Housing Status

- Home or apartment (50.1%)
- Homeless (30.1%)
- Unstably housed (10.6%)
- Other (9.2%)
- Substance treatment program, board and care, SNF, declined to answer, did not ask
Details on Homelessness

- **Duration of Homelessness**
  - > 1 year (65.3%)
  - 1 year or < (15.3%)
  - 6 months or < (15.3%)
  - < 30 days (4.1%)

- **Shelter vs. Street**
  - Street (42.0%)
  - Shelter (58.0%)
Self-reported Mental Health

Anxiety or Depression
- Yes (43.7%)
- No (34.2%)
- Did not ask/Declined (22.1%)

Prior hospitalizations for mental health reasons
- Yes (19.3%)
- No (46.5%)
- Did not ask/Declined (34.2%)
Substance Use

Self-reported alcohol and/or drug use
- Yes (26.8%)
- No (53.3%)
- Declined to answer/ Did not ask (19.9%)

Interested in addressing alcohol and/or drug use
- Yes (60.4%)
- No (39.6%)
Insurance

- **Primary Insurance type**
  - San Francisco Health Plan Medi-Cal (46.2%)
  - Medicare (43.4%)
  - CVD CA Medi-Cal (8.9%)
  - FFS Medi-Cal (8.0%)
  - Anthem Blue Cross Medi-Cal (7.1%)
  - Out of county Medi-Cal/Medicaid (4.3%)
  - Private insurance (2.5%)
Primary Care

- Has primary care provider
  - Yes (63.7%)
  - No (17.4%)
  - Not Sure (9.4%)
  - Other/Declined (9.5%)
EDIE Enables Collaboration to Improve Patient Care

• We can see other EDs patients are using, better understand their insurance coverage and eligibility, and input or receive information about other services use
Interventions in the ED

- Setting up primary care/contacting PMD for Care Guideline input
- Obtaining a reservation on the shelter bed wait list
- Linking patients to concrete resources (free phone programs, clothing, etc.)
- Completing a benefits application
- Referring a patient to case management services
- Collaborating w/ inpatient social workers
Interventions in the community

Examples:

- Accompaniment to PMD appointments
- Assistance w/ intake processes for case management
- Assistance w/ benefits applications

Benefit to community-based interventions:

- More time to build rapport with patients and strengthen relationship between HCN and patient
- Ensures patient follow-through with referral
- Less acute setting
Case 1: alcohol use disorder

- 67 year old male brought into UCSF, ZSFG and other EDs almost daily for alcohol intoxication, homeless
- Often discharged, occasional admissions for alcohol withdrawal
- Concern about ability to care for himself, increasing ED visits with injuries or suicidal behavior
- Case conference with psychiatry, sobering center case management → led to 5150 → 5250 → more in depth cognitive testing → inpatient visits by and planning involving his community based case manager
Case 2: security

- 40 y/o M
- Recent move from LA visible on platform
- 95 ED visits since move to SF in January 2018
- Case conference with ZSFG staff: felt may be danger to others
- Security warning placed in EDIE
Case 3: Real-time housing coordination

- 56 y/o male with 192 ED visits in past year
- Prior brain tumor resection, seizure disorder
- Through EDIE and interviews with HCNs, able to collaborate on his care with SF Homeless Outreach Team and Street Medicine team in real time: prioritized for navigation center bed by holding patient in ED
Thank you

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Follow-up Data (in progress)

- Follow-up attempt information collected for 319 of 339 patients
- HCNs have attempted follow-up for 223 of the 339 patients (65.8%)
- 96 of the 339 patients (28.3%) require no additional follow-up or have no access to a phone
- Follow-up attempts range from 1-10 per patient
  - Total follow-up attempts made = 537
- Mode of Follow-up Attempts
  - Called patient (33.6%)
  - Called patient’s CM/SW/Provider (28.1%)
  - Met patient in ED (10.9%)
  - Met with CM/SW/Provider in person (4.1%)
  - Emailed Provider (3.5%)
  - Screened Medical Chart (2.8%)
  - Met patient in community (1.7%)
Outcome of Follow-up Attempts

- Successful: 74.5%
- Unsuccessful: 25.4%