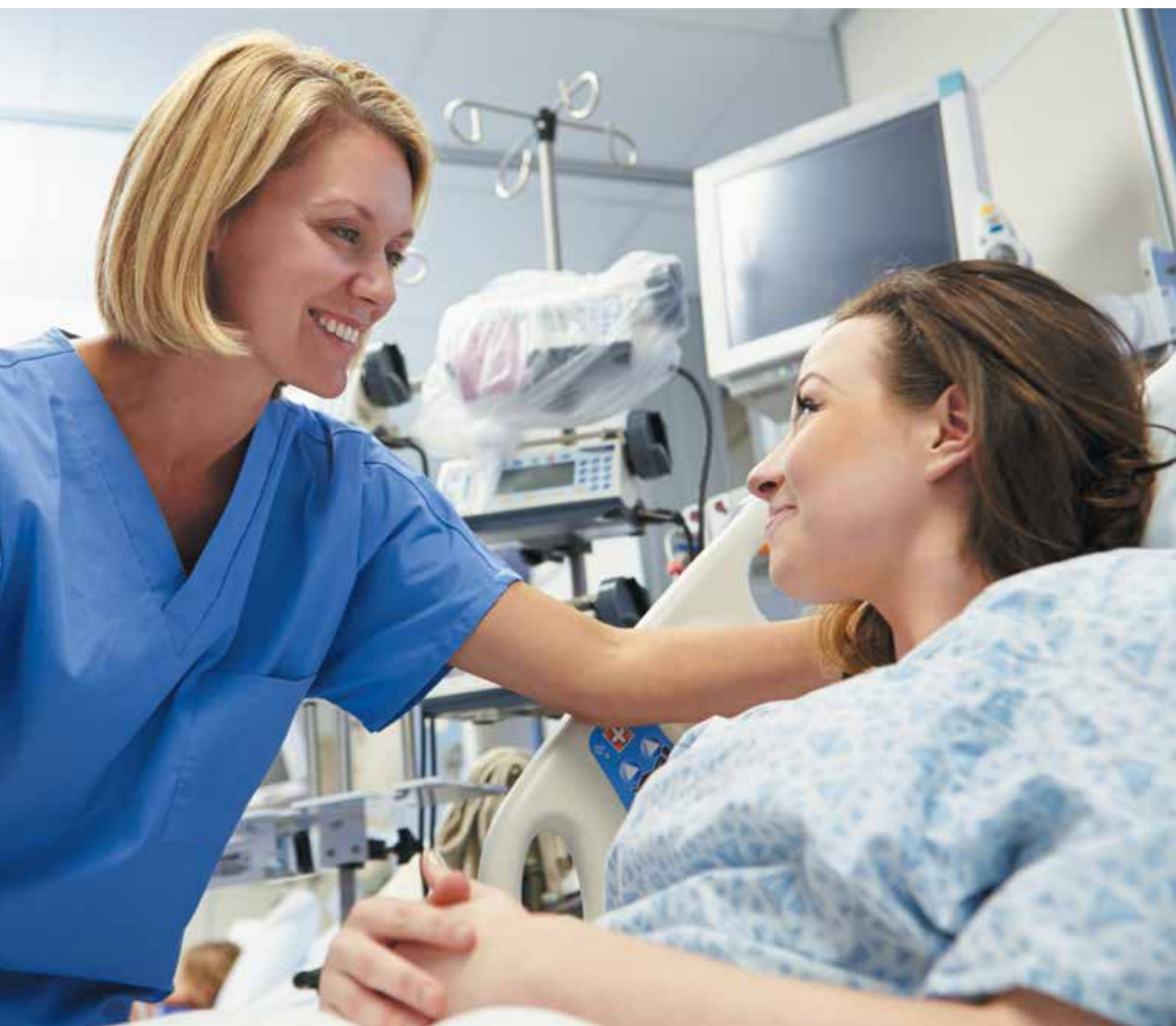# Advanced
Validation Solutions

Validation Guru
Ensuring quality through knowledge and intelligence

Solution for
Cerner Millennium™

Keep your health care systems
in check.

Validation Guru adds definitive validation of the quality and risk levels of your clinical healthcare systems.

Comprehensive testing of your clinical systems is essential to patient safety and quality care. But manual testing is slow, expensive and inaccurate. That's why we developed Validation Guru: Intelligent, fully automated testing and validation of your Cerner Millennium® systems.

Validation Guru goes beyond standard testing and validation. It ensures that your systems are performing and processing orders and results appropriately, and provides detailed analysis and documentation. With Validation Guru, you can dramatically improve the reliability and safety of your clinical applications over time. Meanwhile, you'll save time and money and maximize your investment in your clinical systems.

Validation Guru HealthScore: Immediate Quality Assessment
The Validation Guru HealthScore display shows the assessed risk at each stage of the testing to help you understand the progress and quality of the system over time.

A range of solutions for your Cerner Millennium clinical environment

Validation Guru is a unique bundle of solutions designed to validate the functionality and quality of your Cerner Millennium® clinical environment. Unlike generic test tools, Validation Guru is tailored to validate the Millennium system processes for all versions and in all types of domains:

Our testing solutions include:

✔ **Blood Bank Validation**   ✔ **Charge Services**

✔ **FirstNet**   ✔ **PowerChart**

✔ **PathNet**   ✔ **PathNet Anatomic Pathology**

✔ **PharmNet**   ✔ **RadNet**

✔ **SurgiNet**

How it works

Validation Guru performs automated testing of system processes by replicating the activities of users on your Cerner Millennium system. While you control the application functions, Validation Guru creates realistic and repeatable tests that process patient registration, order placement and order inquiries. You can also use Validation Guru for domain population, database build comparison, security layer validation and more.

By comprehensively addressing AABB, FDA, CAP and other regulatory requirements, this assures safe patient care for the full lifecycle of your clinical applications. No order or process is left in an unknown functional state, significantly reducing the risk to your patients' safety. With Validation Guru, you can achieve total system validation of core processes, complete with cause and risk analysis and full defect-tracking capabilities, with speed, efficiency and accuracy manual testing can never match.

If you don't have the resources to do your own testing, we can help. Our full time services team, which includes nurses, medical technologists, blood bank medical technologists and blood bank scientists, can provide a range of helpful testing services.

Validation Guru
for **PathNet**

The Challenge

With its facility-specific setup and many procedure-specific elements—including the service resource calendar, login locations per procedure, and different routing options per procedure and facility—the Cerner Millennium PathNet® system is extremely large and complex. As a result, testing it is complicated and time-consuming.

How We Help

The Validation Guru for PathNet solution provides comprehensive, automated testing. It can process procedures through the PathNet system in three different ways: (1) through the Department Order Entry (DOE) application, (2) through Requisition Order Entry (ROE) for send-out tests, or (3) through PowerChart. Every CPOE PowerPlan can be processed automatically, covering every laboratory test in the PowerPlan, and ultimately taking every generated lab order through the complete PathNet accession processing.

The procedures are processed automatically, using individual ordering options that can be defined for a specific test run or procedure. Following the order, the accession is then logged in via Specimen Login, resulted through the appropriate resulting application such as Micro Result Entry or Accession Result Entry, reviewed and verified through Order Result Viewer, and (optionally) reviewed through PowerChart. The charges are then validated through CS Charge Viewer to ensure correct processing.

There are numerous resulting options available, from completely random result entry to specific reference range entry, to the selection of abnormal-only results. The reference ranges for all procedures are collected prior to the test, so they can be selected and processed appropriately.

Certain parts of the processing can also be switched on and off to allow for integration testing. For example, you could execute multiple test runs in which orders are placed on day one and the resulting is not performed until day two. Or, the resulting can be skipped entirely, allowing instrument testing to be integrated into the automated solution.

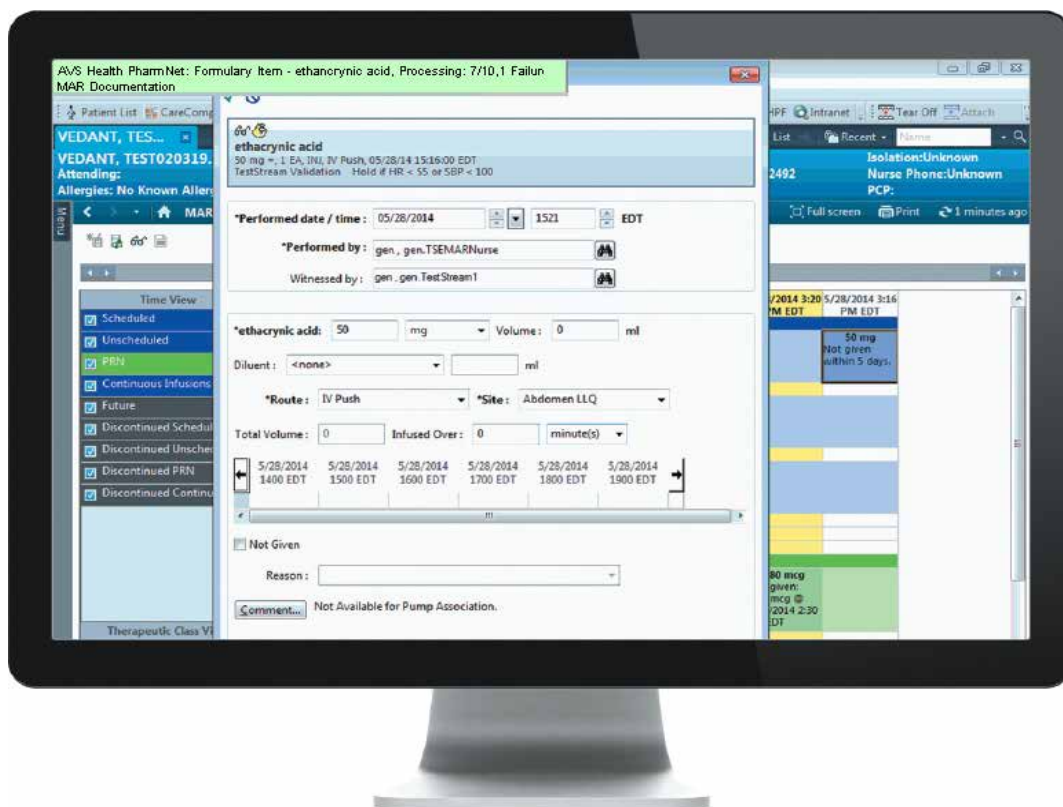# Validation Guru
for **PharmNet**

The Challenge

The Cerner Millennium PharmNet® system is a complex setup that requires frequent, comprehensive testing because of the constant changes and updates to drug interaction rules. But verifying that every item can be processed and charged is an extremely lengthy ordeal—even lengthier since the introduction of CPOE.

How We Help

The Validation Guru for PharmNet solution can process the formulary items through the Pharmacy Meds Manager system, verifying meds integration, and also process the medications through PowerChart. The order is placed, taken through Pharmacy Verification as necessary, covering manual or auto product selection, then documented through EMar, and, finally, viewed through the CS Charge Viewer to ensure correct processing.

For PowerChart medications and CPOE processing, every CPOE PowerPlan can be processed automatically where the medications are selected within the plan, saving you thousands of hours of testing. When initiated and signed, the selected medications are ordered, and Validation Guru will take each and every med order through verification, EMar, inquiry and charge review.

Formulary Processing
The PharmNet solution can process every formulary item and every medication in the system, taking it through the order, meds verification, EMar and charge verification.

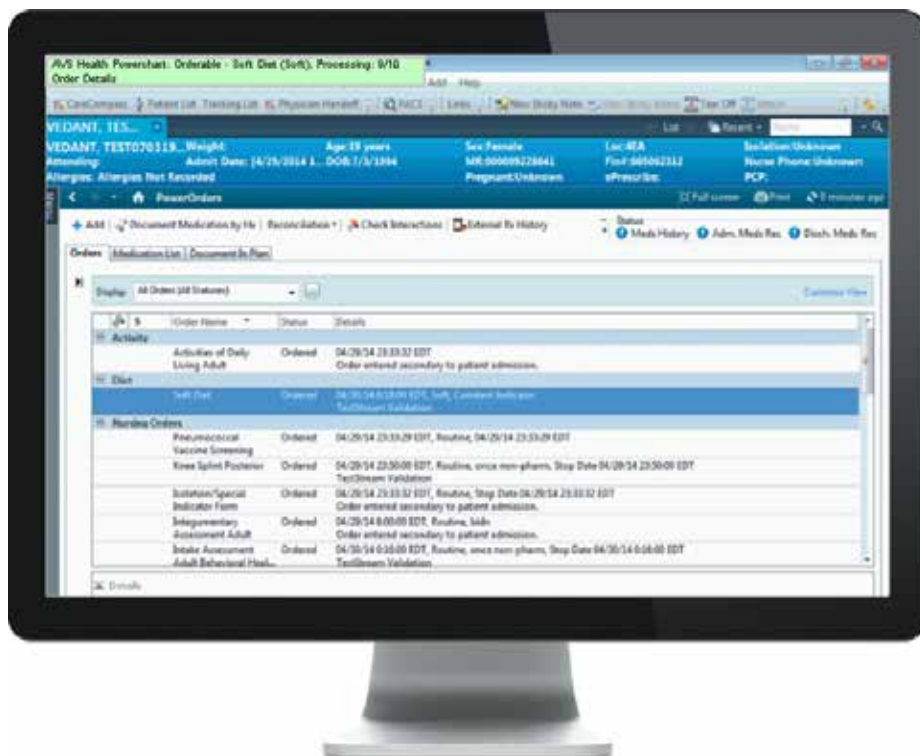# Validation Guru for **PowerChart Orders**

The Challenge

The Cerner Millennium PowerChart® ordering system provides core functionality to every part of the hospital system, including 15,000 or more orderables with up to 1,000 CPOE PowerPlans. Any issues with orders disappearing, processing incorrectly, or being delayed due to issues with the build can have serious patient safety consequences. But conventional testing methods simply can't accurately measure system performance.

How We Help

The Validation Guru PowerChart Orders solution can provide comprehensive testing of every orderable in the core system. Each orderable is processed automatically, using individual ordering options that can be defined for a specific test run or orderable name. Orders are placed through PowerChart, and the completed order is then located and reviewed for accuracy.

Optionally, any tasks associated with the order (PowerForms) can be verified and completed. The charges are then validated through the CS Charge Viewer to ensure correct processing.

For CPOE PowerPlan processing, Validation Guru will process through every CPOE PowerPlan, selecting orders and order sentences as appropriate. The PowerPlan is initiated and signed, producing the many individual orders, where every order is then taken through an inquiry process to verify the correct order details, any related tasks are processed, and finally charges are reviewed in the CS Charge Viewer process.

Order Verification in PowerChart
Validation Guru can process every orderable in the system, primary and synonyms, in any order entry format. After the order process, the order is located and verified to ensure that the information displayed is accurate.

Validation Guru
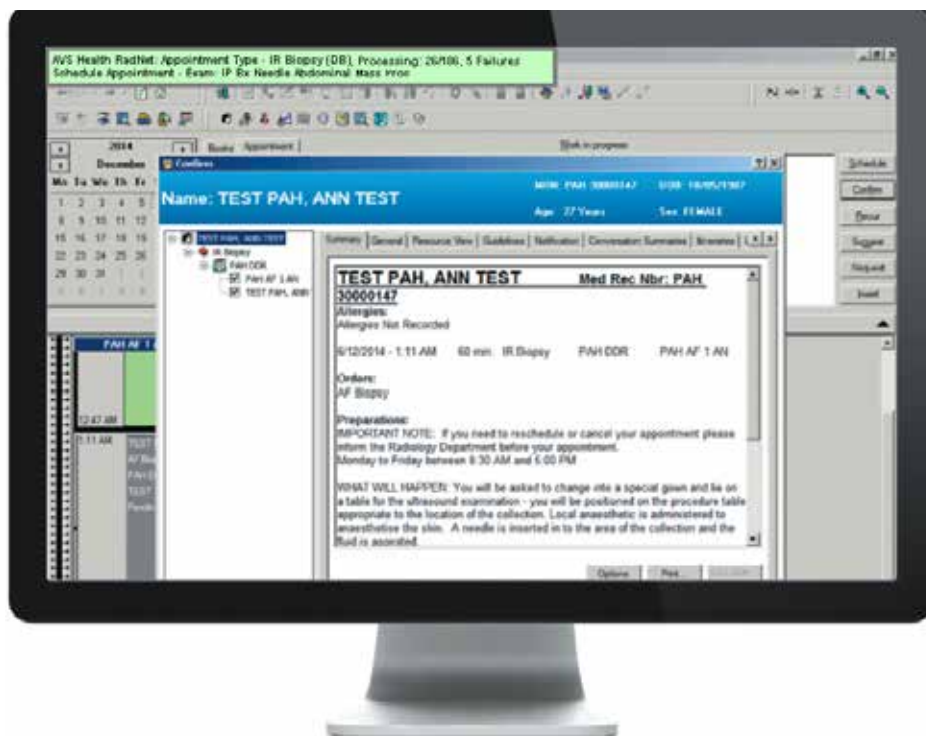## for **RadNet**

The Challenge

RadNet® covers many complex processes in the Cerner Millennium environment, from scheduling to exam management and transcription. It must be tested completely, using a range of exams—including the less common ones—to ensure that exam-specific elements, like room allocation and scheduling times, are fully validated.

How We Help

The Validation Guru for RadNet solution can process exams through the system in three different ways: (1) through the Department Order Entry (DOE) application, (2) through the Enterprise Scheduling System (ESM), or (3) through PowerChart. Every CPOE PowerPlan can be processed automatically, selecting every radiology exam and taking each exam through the complete RadNet process,
following the initiate and signing of the PowerPlan.

Each exam is processed using individual ordering options, which can be defined for a specific test run or exam. Following the order processing, the generated accession is then collected and the exam taken through the start exam, complete exam, inquiry, transcription, signoff and optional PowerChart review. Finally, the charges are validated through the CS Charge Viewer to ensure correct processing.

Certain parts of the processing can be switched on and off to allow for integration testing. For example, you could execute multiple test runs, where exams are scheduled on day one and the processing is not performed until day two. The transcription phase can also be skipped entirely, allowing integration into existing transcription systems.

Scheduling a Radiology Exam
The RadNet solution processes exams through the scheduling system or ordering in DOE, then processes from starting the exam to the final signoff and charge review.

Solutions that Go Beyond **Expectations**

The AVSHealth Blood Bank Validation Service for Cerner Millennium blood bank transfusion is designed for unparalleled ease, coverage and speed of validation testing.

Featuring a revolutionary Scenario Definitions solution, and a library of intelligent workflow scenarios developed by specialists highly experienced in FDA, AABB and CAP procedures, the Blood Bank Validation service frees you from having to wait on consultants for validation, or pay exorbitant recurring fees. Validation Guru's intelligent technology adapts automatically to updates and enhancements to your system, so there's no need for ongoing programming or scripting.

The service provides:

✔ **Full FDA compliant Blood Bank Validation** covering all parts of the blood bank system, customized to your site

✔ **Database review** with feedback and recommendations on the setup

✔ **Screen shots** during workflow steps, providing proof of testing

✔ **Full digital signature** capabilities

✔ **Test-case cross reference** for Pass and Fail reports

✔ **Error causal analysis** and remediation guidance

✔ **Enterprise-wide result set** access, management and defect tracking

✔ **Patient-safety assessment** of your system

Additional Solutions

Batch Charge Entry

Reviews the complete CDM Charge Services hierarchy, pointing out duplicates and suspect definitions, which leads to potentially thousands of dollars saved in incorrect billing. Following the cleanup, every bill code is processed and taken through an order and review process through CS Batch Charge Entry.

Blood Bank Interpretations

Reviews the complete results reaction patterns defined in the system, providing feedback on the status of the interpretation setup. Every interpretation is then validated by ordering and then resulting, using all of the defined patterns, plus a series of invalid sequences, testing the common mistakes made when entering reactions and verifying the system response.

Blood Bank Patient/Unit Compatibility

Reviews the complete patient and unit compatibility rules and provides feedback on the definitions. The processing then takes each product and patient compatibility rule combination through the inventory, unit confirmation, crossmatch and dispense, verifying the system response to the rule.

FirstNet Orders

Reviews the FirstNet order processing sequence and provides feedback on the setup of the entire system, allowing a complete cleanup process. The validation processing then takes every orderable in the emergency room system through the order and inquiry sequence, highlighting issues in the most critical—and problematic—part of the FirstNet system.

PathNet Anatomic Pathology

Reviews the PathNet A/P system, collecting information on the prefix, source and multi-site code details. The validation process takes every combination of prefix and source case options within the system and works through the specimen case creation, process task order entry, and outstanding task processing as necessary

Surgery Orders and Scheduling

Reviews the SurgiNet scheduling, ordering and documentation details, allowing the complete sequence to be processed. The validation sequence provides options to schedule the surgery procedure, or order directly in SN SurgiNet, then checks in the case and processes every section of the Perioperative Documentation. Anesthesia is then processed, and the SurgiNet Charge Review and CS Charge Review systems verified for billing.

Scenario Definition

Allows the building of flexible process flows, making it possible to test outside of the standard validation solutions. The process flows can replicate actual end-to-end patient journeys in the Cerner Millennium system. Currently there are 850+ scenario building block actions, providing the ability to test across the entire system.

Put Validation Guru to work **for your organization**

We look forward to helping you ensure that your Blood Bank systems are at their best, so you can deliver care with confidence.

To learn more about us:

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AVS Health Health: Your true partner in improving patient care
Testing and validation technology is what we do at AVS Health.
But what's at the heart of our mission—and always has been—is
a passion for helping healthcare organizations save and improve
their patients' lives.

For more than three decades, For more than three decades, AVS Health has provided quality
assurance solutions for organizations around the world. We're a close-knit team, with deep and
extensive experience in the testing technology and healthcare worlds. We look forward to talking
with you about your quality assurance needs, and how we can help.

Ensuring quality through knowledge and intelligence.

Advanced
Validation Solutions