## What is SOLOR?

SOLOR (the **S**ystem **O**f **LO**gical **R**epresentation) is integrated clinical content generated from a transformation process that represents and brings together different terminology standards by using a single model that can encompass any customized content. Informaticists and developers can convert user-supplied terminologies into the single model by using open source software to produce SOLOR content.

Today, there are many overlaps within current health care standards, which have varying complexities. SOLOR “standardizes the standards,” enabling anyone to easily create and share customized clinical content, whenever and however they want – for better, faster, seamless care.

## Why is SOLOR important? What can SOLOR do for me?

SOLOR removes the ambiguity of which concept to use when terminologies overlap, enabling consistent semantics to be easily shared across organizations. This dramatic simplification eliminates redundant efforts to continually integrate and update terminologies in silos, reduces the opportunity for omissions that may impact patient safety, and ultimately leads to building accurate and efficient decision support that improves the quality and safety of health care.

As a building block of integrated health care standards, SOLOR solves challenges that arise from organizations independently maintaining different standards. Without these challenges, we can focus on improving the quality and safety of health care. Specifically:

* **Successfully delivering business value –** Rather than continuously re-integrating these standards after every update, SOLOR allows developers to focus on delivering unique business value.
* **Lowering the cost of terminology management** – SOLOR lowers the cost of managing these terminology standards for medical facilities by streamlining the integration of standards, freeing up resources to deliver unique business standards.
* **Reducing time / resources on low-value add tasks** – Using SOLOR eliminates the time-consuming, labor-intensive, and error-prone efforts to figure out the latest and correct terminology to use from a collection of overlapping and incoherent standards. SOLOR allows clinicians to focus on the patient, providing the best and safest care possible.
* **Creating a collaborative environment for continuously improving interoperability** – SOLOR allows providers, medical professionals, researchers, and health IT specialists to have a consistent and collaborative environment to create accurate and efficient decision support for the improvement of patient safety, thereby solving challenges that inhibit interoperability today caused by varying terminology standards.

## How do I get started with SOLOR?

Getting started with SOLOR is easy! The SOLOR Team is developing a Viewer and Editor that allows users to access SOLOR content. As an open source project, SOLOR encourages all those interested to contribute and improve SOLOR’s capabilities and functionalities. Soon you will be able to import SOLOR content into your terminology server directly. To stay up-to-date with SOLOR news, development, learning, and future training, visit us at solor.io.

## What is SOLOR’s relationship with Cerner? How does SOLOR play a part in the new EHR modernization efforts?

SOLOR provides a consistent semantic foundation for all electronic health records (EHRs), including Cerner, to seamlessly share information between or within systems.

Facilities that adopt EHRs tend to customize their use of terminology. SOLOR can serve as a common model that connects all customized instances of an EHR and other EHR systems. Building upon SOLOR content to create SOLOR extensions, any facility’s customized content will retain the original content’s integrity when shared. As Cerner builds functionality and specialized workflows for the Department of Defense (DoD) and the Department of Veterans Affairs (VA), while sharing information with legacy DoD and VA systems, SOLOR’s common model can serve as a consistent foundation that enhances seamless interoperability between the agencies.

To use SOLOR with EHRs, an informaticist can export any internal proprietary knowledge and mapping tables into SOLOR’s transformational process to convert them into its single extendable model. This process transforms disparate terminology standards into SOLOR content. The informaticist can convert customized instances of terminology into a SOLOR extension and share this with any other facility or separate EHR system. Thus, SOLOR resolves much of the incompatibilities between EHRs that inhibit interoperability today, and allows for better coordination of care and sharing of data between or within organizations.

## How can SOLOR prevent another MHS implementation complication from happening at VA?

SOLOR implements all terminology standards at a native level – thanks to its common data model! Therefore, it ensures the accuracy of the information received.

By providing a better approach to interoperability, SOLOR can alleviate the interoperability issues MHS GENESIS listed in its recent implementation report. For example, MHS GENESIS’s information exchange with interfacing systems was hampered by non-standard data. Failure to conform to standards and controls can result in failure to communicate due to improper parsing, truncation, incorrect coding, or loss of data. This led to the time-consuming checking of the shared information from other sources. SOLOR can help quickly identify the root cause of issues that arise based on missing or unpopulated data elements and fields, often caused by using wrong data types and standards. SOLOR’s simplified common data model that allows the creation of sharable extensions improves the enforcement of quality assurance processes and rules, which is the foundation to promote better health care data interoperability.

## Do we need a license to use SOLOR?

SOLOR is open source, so *BYOL* – bring your own content license! Don’t worry – all the tooling is open source, and designed to support content that users receive directly from the standards provider. We do **not** redistribute the content, we enable you to transform that content into a common model.

## Who is working on SOLOR?

SOLOR’s vision is to create a collaborative environment for those interested in solving the challenges of health IT and interoperability. Many different collaborators are working on SOLOR, including Applicadia, Book Zurman, Cognitive, Deloitte, Intermountain Healthcare, HSPC, PenRad, and Sujansky & Associates. SOLOR’s sponsors currently include Amplified, CSIRO, and TermMed.

## Tell me about the end vision. What does a world that uses SOLOR look like?

While we are making great strides towards interoperability in health care today, we cannot ensure that using the information exchanged between electronic health record systems is efficient, effective, and safe. Interoperability today is defined by mapping, a manual, time-intensive, and subjective process, which is both expensive and can impede on patient safety. While resources focus on independently managing disparate terminology standards and governing requirements (such as the Promoting Interoperability Program), true sharing of health information remains elusive, as facilities customize how terminology is best used locally. Without a consistent foundation that targets the siloed, incomplete process to integrate terminology standards, we cannot develop accurate and efficient decision support and provide our patients the best health care possible.

SOLOR achieves reliable data interoperability by providing a foundation that can be continuously built upon, which can only be achieved with a truly collaborative environment. This collaboration will allow all parties to move beyond data interoperability, capturing the value of knowledge interoperability (clinical decision support) and process interoperability (creating IT solutions that can consume and execute standardized business processes). With data, knowledge, and process interoperability, we can focus on innovation and refining patient care delivery.

## Is SOLOR a VA initiative?

SOLOR is a VA-initiated effort that joined HSPC to fulfill SOLOR’s promise as a collaborative solution. SOLOR grew out of challenges that were identified when VA attempted to build clinical decision support. SOLOR’s architect, Dr. Keith Campbell, recognized the limitations of terminology mapping – an inconsistent content integration process. VA saw the potential of SOLOR’s comprehensive implications and is supporting SOLOR’s growth beyond its organization to build this open and collaborative environment that is necessary to interoperability.

## What is next for SOLOR as it’s still in the start-up phase? What can I look forward to in 6 months? Next year? The year after that?

In the next six months, SOLOR will have export functionality and the ability to operate within any terminology system. This means that you can start accessing and using SOLOR content, and build sharable SOLOR extensions.

In 2019, SOLOR will be focusing on early adopters, and building its collaborative coalition. These early adopters will begin improving how terminology standards are integrated and start building early clinical decision support artifacts on top of SOLOR’s foundation.

In 2020, SOLOR will be focusing on scalability and widespread adoption of SOLOR. As more organizations implement SOLOR, it will mature its users’ ability to improve content, share health information within and between systems, and build accurate and effective clinical decision support artifacts.

## How is the SOLOR project funded? Who’s paying for the contractors involved?

VA recognized the potential of SOLOR and has begun funding the content improvement component of SOLOR. Dr. Keith Campbell manages the project to improve SOLOR content, under the Veterans Health Administration, Knowledge Base Systems, Informatics Support Services contract with Book Zurman, Inc. However, SOLOR relies on many collaborative and open source contributors to build the necessary tooling and infrastructure to continue creating and using SOLOR data. These contributors have complimentarily provided many hours working towards SOLOR because of its broad implications to health care. Additional funding would accelerate how soon SOLOR can impact today’s interoperability challenges.

## I want to see if SOLOR works for my (government) project. How do I go about doing that? Do I need to involve my contracting officer? Who should I talk to if I have leftover FY18 funds that I need to use up?

We are so glad you believe in SOLOR! Since VA is currently funding the initial development of SOLOR, please contact Dr. Keith Campbell if you want to support SOLOR through additional VA funds. Please email [solor@informatics.com](mailto:solor@informatics.com) for more information.