digital bridge

# Expanding eCR Capability and Capacity (ExeCC) Concept Paper Summary

# Version 1

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# Workgroup Members

| Workgroup Member | Organization |
|---|---|
| Richard Hornaday | Allscripts |
| Becky Lampkins | Council of State and Territorial Epidemiologists |
| Walter Suarez | Kaiser Permanente |
| Indu Ramachandran | Kaiser Permanente |
| Noam Arzt | HLN Consulting |
| Andrea Garcia | American Medical Association |
| Didi Davis | The Sequoia Project |
| John Robitscher | National Association of Chronic Disease Directors |
| Richard Paskach | Health Partners |
| Grace Mandel | CDC, Center for Surveillance, Epidemiology, and Laboratory Services |
| Bob Harmon | Cerner |
| Sid Thornton | Intermountain Healthcare |
| Betsy Kohler | NAACCR |
| Laura Conn | CDC, Center for Surveillance, Epidemiology, and Laboratory Services |
| John Loonsk | Johns Hopkins University, School of Public Health |

| | |
|---|---|
| Sarah Newton | SAS |
| James Doyle | Epic |
| Rachel Abbey | Office of the National Coordinator for Health Information Technology |

# 1 Introduction

Building on the cross-sectoral collaboration that led to the successful roll-out of electronic Case Reporting (eCR), Digital Bridge undertook an activity to assess opportunities to leverage the existing eCR infrastructure to bring other needed solutions to the market in timeframes required by clinical and public needs. The parameters of this assessment were to enable support for new use cases and for commensurate increased volumes with minimal enhancements to the eCR infrastructure.

Public Health has traditionally added new capabilities on a case-by-case basis, often with significant variation across the base. This project aimed to shift this focus to a generic infrastructure that can more rapidly and cost-effectively introduce new public health capabilities merely by configuration rather than extensive new design & development, and deployment activities.

Another focus for this project was assessing readiness and appetite for this generic infrastructure to expand reporting of key clinical information beyond the confines of tradition Public Health reporting to enable transmitting patient level information, triggered by events, to additional types of legally authorized recipients. Potential examples include transmitting adverse event reports to FDA, populating non-public health disease registries, or providing observations to clinical trials databases.

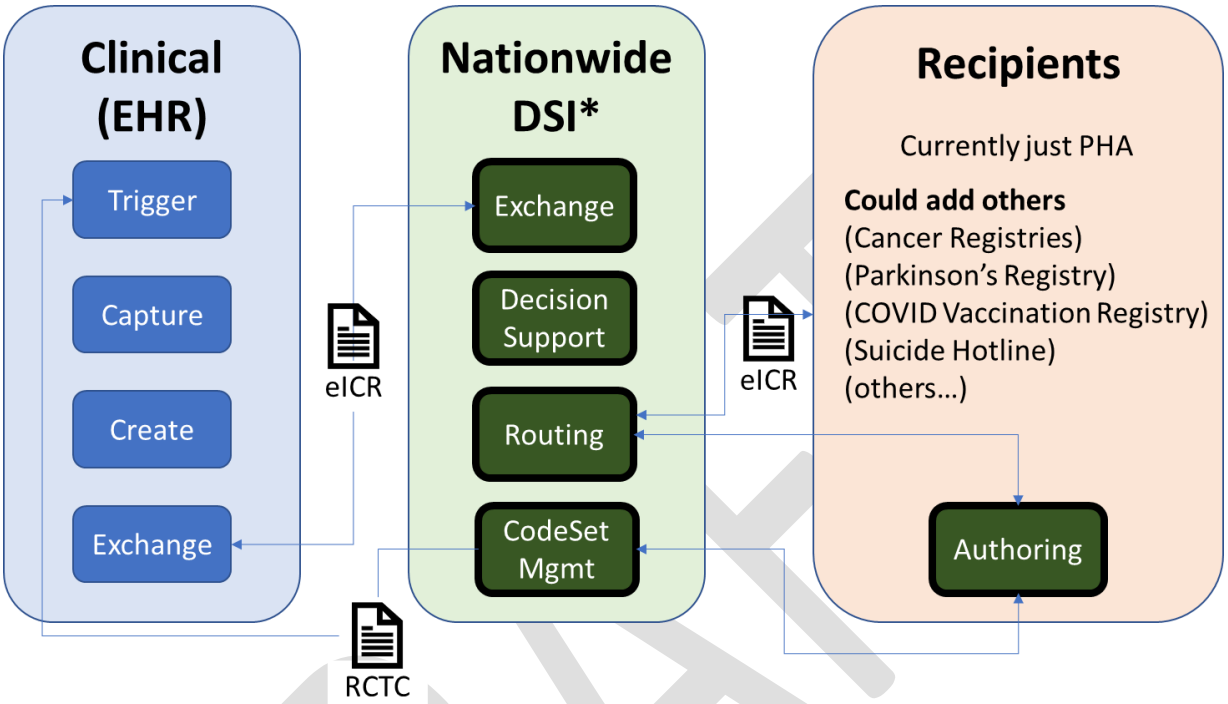
The intent of this concept paper is to provide an overview of the motivators/drivers for these assessments along with an overview of some of the key concepts assessed. Details regarding the various concepts assessed are not presented here but are available if/when implementors have commercial motivators to begin design and development plans.

# 2 Background

The key infrastructure provided by eCR is a flexible Trigger/Capture/Create/Exchange methodology.

- *Trigger* codes provided by the Reportable Conditions Trigger Codes (RCTC) are used by the electronic health record (EHR) system to identify reportable events documented in the EHR system.
- When an EHR encounters a triggerable code from the RCTC, this initiates the *capture* of trigger information and other clinical information.
- The trigger and other clinical information is used to *create* an electronic Initial Case Report (eICR)
- The trigger and other clinical information is collected (and potentially aggregated over an interval such as a patient encounter) and then *exchanged* with recipients such as Public Health Agencies (PHAs)

When an eICR based on the CDA or FHIR eCR standards is generated and transmitted from the EHR system to a Decision Support Intermediary (DSI), this resource determines the public health jurisdictions to which the event is reportable. Under current processes, the information on the event is then distributed to the appropriate public health jurisdictions.




## 2.1 Aspects of Existing eCR that Motivate Expansion

The aspects of the current eCR mechanisms that drove this assessment and that would motivate any expansion include the following.

- Minimal (almost no) clinician impact
- Efficient but rich eICR structure (Common Info/CCDS/USCDI and per-trigger info) which easily accommodates inclusion of new trigger codes.
- Centralized nationwide decision support infrastructure that facilitates consistent standards-based interconnections and handling methodologies, both with the Clinical environment (via EHRs) and recipients such as PHAs.

## 2.2 Aspects of Existing eCR where Changes Should be Avoided

There are aspects of the existing eCR implementation that are part of its current strengths, but to which any changes would need to be considered very carefully. Examples included the following:

- Scalability of legal/policy infrastructure.
- Maintaining the simple triggering infrastructure (e.g., code → trigger eICR aggregation).

    - To ensure no increase in complexity, multi-stage triggering (e.g., code+<something else>→triggering eICR aggregation) should be avoided.
- The efficiency and simplicity of the eICR structure (Common Info/USCDI and per-trigger info) should not be expanded.
    - By definition you are constraining…more about thinking bigger about the broader structure principles – to think about when data moves around. Those bigger issues…what could uniquely slide into an eICR frame.

# 3 Concept Assessments

The following sections provide an overview of some of the items assessed during the discussions within the ExeCC workgroup. If/when activities

## 3.1 Architectural Considerations

Existing architectural models (CDA-based and eCR Now) were discussed. Evolution considerations were also discussed, with a focus on evolution of "Offboard App" configurations:

- Offboard app co-located within Healthcare authority
- Offboard app located outside Healthcare authority

All architectures were assessed for impacts (potential new requirements) on a variety of items including security, authoring, filtering of eICR messages, and policy/legal considerations. Initial assessments highlighted that the policy/legal advantages of the "Offboard app co-located within Healthcare authority" model likely would motivate further consideration by any implementors.

## 3.2 Security & Decision Support Intermediary (DSI) Authoring

Discussions focused on potential enhancements needed to existing security infrastructure that might be required to enable a truly open/generic recipient environment, especially if some recipients have different business/trust relationships with DSI and/or may have differing restrictions regarding their access to PHI and/or component of the eICR message.

The existing Access Control, Authentication, and Authorization infrastructures were assessed, with extra focus on these items as they pertain to expansion beyond the existing single recipient (PHA) environment managed by DSI authoring.

The potential needs for additional structure within the concepts of Jurisdiction as this evolves to support the concept of a more generic recipient (e.g., to establish object-oriented inheritance relationships between users and their associated jurisdictions/recipients) were discussed.

## 3.3 eICR Message Filtering

Current eCR implementation aggregates events for a configurable interval after one or more initial triggering event(s). As a consequence, multiple reportable events can be included in one eCR transmission. The concept of eICR filtering was intended to address the potential need to differentiate the contents of eICR messages dependent on the requirements of the various recipients.

Discussions focused on the potential need for eICR filtering to enable the ability to tailor the triggered codes delivery to specific recipients based on their Service Level Agreements (SLAs) established when they onboarded into the DSI as well as architectural considerations of how to implement eICR filtering if needed and/or desired.

Initial assessments highlighted that the policy/legal impacts of supporting eICR filtering likely would motivate avoidance of extending eICR beyond recipients who could be covered under public health reporting.

# 4 Conclusion

This concept paper has provided an overview of the motivators/drivers for expanding the eCR infrastructure to handle additional recipients along with an overview of some of the key concepts assessed regarding this expansion. If/when implementors have commercial motivators to begin design and development plans, they are encouraged to reach out to Digital Bridge to discuss the various concepts assessed.

As of April 2022, the Expanding eCR's Capacity and Capability (ExeCC) Concept Paper Workgroup has decided to disband. This disbandment was supposed by the Digital Bridge Executive Committee. It is due to a lack of consensus being reached during the workgroup meetings. This above information details the information discussed at the meetings. If you have any questions or concerns regarding this conclusion, please contact the Digital Bridge Secretariat at Samantha.lasky@iphionline.org.