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eGEMs: Pragmatic Publishing to Build a Learning Health System

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Abstract

The [Electronic Data Methods \(EDM\) Forum](#) announces the launch of eGEMs (Generating Evidence and Methods to improve patient outcomes), a new, free, open access, peer-reviewed e-publication. eGEMs aims to disseminate innovative ideas about how electronic clinical data (ECD) can be leveraged in comparative effectiveness research (CER), patient-centered outcomes research (PCOR) and quality improvement (QI). eGEMs seeks submissions in four main topic areas: analytic methods, clinical informatics, governance, and the learning health system. The goal of eGEMs is ultimately to promote dialogue and the sharing of ideas between researchers and other stakeholders in a credible and timely way, extending the efforts of the EDM Forum.

Acknowledgements

The EDM Forum is supported by the Agency for Healthcare Research and Quality (AHRQ) through the American Recovery & Reinvestment Act of 2009, Grant U13 HS19564-01. Thank you to the EDM Forum Steering Committee, and especially our EDM Forum Steering Committee Chair, Dr. Ned Calonge, and the EDM Forum's project officer, Dr. Gurvaneet Randhawa, who have been critical in guiding the direction of eGEMs. We would also like to acknowledge the journal's esteemed senior editors and reviewers, who are the foundation and engine of this effort. We thank the EDM Forum community for their contributions, guidance, and ongoing commitment.

Keywords

learning health system, electronic publishing, dissemination, electronic clinical data, comparative effectiveness research, patient-centered outcomes research, quality improvement

Disciplines

Health Services Research

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eGEMs: Pragmatic Publishing to Build a Learning Health System

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Abstract

The Electronic Data Methods (EDM) Forum announces the launch of eGEMs (Generating Evidence and Methods to improve patient outcomes), a new, free, open access, peer-reviewed e-publication. eGEMs aims to disseminate innovative ideas about how electronic clinical data (ECD) can be leveraged in comparative effectiveness research (CER), patient-centered outcomes research (PCOR) and quality improvement (QI). eGEMs seeks submissions in four main topic areas: analytic methods, clinical informatics, governance, and the learning health system. The goal of eGEMs is ultimately to promote dialogue and the sharing of ideas between researchers and other stakeholders in a credible and timely way, extending the efforts of the EDM Forum.

I am pleased to introduce eGEMs - the online journal for electronic publications Generating Evidence and Methods to improve patient outcomes. eGEMs is a product of the Agency for Healthcare Research and Quality (AHRQ)-sponsored Electronic Data Methods (EDM) Forum which serves a broad community of health researchers, policy analysts, policymakers, purchasers, and patient, consumer, and industry representatives. The eGEMs platform will enable the Forum's community to contribute to a curated knowledge base of emerging and useful lessons on using electronic clinical data (ECD) (e.g. electronic health records (EHR) and other health information technology (healthIT)) for health research and quality improvement (QI). The ultimate aim, of course, is improving patient outcomes by figuring out what works best, for whom, under what conditions.¹

Using ECD for comparative effectiveness research (CER), patient-centered outcomes research (PCOR), and QI is a new way of conducting biomedical science and health services research that necessitates innovative approaches to translating and disseminating the lessons of big, collaborative science in health. Through the EDM Forum's meetings, workshops, and environmental scanning efforts such as literature reviews and site visits, our community of stakeholders expressed a clear need for a resource like eGEMs.

Traditional peer-reviewed journals largely focus on the end result of a research project—the outcomes or findings—and less on the procedural, technical, and methodological building blocks that generate research findings. This is appropriate in light of the history and mission of the scientific literature, but the traditional approach tends to narrow-in on the “destination” of scientific discovery rather than the “journey.” In big science, particularly in big, collaborative, multi-disciplinary science using ECD, there are a lot of moving parts, a lot of sub-analyses, and a lot of contributors whose more granular contributions to the “journey” have scientific merit and are useful to the community.² This is where eGEMs comes in.

Uniquely eGEMs

There are several characteristics that distinguish eGEMs from current publishing opportunities in the traditional peer-reviewed literature. From a content perspective, eGEMs differs from other current publications by its focus on the use, or implications of using, ECD for health research, QI and improving clinical care. This focus is an effort to highlight innovative approaches that are advancing our knowledge on both technical dimensions (analytic methods; informatics) and non-technical dimensions (governance; achieving the goals of a learning health system that can improve patient outcomes) for the conduct of CER, PCOR, and QI. eGEMs reflects a growing interest in the process of generating new science, as well as the scientific discoveries that emerge. Understanding approaches for leveraging new information technology, especially EHRs, is timely given the current focus on implementing HIT to improve clinical care and health outcomes. There are tremendous opportunities for learning that are important to capture as the U.S health infrastructure shifts towards increasing use of HIT. We anticipate that there are efficiencies to be gained by disseminating early lessons learned in the process of using these systems for research and QI – especially to help facilitate more rapid adoption of proven strategies and minimize the likelihood that others will re-invent the wheel.

In order to ensure that the potential approaches to drive improvement in using ECD for CER, PCOR, and QI are not siloed, the EDM Forum and eGEMs encourages submissions from multi-disciplinary collaborators. The infrastructure being developed for electronic clinical data CER, PCOR, safety surveillance, QI and support of clinical care is being built to serve multiple purposes for multiple users,³ for which it is important the broader community participate, and collaborate. We hope that audiences who may not regularly engage with traditional scientific publications will also be motivated to participate. For example, technologists developing systems, patient and consumer advocates, and

decision-makers who are developing innovative strategies to interpret and use evidence in practice are all encouraged to submit.

By design we have structured eGEMs to respond to the needs expressed by the scientific community engaged in the EDM Forum as well as the mentioned key stakeholder groups. This broad base of participation highlights two key features. The first is our ability to guarantee that authors who submit papers will be reviewed by a true community of peers – experts who understand the practical challenges of conducting research in real world settings with evolving technology and systems. Second, we hope reviewers and readers will be motivated to participate because they have confidence that the papers we receive will provide insights into emerging approaches that may actually be relevant and timely to the reviewer's work.

In this context, it bears mention that the EDM Forum is a truly unique network of investigators and stakeholders. We are privileged to be part of a scientific and technical community that is not simply focused on developing individual datasets or specific knowledge on narrow populations and conditions, but has a genuine interest in transforming the way new knowledge is generated and used to benefit patients, their families, and communities. The Forum's work with the eleven projects – funded by AHRQ through the Prospective Outcome System using Patient-Specific Electronic Data to Compare Tests and Therapies (PROSPECT), Scalable Distributed Research Network (DRN), and Enhanced Registry for QI and CER grants – included a series of efforts to understand the landscape of this burgeoning approach.^{4,7} In our conversations with these investigators, as well as other stakeholders,⁸ there has been great enthusiasm and participation in this effort to facilitate a different type of dialogue among those building infrastructure for the analytics that are critical to a learning health system.

Next Steps/Submitting to eGEMs

As the initial set of papers accepted to eGEMs demonstrate, we anticipate a diverse set of submissions, from editorials and conceptual models, to empirical methods papers and other forms of material such as programming code or annotated data. However, all must have two characteristics in common. All submissions must:

- clearly explain how their work relates to using ECD to advance research and QI and why these efforts have potential to improve patient and/or community outcomes; and
- clarify which types of ECD are being discussed (e.g. EHRs; ePRO).

Both criteria are employed to ensure the journal is a credible (rigorously peer-reviewed), timely (electronically published upon acceptance), flexible (diverse range of products) resource that is useful to the EDM Forum community.

eGEMs blends the unique features of online publishing with rigorous peer-review to facilitate our goals. First and foremost, eGEMs will provide rapid review and publication of articles (see [instructions for authors](#) for guidance on our review timeline). While we anticipate that a majority of submissions will be short articles, we will also consider longer submissions. Once papers

are accepted, they will be appended to appropriate issues (organized thematically by methods, informatics, governance, and the learning health system) and made available to the community for free. Second, the epubliishing environment enables the ability to review multiple submission types. In addition to papers, submission types may include data visualizations; annotated programming code; PowerPoint presentations; and even datasets. Third, the site will facilitate open dialogue between authors and readers by using widgets for discussion and feedback. We sincerely hope readers will evolve into contributors over time by providing direct comments on published papers. This type of collaboration will improve transparency and facilitate rapid sharing of useful knowledge and opinions among the participants.

Acknowledgements

Serving as a hub of information for the community interested in using ECD for health research and QI is the core of the EDM Forum's purpose. eGEMs is an important extension of this effort. We are confident that in the coming months, eGEMs authors will contribute to a rich intellectual discussion among the community of individuals committed to transforming the way health information is analyzed to facilitate an exchange of information that ultimately benefits patients. Despite a rapid increase in the number of papers and scientific knowledge, we still have large gaps in our knowledge since much useful information is not being published and eGEMs aims to meet this need.

Here it is important to reiterate that our intent is to ensure eGEMs is an open access resource for the community. To promote the resource and papers, eGEMs is optimized for searches in Google and Google Scholar. It is our intent to apply for inclusion in PubMed as the site matures.

The leadership of the EDM Forum Steering Committee, and especially our EDM Forum Steering Committee Chair, Dr. Ned Calonge, and the EDM Forum's project officer, Dr. Gurvaneet Randhawa, has been critical in guiding the direction of eGEMs. Dr. John Steiner, Dr. Hal Luft, Dr. Adam Wilcox, and Dr. Brian Sauer formed the sub-committee charged with evaluating a strategy and approach for eGEMs, and have provided incomparable leadership. And of course, eGEMs' esteemed senior editors and reviewers are the foundation and engine of this effort. We thank the EDM Forum community for their contributions, guidance, and ongoing commitment.

And last but certainly not least, if you are new to the EDM Forum, I hope you will join the discussion and participate as an eGEMs author, reviewer or reader!

Sincerely,

Erin Holve
Editor-in-Chief

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