Overview

The Oregon Health Leadership Council, in partnership with Collective Medical Technologies, conducted a comprehensive survey of Oregon hospitals to evaluate the use of the Emergency Department Information Exchange (EDIE) by Oregon Emergency Department (ED) providers and care managers over the past two years. Information was gathered from stakeholders using individual and group interviews, conducted either in person or by telephone (52% to 48% respectively).

This report summarizes the results of the survey. Of the 59 respondents interviewed (representing all 60 EDIE participating hospitals), 23% were ED medical directors or physicians, 24% were emergency department administrators and the remaining represented care coordination roles (case manager, social worker, ED navigator, etc.).

Areas addressed by the survey

- Understanding paper- and electronic health record (EHR)-based workflows for accessing EDIE and contributing data;
- The perceived value of EDIE and who is using it (by role);
- How care recommendations are being used and what information is found to be of highest value;
- Identification of promising practices (technical solutions and collaboration in hospitals and communities).

Survey Questions

Responses to most survey questions were qualitative in nature. Where possible, quantitative data is presented along with general aggregated feedback.

- **How does your hospital receive EDIE notifications?** 52% receive printer/fax notifications while the remaining hospitals have built an EHR integration.

- **How are EDIE alerts triggered?** Most respondents could identify the trigger of 5 ED visits within the last 12 months as their primary alert trigger.

- **Are EDIE alerts for high utilizers different from alerts for a care recommendation?** Of those respondents who had an EHR integrated notification, 65% responded that alerts for a care recommendation were distinct from high utilization alerts in the EHR.

- **How would you rate the format of printed EDIE notifications?** 66% of EDIE users rate the format of alerts as “Very Good” or “Excellent”

- **What happens to printed notifications once they’re received?** Most have a designated secure printer or fax and staff member(s) assigned to receive notifications and deliver them to the provider in real time.

- **How much easier would it be if EDIE were electronically integrated into your EHR?** 86% of respondents believe EDIE would be easier to use if it was integrated into their EHR.
Survey Questions (cont.)

- Are you active users of EDIE? If no, what are some of the barriers? 76% responded ‘Yes’, to being an active user. Barriers cited (in order of frequency): time, staffing resources, physician buy-in, lack of training, orientation to best practice, lack of PCP and/or community engagement, competing organizational priorities and alert fatigue.

- What type(s) of information available in EDIE are most useful (or most often shared) between your ED and other organizations? The most cited information of value (48%) is related to visit information (number of visits, visit location, and date of visit), followed by care recommendations (40%), pain management and contracts (19%) and details related to behavioral health (8%).

- Who within your ED is using EDIE notifications and/or the web portal? Primarily ED providers and care coordination staff dedicated to the emergency department.

- Do you have any documented or formal workflows in EDIE? If yes, would you be willing to share them? Several organizations have created training materials and mapped workflows for internal use. These documents were collected when possible and will be shared in the EDIE/PreManage Online Learning Community.

- Have you created any care recommendations for patients? If yes, who creates them and how? 64% respond ‘Yes’. Care coordination staff typically creates care recommendations, but we spoke with two providers who access the portal to contribute information directly.

- Have you reviewed care recommendations that were created by another organization? If yes, were they helpful? 92% responded ‘Yes’. Respondents varied considerably in terms of what was considered useful, but overall the consensus is for more concise, targeted information.

- What care recommendation information is most helpful to you? Providers are most interested in pain management and contract information, behavioral health issues (e.g. triggers, typical presentation), prior tests and procedures and primary care provider recommendations. Care coordination staff are looking for a more detailed behavioral health history, social history, and known resource gaps, (e.g. transportation, visitors allowed, etc.).

- Have you used EDIE information to coordinate care with other organizations? (e.g. health plans, clinics, etc.) 58% report ‘Yes’ with most outside coordination occurring with local primary care partners.

- On a scale from 0-10, how useful has EDIE been for your organization? Overall positive reviews with a mean score of 8.2.
Key Findings

Overall, the respondents highly value EDIE for improved care, cost, and efficiency. Many ED providers reported that the care they can provide is greatly enhanced by EDIE notifications, especially when it helps them identify behavioral health concerns and reduce inappropriate use of pain medications (interest in Prescription Drug Monitoring Program integration was a common theme). Additionally, many noted a significant value in the reduced time to collate patient information obtained from disparate hospital and clinic records.

Key findings have been assembled into three major areas, discussed in more detail below: 1) Notifications; 2) Care Recommendations; and 3) Community Collaboration

1. Notification Processes

Regardless of notification type (secure printer/fax or electronically integrated), many organizations expressed interest in reducing inconsistency and increasing efficiency in their workflow processes. This was commonly related to a need to work with their IT department or for refresher/new user training.

Print notifications

Many respondents who currently receive paper-based notifications have expressed interest in integrating EDIE into their EHR. While some have created effective work processes for getting printed EDIE notifications into the hands of providers, several report inconsistent workflows, most commonly attributed to 1) lack of workflow training (new users) and/or 2) lack of buy-in or engagement in use of the tool from staff and/or management.

EDIE Alert Format

Overall the format of EDIE notifications is rated favorably (8.2 on a 10-pt scale). While hospitals have considerable flexibility in how they configure EDIE alerts, this is not widely known to providers/users who are looking to give more input on formatting.

Navigating EHR-integrated notifications

Many hospitals have designed workflows that require multiple clicks to navigate to EDIE information in a patient's chart, sometimes requiring proactive action from providers to make navigation more simple ("wrenching", etc.). In addition, there are complaints of alert fatigue, especially when EDIE alerts are not distinguishable from other alerts (e.g. FYI flags regarding security risks, etc.).

Promising Practices

- Many hospital IT departments have built in a “1 click” workflow, so providers can quickly navigate from the EHR ED trackboard to the EDIE notification (Asante, OHSU).

- EDIE users at St. Charles Bend have worked with CMT to rearrange EDIE print notifications to display ED providers’ preferred information first.

- At St. Alphonsus-Ontario, an EDIE alert is printed and attached to the patient’s chart for review by the ED provider before being scanned into the medical record for future review by others. In addition, the unit coordinator will call the Health Resource Coordinator to discuss potential for follow up post-visit.

- St. Anthony prints the EDIE notification onto orange colored paper so that it is easier to locate, add to a patient’s chart, and easier for the provider to see.
2. Care Recommendations

Accessibility
Some respondents that author care recommendations reported occasional broken URL links or lapsed passwords when navigating to the EDIE portal. In addition, several hospitals demonstrated difficulty accessing the portal in real time. Somewhat surprisingly, a few ED providers are entering information on their own and others have asked for a simplified process to add their own comments to the plan.

Consistent Format
Many hospitals have opted to display care recommendations written by their own staff versus reviewing the one that was most recently contributed (often by another facility). This appears mostly to be in response to care recommendations that are too lengthy, have duplicative information (e.g. reiterating high ED utilization), or are unhelpful. Some ED care coordinators have already initiated group meetings with their ED providers to understand what and how they would like to view care recommendation information.

Value-Added Content
While there are many suggestions for changes to care recommendation content, pain management and behavioral health issues are two topics that several providers agreed upon as being of high value. Additionally, care coordination staff are interested in a more detailed behavioral health history, social history, and known resource gaps (e.g. transportation barriers, visitors allowed, etc.). Survey results indicated a need for further dissemination of guidance and training materials on care recommendations, such as the template developed by the EDIE/PreManage Care Recommendations workgroup.

Promising Practices
- Several hospitals hold multidisciplinary team meetings to discuss high utilizers and what to include in a care recommendation. Often the resulting care recommendation is then reviewed by a provider before being uploaded into EDIE by a care management team member. (OHSU, Kaiser, Providence Portland)
- Asante ED medical directors have worked to create agreement on what gets put into a care recommendation and how to have consistent use of tools.
- At McKenzie-Willamette, ED providers handwrite notes on the EDIE notification to signal they would like information added to the report.
- At Silverton Hospital, inpatient staff also view care recommendations in EDIE and work together with their ED social worker to identify patients at risk for readmission.
3. Community Collaboration

**Engagement**
EDs seek more collaboration and input from primary care and the community at large. While more than one-half (58%) coordinate care with other organizations in some capacity, there is still work to be done as adoption picks up speed in the community. Large attendance at annual EDIE Collaborative meetings along with responses from this survey have demonstrated that users want to continue engaging with their peers on a greater level and with more frequency.

**Standard Usage**
The collective work in each community can also drive organizations to standard and consistent use of EDIE notifications. This will become increasingly important as PreManage adoption and users of Care Recommendations continue growing in ambulatory settings.

**Promising Practices**
- **PeaceHealth RiverBend** case management staff routinely send form letters to high utilizer patients as well as to their primary care providers.

- Significant progress in the development of shared goals and action plans for high utilizers has been demonstrated within the Salem community, in Central Oregon and in the Portland metro area. New community conversations are also beginning in southern Oregon, Pendleton/Hermiston, and with the Yamhill and Columbia Pacific CCOs.

**Action Plan**
Results will be widely shared with those who participated in the survey as well as other key stakeholders. CMT and OHLC have identified key action items and a workplan to address both technical and workflow issues identified (Appendix 1). Many of the technical and workflow solutions will require individual follow-up based on specific needs identified. We will continue to solicit feedback from stakeholders on an ongoing basis to identify new opportunities to enhance the use of EDIE.
**APPENDIX 1: ACTION PLAN**

<table>
<thead>
<tr>
<th>Action Items</th>
<th>Owner</th>
<th>Target Date</th>
<th>Status</th>
</tr>
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<tbody>
<tr>
<td><strong>1. Notifications</strong>&lt;br&gt;Address and plan for technical solutions to enhance both EHR-integrated and print notification workflows</td>
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<tr>
<td>a. Engage in a technical support site visit tour for EHR-integrated hospitals to address (on a case-by-case basis):&lt;br&gt;• Improved navigation to EDIE information and to the web portal;&lt;br&gt;• Promoting of promising practices identified in this report;&lt;br&gt;• Transition to rich text format for ease of use/readability;&lt;br&gt;• Other improvements as identified by the hospitals/users</td>
<td>CMT</td>
<td>Feb 2017</td>
<td>In Progress</td>
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<tr>
<td>b. Host and record a webinar focused on customization of EDIE notifications (for both paper- and EHR-based notifications)</td>
<td>CMT</td>
<td>OHLC</td>
<td>Jan 2017</td>
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<td>c. Share promising practices from organizations who have efficient print and EMR notification workflows</td>
<td>OHLC</td>
<td>Ongoing</td>
<td>In Progress</td>
</tr>
<tr>
<td>d. Provide regular updates to leaders and training opportunities for new users</td>
<td>OHLC</td>
<td>Ongoing</td>
<td>In Progress</td>
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<td><strong>2. Care Recommendations</strong>&lt;br&gt;Promote standardization by sharing user created guides and convening additional stakeholders</td>
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<tr>
<td>a. Continue support for the Care Recommendations Workgroup (subcommittee of EDIE Operations) in gathering care recommendations from the field to share and compare</td>
<td>OHLC</td>
<td>Ongoing</td>
<td>In Progress</td>
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<td>b. Convene ED care managers/care coordinators for peer to peer networking and sharing of best practices and workflows related to care recommendations</td>
<td>OHLC</td>
<td>Jan 2017</td>
<td>In Progress</td>
</tr>
<tr>
<td>c. Continue promoting Care Recommendations Template via learning community, webinars, etc.</td>
<td>OHLC</td>
<td>CMT</td>
<td>Ongoing</td>
</tr>
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<td><strong>3. Community Collaboration</strong>&lt;br&gt;Encourage shared agreements for EDIE and PreManage use at the community level</td>
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<tr>
<td>a. Convene and support regional collaboratives to encourage cross organizational care coordination efforts utilizing EDIE/PreManage tools</td>
<td>OHLC</td>
<td>Jan 2017</td>
<td>On Track</td>
</tr>
<tr>
<td>b. Create an EDIE/PreManage focused online learning community to facilitate peer to peer discussion and sharing of training and resource materials, an updated calendar of events and technical tips</td>
<td>OHLC</td>
<td>11/27/16</td>
<td>Test Phase</td>
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