HIMSS 20

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Automatable clinical guidelines based on BPM+

Supporting SEAMLESS CARE for Veterans

Use Case:

Disambiguating clinical guidelines

Assuring high-quality care and best-practice support across VA facilities and community care providers necessitates compliance with good industry clinical practices. The challenge is that Clinical Practice Guidelines are authored in natural language, using different approaches and styles, and are often ambiguous or incomplete. The result is that different have differing interpretations of what is being communicated, leading to difficulty in implementation, inconsistencies, and poor or erroneous adoption.

The BPM+ family of standards addresses these concerns through the use of formal expression languages, allowing for the visual capture/depiction of activities of care workflows and the logic of clinical decisions using intuitive and unambiguous visual notations. The result are clinical guidelines (also referenced as "shareable clinical pathways") that are more effectively authored, consumed, and implemented than natural language counterparts. Moreover, these artifacts can be directly consumed by systems in both simulation or production, reducing ambiguities and interpretive errors.

Supports Interoperability Goals:

> Apply modern techniques to guideline development through use of formal languages
> Promote the sharing and promulgation of clinical knowledge via open standards
> Enhance and improve consumption of knowledge assets
> Promote and advance process interoperability across care settings and institutions

Solution:

This specific project exemplifies how Veteran Depression Screening can be scaled to support multiple vendor implementations in a consistent way, across EHRs and health systems. It demonstrates how data collected from multiple different instantiations can be aggregated for analysis and aligns with ONC goals promoting data interoperability. It illustrates care pathway interoperability, combined with clinical decision support elements to form a recognized assessment and treatment plan.

A BPM+ model (workflow and decision) for the PHQ-9 questionnaire and scoring system has been developed and exposed as an API. The PHQ-9 questions are presented in a user interface, with drop-down menus record the responses, scoring done automatically, and suggested follow-up actions recommended. The de-identified data is archived in a cloud log which would be available for future analysis.

Project Phase:

This solution is ready for deployment within VA and available for licensing to other end-user organizations (vendors). Integration via openAPI standards allows this approach to be EHR platform neutral so that it can be integrated into a host of potential implementations (patient facing apps, scripts for telehealth and websites).

Value:

This solution enhances Veteran screening across systems and care organizations, facilitating depression detection and directing patients to appropriate care. The application portability allows this solution to be system agnostic, based upon use of open standards, allowing this to enhance community providers as well as VA systems. This API can be available to Cerner, as well as any other (EHR) vendor who supports a provider who sees Veterans.

Future:

Future include building many more BPM+ models for specific care pathways. Support from specialty societies in model development and content review is planned through the BPM+ Health organization, several specialty societies are already on-board. This approach can be re-used by other content authors, such as academic medical centers, healthcare provider institutions, professional organizations, or quality organizations.

VA Wants Your Help:

We need vendors to integrate this PHQ9 model into their platform. Interested parties can also join the BPM+ Health community of practice.

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