

Hello,

It is with pleasure that we submit this response to the Lane Regional Medical Center Request for Proposal. We are responding for inclusion in your search for a Clinical Decision Support solution, specifically to provide ProVation Order Sets, as an electronic solution designed to help healthcare providers and entities create and manage evidence-based content for use within electronic health records.

The documents referenced throughout the RFP can be viewed or downloaded by accessing the following link at the top of page two: [Dropbox Link Lane Regional Medical Center](#)

We sincerely appreciate your consideration.

Matt Kubis

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ProVation Order Sets Supporting Attachment and Documents Guide

The documents referenced throughout are listed below and can be viewed or downloaded by accessing the following link: [Dropbox Link Lane Regional Medical Center](#)

PVOS Attachment A: 2012 Annual Report

PVOS Attachment B: 1.0PVOS_TechSpec10-08

PVOS Attachment C: Reporting Tools

PVOS Attachment D: Owner Training Agenda

PVOS Attachment E: Reviewer Training Agenda

PVOS Attachment F: Advanced Training and Follow-up Agenda

PVOS Attachment G: Remote SA Training Agenda

PVOS Attachment H: Software Enhancement Request Policy and Procedure

PVOS Attachment I: Oracle_Licensing_Rev8

PVOS Attachment J: PVOSBKUP-02

PVOS Attachment K: PVOS-Arch-v1-09

PVOS Attachment L: Software Admin and Configuration Guide

PVOS Attachment M: PVOS Customer Support Handbook Rev 3

PVOS Attachment N: WKH Professional Service Descriptions

PVOS Attachment O: WKH Role Definitions

PVOS Attachment P: Workflow Analysis Meeting Agenda

PVOS Attachment Q: Sample Workflow

PVOS Attachment R: ProVation Order Sets 320 Update

PVOS Attachment S: Order Catalog Center

PVOS Attachment T: Authoring Guide

PVOS Attachment U: Software License Agreement



Wolters Kluwer
Health

Questionnaire

In responding to this RFP, please follow the order and format of the questionnaire. The following information is required from each vendor and will be used to evaluate the vendor's proposed solution. Please organize your response in a manner consistent with the outline presented below. Each section requires detailed functionality responses, as well as answers to broad questions to gain an overall understanding of your system.

Links may be provided for any documents or data to provide details for any response. If you do not currently offer the requested functionality, please indicate if you plan to address it in a future release.

Company Overview

1.1. Provide legal company name, company headquarters address, telephone and fax numbers, and website address.

ProVation Medical, Inc.
800 Washington Ave N, Ste.400
Minneapolis, MN 55401
612-313-1500 (p)
612-341-4355 (f)
www.provationmedical.com

1.2. Provide a brief overview of your company, including the number of years in business, number of employees, nature of business and description of clients.

ProVation® Medical is a family brand part of Wolters Kluwer Health, Clinical Solutions, a leading global provider of information, business intelligence and point-of-care solutions for the healthcare industry. Founded in 1994, ProVation Medical is headquartered in Minneapolis, Minnesota. Over 1,220 employees are part of Wolters Kluwer Health, Clinical Solutions.

ProVation® Order Sets, powered by UpToDate® Decision Support, a product of the ProVation Medical portfolio, offers evidence-based order set content with complete, dynamic integration to UpToDate. The solution is sold to all sizes of hospitals and integrated delivery networks (IDN's), looking to improve their management of order set content, keep their order sets current with the latest clinical evidence, and integrate the order sets into their computerized physician order entry (CPOE) system.

ProVation Order Sets content is developed with the authors of UpToDate, the decision support resource preferred by over 700,000 clinicians

worldwide. UpToDate includes more than 9,500 continuously reviewed topics, links to over 347,000 Medline abstracts and a complete drug database. Use of UpToDate resources and recommendations have been proven to improve quality, reduce lengths of stay, and lower mortality rates in hospitals.

1.3. Identify any parent corporation and/or subsidiaries, if appropriate.

ProVation Medical is a family brand part of Wolters Kluwer Health, Clinical Solutions. Please refer to PVOS Attachment A: 2012 Annual Report.

1.4. Indicate the total number of installations in the last three years and the number of users involved in those installations.

ProVation Order Sets currently has been purchased by over 170 clients.

Between 2007 and 2012, our client base grew to 151 accounts, representing a compound annual growth rate (CAGR) of 172%. Our estimate is that ProVation Order Sets now holds 20-25% market share, based on revenues.

In the past three years (2010-2012), our client count grew from 21 to 151.

Each client is unique in their number of users, ranging from as little as 10 (at, say, a community hospital) to 100's (at a large IDN). We do not track how many users have credentials / logins at each client, as our license agreements are not based on the number of users. It should be mentioned that when the order sets managed in ProVation Order Sets are transported into a client's CPOE system, almost every physician will interact with the content and links to UpToDate that travel with the order sets. Further, ProVation Order Sets is often used as a "downtime" option for accessing order sets (typically via PDF or printing), when the CPOE system is down for maintenance.

1.5. How is your software ranked within the industry?

ProVation Order Sets has been the highest ranked order set management solution for the last two years by KLAS Research. KLAS has produced an annual report on the clinical decision support vendor market the past two years, with ProVation Medical and Zynx Health being the two vendors reviewed. KLAS derives their rankings based on client feedback on vendor's services, sales process, product functionality and implementation success. In both 2011 and 2012, ProVation Order Sets has had the highest marks from clients compared to ZynxOrder. Below is the chart for 2012.



1.6. Where can we find this ranking?

Ranking can be found in the KLAS Research, Clinical Decision Support 2012 market report.

1.7. As it relates to this proposal, please provide the contact name, address, phone number, and email address.

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Security

1.8. Are there any additional third party software packages that are installed during the installation?

Yes. ProVation Order Sets utilizes an Oracle database that will be installed as part of the implementation. In addition, workstations will require Adobe Reader v7.0 or greater. ProVation Order Sets Web Review and Web Print workstations will also utilize Internet Explorer v6, 7, 8 or 9.

Please refer to PVOS Attachment B: 1.0PVOS_TechSpec10-08, Section: 3rd Party Software (p. 4).

1.9. Are there any Anti-Virus exclusions needed to prevent performance issues? What are the exclusion paths?

Some antivirus exclusions are necessary on the servers. See below for a list of exclusions. Note: The drive letter assignments are examples only. Actually drive letter assignments may change based on the customer's server infrastructure.

Database Server

- C:\oracle

Application Server

- C:\inetpub\wwwroot\WKOSAWEB\logs
- C:\inetpub\wwwroot\WKOSAWS\Log
- C:\ProVation\Log

1.10. Does this software require any system changes to Microsoft Defaults or Internet Explorer Defaults?

No. However, ProVation Order Sets will require some basic configuration settings for the client workstations.

Please refer to PVOS Attachment B: 1.0PVOS_TechSpec10-08, Section: General Configurations (p. 3).

1.11. Are there any known compatibility issues with any other software?

ProVation Medical is not aware of compatibility issues with other software packages.

Interfaces and terminology

1.12. What interface standards/formats are supported?

Order sets may be exported from ProVation Order Sets in the following standard formats:

- **Standard XML:** This format contains the complete order set data structure including sections, sub-sections, orderable items, order details, mapped IDs, evidence link URLs, narratives and build notes. It enables customers to consume and use order set content in other applications such as a home-grown CPOE system.

- **Standard RTF:** This format contains a static, print-ready version of order set content including sections, sub-sections, order sentences and narratives. It is meant as a starting point for a customer to adjust the order set format in any word processing or desktop publishing application.
- **Standard PDF:** This format contains a static, print-ready version of order set content including sections, sub-sections, order sentences and narratives. It is meant to be printed as is or used as a starting point for a customer to adjust the order set format in Adobe Acrobat.

Order sets may be exported from ProVation Order Sets in the following proprietary formats:

- Allscripts SCM
- Cerner CareSets
- Cerner PowerPlans
- McKesson ODT
- McKesson iForms
- MEDITECH MAGIC
- MEDITECH Client Server

ProVation Order Sets incorporates additional interfaces unrelated to the export of order sets:

- Export of care plans in various standard formats
- Import of CPOE order catalog data in a ProVation Medical-defined standard format and proprietary formats
- Linking to evidence in UpToDate and Clin-eguide via proprietary interfaces
- User authentication via LDAP
- Import of ProVation Order Sets user account records in a ProVation-defined standard CSV format
- Outbound email from ProVation Order Sets to the customer's mail server via SMTP for various notifications to ProVation Order Sets users
- SQL queries to extract data stored in the customer's ProVation Order Sets database (Oracle)

1.13. Are your orders mapped to industry standard terminologies such as SNOMED CT, CPT, RxNorm, FDB, LOINC, ICD-9, and ICD-10?

Yes, orderable items in the ProVation Order Sets catalog are mapped to SNOMED CT, CPT, LOINC, RxNorm, Multum and ICD-9. ProVation Medical expects to complete and offer ICD-10 mapping in the near future. Auto mapping is available for all of these standard terminologies as well as text-based auto mapping.

1.13.1. Are orders mapped to any proprietary coding?

Orders are mapped to CKI and Concept CKI where appropriate (i.e. Cerner).

1.14. Explain the process in place for passing data via interfaces.

ProVation Order Sets integrates with the customer's CPOE system rather than "interfacing" with it. Import of CPOE order catalog data and export of order sets is via files stored temporarily in a location on the network file system. When supported by the customer's EHR / CPOE system, ProVation Order Sets uses XML file structures to preserve complex data relationships. For more information please refer to responses 1.16 and 1.17 below.

For other interfaces, ProVation Order Sets uses industry standard protocols such as LDAP for authentication, SMTP for email, and SQL for database queries.

1.15. What are the triggers for accessing or modifying data in the solution (Polling - push / pull / automated / manual)?

In ProVation Order Sets, end users who have been granted privileges to modify order set content are referred to as "owners." ProVation Order Sets includes several software features intended to help owners to A) identify when it is appropriate to modify the content of an order set and B) carry out the modification. These include the following:

- **One-Click Updates Feature:** Provides owners with a news feed of new clinical evidence that is likely to impact order set content and enables them to easily modify order set content based on this information. The customer's ProVation Order Sets software uses a nightly scheduled task to automatically pull newly published news feed items into the ProVation Order Sets environment. Then, if configured to do so, ProVation Order Sets automatically pushes an email notification to the specific owner(s) who may need to take action on a newly published item.
- **Edit Multiple Feature:** Enables owners to edit the content of a "baseline order set" then apply the same modification to other order sets that are eligible for the same edit. This process is initiated by users, not by an automated trigger.
- **Flagged Orders Task Pane:** It is possible for a customer to flag orders in the ProVation Order Sets catalog for which there is no corresponding order in the customer's CPOE catalog. The system identifies all instances of flagged orders within an order set and enables owners to easily remove or replace them. This process is initiated by users, not by an automated trigger.
- **Reviewer Comments Task Pane:** The owner(s) of an order set currently undergoing review may display a list of recent reviewer comments alongside the order set content. For each comment, the

system highlights the line of content associated with the comment. The owner determines if and how to address the comment by modifying the order set content then marks the comment as “Done.” This process is initiated by users, not by an automated trigger.

- **Reassessment Schedule:** Within ProVation Order Sets, a reassessment schedule may be defined for each order set. ProVation Order Sets may be configured to automatically push an email notification to the appropriate owner(s) as the reassessment deadline approaches.

There are additional triggers and access methods for end users who require access to order set content in ProVation Order Sets for the purpose of reviewing, not modifying, order sets.

- ProVation Order Sets does not provide interfaces that allow external systems to access or modify order set content stored in ProVation Order Sets.

1.16. Explain the process for ongoing importing of data into your solution.

For MEDITECH users, ProVation Order Sets offers a native vendor catalog import feature, which allows users to freely import new catalog data when and as often as desired. The feature quickly compares the existing catalog with the newly imported catalog and imports only the changes, thereby eliminating the risk of duplicate data.

1.17. Explain the process for exporting orders from your solution.

ProVation Medical has gone to great lengths to make the export of orders as simple and intuitive as possible for users. The ProVation Medical Project Manager will work with the customer to establish the necessary catalog association and build path. Once this is complete, there should be no need to reconfigure the settings, and users are able to export files quickly by clicking the Export button and selecting the desired catalog from which mapping should be used.

1.18. Do you have experience interfacing with other “home-grown” EHR systems? Describe your experience with integrating orders and order sets with other EHR systems.

To date, ProVation Order Sets has not integrated with any “home-grown” EHR systems; however, we are currently in the process of finalizing a deal with a major medical institution that has developed their EHR system in-house and is now eager to integrate with ProVation Order Sets.

ProVation Order Sets is designed to support integration with home-grown EHR systems via standard import and export interfaces.

ProVation Medical has extensive and successful experience collaborating with third party vendors and customers to integrate ProVation Order Sets with commercial EHR / CPOE systems.

Usability

1.19. What type of training do users typically need?

ProVation Medical offers several training classes as part of our standard professional services package, including:

- Order Set Owner Training – Please refer to PVOS Attachment D: Owner Training Agenda
- Order Set Reviewer Training – Please refer to PVOS Attachment E: Reviewer Training Agenda
- Advanced Order Set Owner and Reviewer Training – Please refer to PVOS Attachment F: Advanced Training and Follow-up Agenda

ProVation Medical also provides ongoing remote training consisting of remote Live Meeting customer training sessions for users and software administrators to discuss new features, advanced training, etc.

1.20. How much training do users typically need?

The time required to train end users will depend on the type of user being trained (Order Set Owner, Order Set Reviewer, etc.) as well as the skill level of the individual. ProVation Medical offers several training classes as part of our standard professional services package. Below are estimates of amount of training necessary.

- Order Set Owner Training – Up to a 2-day training class. Please refer to PVOS Attachment D: Owner Training Agenda
- Order Set Reviewer Training – One hour training class; multiple sessions can occur during the 2-day training visit. Time will be spent with Order Set Owners during this visit. Please refer to PVOS Attachment E: Reviewer Training Agenda
- Advanced Order Set Owner and Reviewer Training – Up to a 2-day training class. Please refer to PVOS Attachment F: Advanced Training and Follow-up Agenda
- Remote Software Administrator Training – A 1 ½ hour training class conducted remotely via Live Meeting. Please refer to PVOS Attachment G: Remote SA Training Agenda

1.21. How is training provided?

ProVation Medical will train Order Set Owners and Order Set Reviewers via on-site training sessions. Software Administrator training consists of a 1 ½ hour remote training session. For additional details please refer to response 1.19 above.

1.22. Provide a list of user documentation, including samples of on-line documentation and electronic copies of user and system manuals.

The following documents are provided to the customer:

- Authoring Guide
- Order Catalog Mapping Tool
- Reporting Tools
- Software Admin and Configuration Guide
- Order Catalog Center
- Lightweight Directory Access Protocol-LDAP Job Aid
- Quarterly Software Update – “What’s New” Guide

1.22.1. How are help files accessed?

User documentation is accessible within the application, by selecting the “F1” key on the keyboard. Electronic copies are also provided to the customer via the “Implementation Toolkit” via the ProVation Medical Customer Website at the onset of the implementation.

1.23. Does your company provide the opportunity for user input on future feature requests, such as a user group or other organized feedback loop?

Yes. ProVation Medical has a Software Enhancement Policy and Procedure that is detailed in PVOS Attachment H: Software Enhancement Request Policy and Procedure.

1.23.1. Please provide examples on upgrades that were implemented based on user feedback.

ProVation Order Sets software updates are released on a regular basis and are currently released quarterly. Each update contains major new features and enhancements that were implemented based on user feedback. Some examples include the following:

- The One-Click Updates feature that provides a news feed of newly-published clinical evidence and FDA alerts and that enables hospitals to quickly update order set content based on this new evidence

- Rules & Alerts content
- Expanded library of Oncology order sets
- The ability to modify the sequence and labeling of order set sections and to create new custom sections
- The ability to compare an order set to any other order set side-by-side and copy specific lines of content from one to the other

1.23.2. How long does it take for requests to be reviewed and implemented?

The length of time required to review and implement customer requests varies widely. Minor enhancements may be implemented in a product update within a few months. Major new features may be implemented within 12 months.

1.23.3. What is the feedback to the requester?

During the ProVation Order Sets implementation process, the ProVation Medical project manager maintains a list of requests and issues and reports to the customer the status of the requests. After the ProVation Order Sets implementation is complete at a customer site, ProVation Medical continues to gather, review and implement requests, but it is not always possible for ProVation Medical to notify clients of the status of each individual enhancement request.

1.24. Is there an intuitive way for users to gracefully “back out” of your software?

In most areas of ProVation Order Sets, it is possible for a user to exit from a window with the option to save changes or not.

1.25. What type of information is returned when a user recovers from an error?

One of ProVation Medical's quality goals is to prevent system errors. However, they do occur infrequently. When a system error does occur, ProVation Medical encourages the user to contact ProVation Medical Customer Support so that we may identify and correct the cause of the error. In some cases, a specific error message or error code is displayed to the user. Even when no specific message or code is displayed, the ProVation Order Sets system log files are available to use in the troubleshooting process. If an error occurs during the process of modifying an order set, the system automatically restores the most recently saved version of the order set.

1.26. Does the product help users recover from errors? For example, does your software present comprehensible, informative, non-threatening error messages?

Please refer to response 1.25 above.

Hardware

1.27. If this is an in-house solution, does the software run on Windows Server? Which versions?

The ProVation Order Sets application will be deployed on servers provided by the customer residing in their data center. ProVation Order Sets currently supports Windows Server 2003/2008 Standard or Enterprise Edition (32-bit) and Windows Server 2008R2 64-bit.

Please refer to PVOS Attachment B: 1.0PVOS_TechSpec10-08

1.28. What are the recommended server requirements to run this software?

The recommended server requirements for the ProVation Order Sets deployment are detailed in PVOS Attachment B: 1.0PVOS_TechSpec10-08, Section: Servers (pgs. 2-3).

1.29. Does your solution support installing your product on virtual servers?

Yes. ProVation Medical supports virtual environments for the required servers. Oracle licensing restrictions may apply to virtual environments. The ProVation Order Sets proposal includes Oracle licensing for deployment into a virtual environment.

Please refer to PVOS Attachment I: Oracle_Licensing_Rev8

1.30. Describe the process for system backups.

ProVation Medical provides a nightly export of the database that the customer can acquire and store using their enterprise data backup solution. This backup file is a complete copy of the database at the time of the backup that can be used to rebuild the ProVation Oracle DB in the case of a disaster. ProVation Medical's customer support team will work with the customer to complete the database recovery process. Customers that have

an Oracle DBA on staff may run the ProVation Oracle DB in redo archive log mode for point in time data recovery, for virtually no data loss.

Please refer to PVOS Attachment J: PVOSBKUP-02

1.31. Describe the impact of a loss of internet connectivity?

ProVation Order Sets is not an ASP or SaaS application. Loss of internet connectivity would not impact the ProVation Order Sets application for users on the hospital's network. Loss of internet connectivity could affect remote users as well as remote support of the application.

Please refer to PVOS Attachment K: PVOS-Arch-v1-09.

1.32. What are the recommended client requirements?

The recommended ProVation Order Sets client requirements are detailed in PVOS Attachment B: 1.0PVOS_TechSpec10-08, Section: Workstations/Laptops (p. 3).

1.33. Describe the hardware server platform configuration including descriptions of central processing unit(s), networking hardware, and back up methods.

The recommended server requirements for the ProVation Order Sets deployment are detailed in PVOS Attachment B: 1.0PVOS_TechSpec10-08, Section: Servers (pgs. 2-3).

ProVation Medical provides a nightly export of the database that the customer can acquire and store using their enterprise data backup solution. This backup file is a complete copy of the database at the time of the backup that can be used to rebuild the ProVation Oracle DB in the case of a disaster. ProVation Medical's customer support team will work with the customer to complete the database recovery process. Customers that have an Oracle DBA on staff may run the ProVation Oracle DB in redo archive log mode for point in time data recovery, for virtually no data loss.

Please refer to PVOS Attachment J: PVOSBKUP-02

1.34. Describe the ability of the proposed system to support fail-safe data storage (redundancy, mirrored, etc.).

ProVation Medical provides a nightly backup of the database that the customer can acquire and store using their enterprise data backup solution. This backup file is a complete copy of the database at the time of the backup that can be used to rebuild the ProVation Oracle DB in the case of a disaster. Utilizing Oracle's Recover Manager, archive logs can also be used to restore a database up to the point of failure. ProVation Medical's customer support team will work with the customer to complete the database recovery process. Finally, customers that have an Oracle DBA on staff may run the ProVation Oracle DB in redo archive log mode for point in time data recovery, for virtually no data loss.

Overall, there is nothing associated with the ProVation Medical software application that would preclude it from being deployed into a high availability environment, as it relates to the Oracle database (i.e. Oracle RAC, VMware). ProVation Medical could review the customer's proposed high availability solution. The customer will be responsible for sourcing and maintaining the proposed high availability environment (i.e. VMware).

As it relates to high availability for the ProVation Medical Application Server (Windows), HA supportability is currently not inherently available within our software application. However, customers that have a production VMware environment and knowledgeable VMware support staff may choose to host the ProVation Medical application server component in this environment. Customers may choose to implement VMware tools using their resources to implement high availability for the ProVation Medical application server component.

Note: ProVation Medical cannot guarantee that our product(s) will provide 100% high availability by implementing 3rd party tools.

Please refer to PVOS Attachment J: PVOSBKUP-02

1.35. Provide the minimum PC and Server hardware and network bandwidth requirements.

PC and server hardware as well as network bandwidth requirements are detailed in PVOS Attachment: 1.0PVOS_TechSpec10-08. For an overview of the ProVation Medical architecture, please refer to PVOS Attachment K: PVOS-Arch-v1-09.

Software

1.36. What Windows Operating Systems does your system support for desktop and tablets?

ProVation Order Sets is currently supported on PCs and laptops running Windows XP Professional (32 bit) and Windows 7 (32 or 64 bit). ProVation Order Sets may also run on tablets that meet the ProVation Medical technical specifications (Intel/Windows based tablets).

Please refer to PVOS Attachment B: 1.0PVOS_TechSpec10-08.

1.37. Do you support running the software in a wireless environment?

Yes. ProVation Order Sets may run in a wireless environment. The customer will be responsible for the configuration and support of their wireless infrastructure.

1.38. Describe your security model(s).

ProVation Order Sets uses a group based security model. ProVation Order Sets provides a security maintenance module, whereby users can be setup, assigned to a user group and maintained by the customer's software administrator or order set facilitator. User security is assigned for a "user group/role", enabling users to access only parts of the application applicable to their role, and access can also be designated down to the order set level itself. For details, please refer to PVOS Attachment L: Software Administration and Configuration Guide; Chapter 8: Setting up Security.

1.39. What type of authentication does your solution use?

A username and password are required to access the ProVation Order Sets Application. Customers may use authentication native to the application or they may utilize LDAP.

1.39.1. Does your solution integrate with Active Directory?

Yes. ProVation Order Sets software is LDAP aware and can integrate with MS Active Directory for generic user authentication (username and password). The user would be created in the ProVation Order Sets application, and the username and password of the user would be linked with Active Directory.

1.40. Please provide all supported desktop requirements.

Desktop hardware requirements are detailed in PVOS Attachment B: 1.0PVOS_TechSpec10-08, Section: Workstations/Laptops (p. 3)

1.41. Can maintenance and upgrades be performed on the system without taking the system down?

Database maintenance tools including the database monitoring tool, the analyze tables script and the nightly export of the database are all run without taking the system down.

ProVation Medical provides regular software updates each year. The customer can plan on deploying the update during off hours as the system does have to be down. Most often the update process will take less than two hours (servers and PCs). An update is rolled out to a site by first updating the application server. Once the application server is updated, the software on the client workstations is automatically updated the next time a user logs on to ProVation Order Sets. This ensures that all workstations get the latest update of the software when an update is released. If the customer deploys the Authoring Module via Citrix, then simply the Citrix server needs to be updated and updates at the PC level will not have to be deployed; ultimately saving additional time. For details related to the software update process, please refer to PVOS Attachment L: Software Administration and Configuration Guide; Chapter 10: Get Updates

1.41.1. If the system must be brought down, describe a down that a customer has experienced in the recent past.

ProVation Order Sets systems do not need to be brought down, other than to perform the regular software updates.

1.41.2. Please provide a summary of all downs for customers which were performed in the last two years.

While ProVation Medical does not specifically track when customer's systems are "down", there have been instances where systems have been down or where users were unable to log into the application. Some examples include the following: OracleService or Listener not starting properly when a server is not properly shut down, customer changes to their LDAP configuration preventing users from logging in, database users with expired passwords, expired SSL certificates for https customers and anti-virus configurations without the proper exclusions. Most importantly, ProVation Medical Customer Support was able to respond quickly to assist the customers to get them operational again.

1.42. How often are version upgrades released?

ProVation Medical releases regular software updates (currently on a quarterly basis). ProVation Medical does not have any major version upgrades planned for the foreseeable future as changes can be accomplished through updates rather than major version upgrades.

1.43. Are version upgrades required? Does client have the ability to determine when to apply the upgrades?

ProVation Medical strongly recommends that customers run the ProVation Order Sets updates on a regular basis in order to keep the software current. Staying up to date on the latest version will ensure customers receive the most current defect corrections and content updates. Customers will determine when to apply the updates.

1.43.1. If there are substantial software changes, how is user training handled?

Web based training is offered for each update free of charge. Additional training could be purchased if the customer requires it. ProVation Medical does not have any major version upgrades planned for the foreseeable future as changes can be accomplished through updates rather than major version upgrades.

Database

1.44. What type of database is used? Which version is recommended? Which versions are supported?

ProVation Order Sets currently utilizes an Oracle 11g database and supports v11.2.0.2. Oracle 10g versions v10.2.0.3 and v10.2.0.4 are also supported.

Please refer to PVOS Attachment B: 1.0PVOS_TechSpec10-08, Section: 3rd Party Software, Oracle Database Specifications (p. 4).

1.45. Describe the supported database environments and platforms.

The ProVation Order Set Oracle database is most often deployed into a Windows environment. Customers with an Oracle DBA may opt to deploy the database into other environments (UNIX/Linux). The customer will need to ensure that the operating system and platform are supported by Oracle for the version required by ProVation.

Please refer to PVOS Attachment B: 1.0PVOS_TechSpec10-08, Section: Servers, Database Server (p. 2).

1.46. What is the size of the initial database?

The ProVation Order Sets Oracle DB is 2GB at the onset.

1.47. What is the anticipated database growth?

ProVation Medical order sets range in size based on how the customer utilizes the application, but overall the order sets are very small. Since ProVation Order Sets is not a point of care application, the data growth is static, compared to a point of care application. Based on our past customer experience, ProVation Medical recommends 30-50GB of disk space at the Oracle DB server level for a 5 year period. Space requirements can be monitored and assessed on an annual basis, depending on how the application is used.

In addition, there may be disk space requirements at the Application Server level as well. ProVation Order Sets provides an "Attachments" feature, whereby an order set owner can attach a supporting document to the order set (i.e. PDF). The utilization of this feature is optional, and ProVation Medical would recommend that the customer start with 30GB of disk space at the Application Server level and monitor the utilization of this feature during the initial year of the deployment.

1.48. How are backups handled for the database?

ProVation Medical provides a nightly export of the database that the customer can acquire and store using their enterprise data backup solution. This backup file is a complete copy of the database at the time of the backup

that can be used to rebuild the ProVation Oracle DB in the case of a disaster. ProVation Medical's customer support team will work with the customer to complete the database recovery process. Customers that have an Oracle DBA on staff may run the ProVation Oracle DB in redo archive log mode for point in time data recovery, for virtually no data loss.

Please refer to PVOS Attachment J: PVOSBKUP-02.

1.49. If the application DB must reside on a SQL server, does the software also require that additional software or services reside on that same server?

Not applicable. ProVation Medical utilizes an Oracle database.

Implementation and Support

1.50. Describe the different service levels of support contracts, including pricing.

ProVation Medical does not have differing levels of support, but rather provides a Software License and Maintenance Agreement with a standard level of support.

For support details, please refer to PVOS Attachment M: PVOS Customer Support Handbook Rev 3.

1.50.1. Please include availability and response time for each level of technical support.

ProVation Order Sets live support hours are Monday through Friday from 8 am to 5 pm Central Standard Time. Voicemail is available after hours.

1.50.2. Please provide a copy of your Service Level Agreements.

Since ProVation Order Sets is not an ASP or SaaS application, ProVation Medical does not provide Service Level Agreements.

For details on the Software License and Maintenance Agreement, please refer to PVOS Attachment U: Software License Agreement.

1.51. What technical support and training do you provide?

ProVation Medical provides a predictable and streamlined implementation approach and process, incorporating the proper resources from the

customer team, but also the proper resources from the ProVation Medical team.

To ensure long term success and utilization of the ProVation Order Sets software, ProVation Medical utilizes the train-the-trainer methodology throughout the implementation process. ProVation Medical provides several training sessions as part of the ProVation Order Sets standard professional services package and implementation process.

ProVation Medical assigns an experienced project manager to each customer project. This project manager will be the main point of contact for the customer during the implementation process, and has access to additional resources at ProVation, if applicable.

Below is a snapshot of the implementation process, but for full details please refer to PVOS Attachment N: WKH Professional Service Descriptions.

Implementation Overview and Event Timeline:

- 6 month service engagement (starts with 1st on-site visit)
- Project kickoff call – implementation process/milestones, project team resources, next steps, introduction to implementation tools (such as implementation toolkit, Basecamp, etc.).
- Technical call conducted to finalize all details to prep for remote application installation
- **Remote application installation completed**
- Software Administrator training - 1 ½ hour Remote training session
- ProVation Medical Project Manager assigned to work with the customer (responsible for resource allocation at ProVation Medical)
- **First On-site Visit** – Workflow Analysis Meeting (1 – 1.5 days)
 - Review current processes
 - Develop future state workflow
 - Review governance structure
 - Begin developing build standards
 - Project plan finalized
- Follow up action items and finalize governance and process
- **On-site Owner Training** – live with the software to create order sets (up to 2 days)
- **On-site Reviewer Training** – approximately 1 month after Owner training (up to 2 day visit; 1 hour training session; may have multiple sessions during the 2-day visit; includes follow up with Owners so the owners learn how to process the feedback and comments from reviewers)
- **On-site Advanced Owner Training** (approximately 1 month after reviewer training or when order sets are approved and ready for use)
- **Follow up Training Visits** (two visits used one per month) – the customer can decide if these services are required or delivered
- Project closure and transition to customer support

Mapping and Integration Services - (if purchased and available) 3 – 6 months to plan for and conduct the training, complete the mapping process, test the integration with the CPOE system and be in live productive use. The customer will perform the catalog mapping. The mapping can be completed order set by order set rather than mapping the whole catalog at one time; if desired.

For detailed information on the process, please refer to PVOS Attachment N: WKH Professional Service Descriptions

1.52. What processes require the system to be brought down? Please describe the downs in terms of duration and frequency of each type of down.

The ProVation Order Sets application will only need to be brought down to apply the software updates that currently occur on a quarterly basis. Most often the update process will take less than two hours (servers and PCs).

1.53. Is a separate test platform necessary to test software upgrades (new releases or fixes) and interface development before implementing, in order to protect the production environment? Please explain.

ProVation Medical recommends (but does not require) that the customer deploy a test environment to test new software updates prior to moving the update to the production environment. ProVation Medical will provide the ProVation Order Sets software for the test environment at no additional charge. The customer will be responsible for purchasing and deploying the hardware and 3rd party software for the test environment. The Oracle Virtual Server Licensing (currently proposed) can be utilized for the test environment at no additional charge.

Please refer to PVOS Attachment B: 1.0PVOS_TechSpec10-08, Section: Servers, Test Server (p. 2)

1.54. Are software upgrades provided as part of the software support contract?

Yes. However, ProVation Medical does not have any major version upgrades planned for the foreseeable future as changes can be accomplished through regular software updates rather than major version upgrades.

1.55. How often are version upgrades released?

ProVation Medical releases regular software updates, currently on a quarterly basis. ProVation Medical does not have any major version upgrades planned for the foreseeable future as changes can be accomplished through updates rather than major version upgrades.

1.56. If there are substantial changes, how is user training handled?

Web based training is offered for each update free of charge. Additional training could be purchased if the customer requires it. ProVation Medical does not have any major version upgrades planned for the foreseeable future as changes can be accomplished through updates rather than major version upgrades.

1.57. Describe your approach to implementation.

ProVation Medical provides a predictable and streamlined implementation approach and process, incorporating the proper resources from the customer team, but also the proper resources from the ProVation Medical team.

To ensure long term success and utilization of the ProVation Order Sets software, ProVation Medical utilizes the train-the-trainer methodology throughout the implementation process. ProVation Medical provides several training sessions as part of the ProVation Order Sets standard professional services package and implementation process.

ProVation Medical assigns an experienced project manager to each customer project. This project manager will be the main point of contact for the customer during the implementation process, and has access to additional resources at ProVation Medical, if applicable.

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For detailed information on the process, please refer to PVOS Attachment N: WKH Professional Service Descriptions

1.57.1. Who comprises your implementation team?

After the Director of Implementation Services reaches out to the customer, a Project Manager and Technical Analyst will be assigned to the customer to perform services throughout the project.

Please refer to:

- PVOS Attachment O: WKH Role Definitions
- PVOS Attachment N: WKH Professional Service Descriptions

1.57.2. What is the availability of the implementation team?

The Director of Implementation Services reaches out to new customers to schedule project kickoff within 2 weeks of receipt of a completed order.

1.57.3. Describe your process in assisting clients with establishing a framework for initial order set development and ongoing order set maintenance.

The implementation process, including workflow analysis and training for order set authoring, review and maintenance is detailed in the following documents:

- PVOS Attachment N: WKH Professional Service Descriptions
- PVOS Attachment P: Workflow Analysis Meeting Agenda
- PVOS Attachment Q: Sample Workflow

Documentation and Reports

1.58. Does your software include reports on all aspects of the order set development and maintenance process?

Yes – the software includes standard Data Reports as well as a Flexible Query Tool for custom reporting.

Please refer to PVOS Attachment C: Reporting Tools.

1.59. Does your software include the ability to customize all reports?

Yes – clients can use the Flexible Query Tool to create custom reports.

Please refer to PVOS Attachment C: Reporting Tools.

1.60. Does the software include the ability for client to design their own reports?

After exporting information to PDF or Excel, a client could further design the report layout; however the layout of the initial view is pre-determined by the ProVation Order Set Software.

Please refer to PVOS Attachment C: Reporting Tools.

Order Content

1.61. How many orderable items are in the collection of order sets? Please list number of ambulatory and number of inpatient items.

There are approximately 20,000 orderable items in the ProVation Order Sets Order Catalog.

1.62. How many medical conditions are covered by your order sets? Please provide a list of conditions covered.

ProVation Order Sets are symptom-specific, procedure-specific, disease-specific, and modular in design, covering approximately 80% of the top DRGs.

Please refer to PVOS Attachment R: ProVation Order Sets 320 Update.

1.63. Are there links to the evidence within the order sets at the user level when orders are entered?

Yes— if using the ProVation Order Sets Web Print Application to view and print order sets or if using an EMR system that integrates with ProVation Order Sets.

1.64. Describe the process of how the evidenced based content is obtained and evaluated.

A joint editorial process is in place between ProVation Medical and UpToDate, to build, review and finalize the content of the order sets. Content builders include physicians, nurses, and pharmacists on staff. The UpToDate editorial process for developing the source of evidence is described here: <http://www.uptodate.com/home/editorial-policy>.

1.65. Does client have the ability to flag orders that are not in use at the facility so that they are removed from all order sets? If so, is there a way to view all orders that have been removed?

A client has the ability to flag items in the order catalog for multiple reasons. These items are grayed out in the flagged item view for order set builders, so they can remove them from any order sets.

Please refer to PVOS Attachment S: Order Catalog Center; Chp. [4]; Sect: [Flagged Orders].

1.66. Does client have the ability to customize specific orders (i.e. dosage, frequency, etc.)? How does this affect future evidence-based updates?

Yes, a client can make edits (eg, change a dose from 10mg to 20mg from the anticipatory edit menu), create custom catalog items, as well as create custom attribute values. Due to our data structure, any customization would be stored as data elements, allowing our system to query those data fields along with others for reporting or updating.

1.67. Is there support for co-morbid patient orders? Describe solution.

Yes. ProVation Order Sets provides hundreds of order set templates covering a wide breadth of medical conditions including common comorbidities. These order sets can be merged with automated de-duplication of orders providing for the creation of order sets with flexibility to meet the needs of a wide variety of patient populations, clinical conditions and practice settings.

1.68. Please describe the reconciliation process to avoid duplicate order requests, either across multiple ordering providers or in the case of co-morbid patients.

This is a function of the client's Electronic Health Record (EHR) or Electronic Medical Record (EMR) system, and NOT a function of ProVation Order Sets.

1.69. Are you able to filter by formulary?

A client can flag non-formulary items in the order catalog.

Please refer to PVOS Attachment S: Order Catalog Center; Chp. [4]; Sect: [Flagged Orders].

1.70. How intuitive and convenient is the order set build process? Describe.

Generally speaking, our clients begin by selecting an evidence based template from the ProVation Order Sets library. The template is copied into the client's library where it can be edited or re-formatted as necessary. The template is then sent out for review to identified reviewers. Once review is complete, the owners or editors of the specific Order Set can make the recommended edits. Upon completion of edits and formatting, the Order Set is approved and released for use.

Please refer to PVOS Attachment T: Authoring Guide.

1.71. Does the program include any decision support or support for building complex order sets using logic?

Yes, a builder can use logical statements to create a complex order.

Please refer to PVOS Attachment T: Authoring Guide; Chp. [5]; Sect: [Editing Documents and Modules]; p. [70].

1.72. Do you have experience with clients integrating your order sets with their own clinical decision support systems?

Yes – Many of our clients embed customized links to other websites within their customized order sets. For example, a client can embed a link to a protocol document that was created using another clinical decision support source.

1.73. Are orders linked to PQRI and NQF quality measures?

Yes, where appropriate, orders are linked to these quality measures, which are displayed through Clin-eguide links.

1.74. Do the order sets include EBM treatment goals such as LDL goal for DM and cardiac patients?

Yes – Depending on the disease, certain treatment management goals are included as narratives within the order sets. These are also listed in the Quality Indicators Section of an order set.

1.75. Do orders for laboratory tests include recommended frequency of repeat testing such as CK for statin use annually or frequency of testing for diabetes or lipids after initiation of third generation antipsychotic agents?

Yes – Orders for laboratory tests including recommended frequency of repeat testing are most prevalent in the Outpatient order sets.

Order Set Collaboration

1.76. Please describe order set collaboration process.

1.76.1. Is there an ability to assign primary and secondary owners to orders for management purposes?

Yes

1.76.2. Are there other roles/responsibilities within the system? Please describe.

Owners: primary and secondary order set builders/editors have editing privileges and can send order sets out for review. They can also engage in other activities within the software, such as running reports or accessing the history logs.

Reviewers: individuals that will have access to the Web Review Application for review and commenting on an order set, when asked to review by an order set owner.

Administrator: this individual(s) has master privileges within the software for such activities as setting up new users, determining print standards for order sets, and other high level decision points.

1.76.3. Does client have the ability to view history of all comments and actions on orders and order set development?

The history log will automatically track all major events, such as date/time/user for editing sessions, changing the status of an order set from draft to review, version number changes, as well as owner notes associated with these events. In addition, all comments made

by reviewers will be stored in a document that is automatically attached to the history log in PDF format when the order set is approved and released for use. In addition, an owner of an order set can add manual entries to the history log, such as noting that MEC approval was received on an order set on a specific date, and have the system attach a PDF snapshot of the order set to the history log.

1.76.4. Describe the communication strategies used in collaboration.

Email: The system uses automatic email capabilities for multiple events including but not limited to: auto-email to owners when an order set needs to be re-evaluated, auto-email to reviewers when an owner would like to initiate a review step,

Electronic Review: Reviewers can view the order set and leave comments for specific order items, sections, or the complete order set using our Web Review Application.

Owner Notes: Owners can leave comments and notes within the system.

History Log: In addition to automatically tracked and logged events, owners can make manual entries and attach additional documents.

Custom Links and Narratives: Within an order set, an owner can provide narratives and attach links, which can be viewed by others, providing additional information or context for reviewers, owners, and even end user physicians.

1.77. If contract is terminated with vendor, who owns and controls the current and historical data of the orders?

Historical data ownership remains with the client regardless of whether it is a lease or capital purchase.

1.78. If contract is terminated, is the software still available to manage order set development and maintenance?

If a client terminates the maintenance agreement, the client keeps the rights to use the software, just without maintenance, if the purchase of the software was a capital purchase. If a capital lease, the client's rights to the software and maintenance expire when the lease term expires.

If the contract is terminated due to client breach, then the client does not retain any rights.

1.79. Can the web-based collaboration space be used by client for other decision making (i.e. clinic's own practice guidelines)?

The Web Review Application is designed to display order sets created by the software and sent out for review. If a client wants to display other information, this would be possible by creating an order set that contained 1) narratives with the information or 2) links to a website that contained those documents, such as the clinic's intranet site that housed the practice guideline documents. Comments could then be made within the Web Review Application.

Evidence-Based Order Set Updates and Management

1.80. How often is the content updated for the order sets supplied by vendor?

ProVation Medical provides quarterly software updates, as well as content updates. In addition, the literature is reviewed daily in conjunction with our sister company UpToDate in order to identify practice changing updates that will be proactively provided to clients. These practice changing updates are not time dependent and occur as changes occur in the literature and practice. Because of the dynamic data driven structure of ProVation Order Sets, we are able to deliver clinically significant changes to a client's order set library at any point throughout the year.

1.81. Describe how client is notified of content updates.

1.81.1. Describe the process available in the software to communicate the updates to everyone involved with the governance and management of the client order sets.

ProVation Medical provides clients with a "What's New" document with each software update. Evidence Updates are displayed on the main screen within the ProVation Order Sets Authoring Application. One-Click Updates are displayed in the One-Click Updates feature of the ProVation Order Sets Authoring Application.

1.81.2. Describe the process for updating orders within the client's own EHR system or order "library".

A Client using an EHR system that is not integrated with ProVation Order Sets is responsible for the process of updating orders within their own EHR system. If the EHR system is integrated with ProVation Order Sets, then the process to get a new/updated client order set into the EHR system includes the client exporting a file

from the ProVation Order Sets software and importing that file into their EHR system.

1.82. How are updates and/or modifications to orders communicated to users of those orders within the EHR system?

Once an order set is uploaded or built into an EHR system, then EHR functionality is in place. Any changes made to those orders in the EHR system, by the client, would be communicated by whatever process the client or EHR system had in place. Prior to placement in the EHR system, an owner of an order set could send the order set out for review and changes could be viewed in our Web Review Application.

1.83. Describe all processes that are involved in reviewing the evidence basis for the recommended updates.

Practice-changing Updates and FDA Alerts are displayed in the One-Click Updates feature of the software. There, summary statements for recommended changes and links to the supporting evidence are housed. Order set owners are presented with a list of their order sets that may need a change based on the evidence, and the owner decides when/if to accept the changes.

1.84. Does the client have the ability to accept or reject all suggested updates to order content?

Within the One-Click Updates feature, an owner of an order set can accept or reject suggested order item changes that are relevant to their customized order sets on an individual basis.

1.84.1. If rejected, is there a way to review history of rejected updates?

Within the One-Click Updates feature, any suggested change that is rejected/exempted will be assigned the notation of exempted, with the date and user name noted, as well.

1.85. Does the software clearly indicate all the orders used within the EHR system of the client that will be impacted by the updates?

Suggested updates to a client's customized order sets are only viewable from within the ProVation Order Sets software, within the One-Click Updates feature, and only apply to their customized order sets that are housed within the ProVation Order Sets system. Orders or order sets used within the EHR system rely on EHR functionality for any type of notification.

1.86. Must the updates be applied globally to the client order sets or does the client have the option to apply the updates to some orders, but not for others?

Within the One-Click Updates feature an owner of an order set can accept or reject suggested order item changes that are relevant to their customized order sets on an individual basis. For example, 3 customized order sets may be candidates for the same change/edit, and the owner could choose to apply the change to only 1 order set and exempt the other 2 order sets from the change.

1.86.1. If updates are not applied to all orders within the system, will those orders continue to be included in all future updates related to those medications or order?

Yes – Exempting an order set from a suggested change in One-Click Updates, does not eliminate that order set from query regarding new suggested changes in the future.

1.86.2. Do updates of software or content overwrite the customized orders or require special instructions so customized orders are not overwritten?

No.

1.87. Is it possible to edit multiple order sets at once? Please describe process.

As mentioned in response 1.86, the “edit multiple” option allows for global edits across multiple order sets.

High-level process steps:

Step 1: identify and approve the edit requested.

Step 2: the owner clicks on the “edit multiple” tab in the Authoring Application

Step 3: ProVation Order Sets highlights and identifies every order set impacted by the potential change and the client will then choose select order sets or all impacted order sets for change.

Step 4: The client will apply the change and indicate what notation should be included in the history log.