

Perspectives and Updates on Health Care Information Technology

HIT Perspectives

- 1 Part 1: Lack of Training Is Core Cause of Physician EHR Usability Complaints**
- 2 Part 2: ePA 2.0: Taking Electronic Prior Authorization to the Next Level**
- 3 Part 3: How Artificial Intelligence Is Poised to Transform Medication Management**

About the Newsletter

HIT Perspectives is published by Point-of-Care Partners. Individuals at the leading management consulting firm assist healthcare organizations in the evaluation, development and implementation of winning health information management strategies in a rapidly evolving electronic world. The team of accomplished healthcare consultants, core services and methodologies are focused on positioning organizations for success in the integrated, data-driven world of value-based care.

Contact Information

Tony Schueth
CEO & Managing Partner
tonys@pocp.com
info@pocp.com

© 2019 Point-of-Care Partners, LLC

September 2019



1 Part 1: Lack of Training Is Core Cause of Physician EHR Usability Complaints



By **Michael Burger**, Senior Consultant



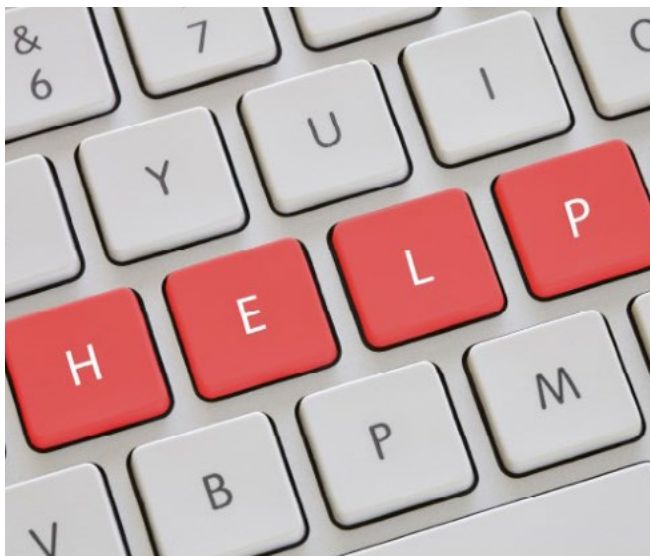
You hear it all the time: electronic health records (EHRs) are proliferating, yet doctors allegedly hate them because of usability issues. As a product manager, I've been the recipient of many a tirade from an unhappy physician client saying, "It's not intuitive," or "There are too many clicks," or "Why can't this be as simple as an iPhone?"

Physician disdain for EHRs has been expressed loudly and often enough that regulators have included usability testing as a certification criterion for EHR incentive programs. Consequently, everyone is searching for underlying causes. Some studies have already tied usability issues to physician burnout. Now **a new study** has determined that lack of training impacts physician usability perspectives.

EHR usability problems. EHRs are certainly not perfect. Software improvements can be made to tighten up the user interface (UI) to be more logical and reduce the number of clicks. Soliciting user feedback through usability testing is a valid and reasonable mechanism for prioritizing EHR enhancements, though I'd stop short of mandating it. A software vendor that doesn't pay attention to customer feedback about its product's usability is doomed to fail the old-fashioned way – customers simply won't buy it.

EHR vendors face a significant hurdle regarding usability. Because of its inherent function, an EHR simply can't be as easy to use as an iPhone. A UI that's perfect for Instagram and Twitter isn't practical for a task as complex as documenting the patient visit of a 72-year-old with comorbidities.

Equally challenging is finding the right balance between what information a clinician would like to see and how much is too much. In this regard, medicine is as much an art as a science, with each clinician having his or her own preferences. For this reason, EHRs are designed to be flexible in order to accommodate the unique style of the individual user. This has led to some of the resulting dissatisfaction because with flexibility comes lack of consistency. Time and again, clinicians have claimed that their practice is "differ-



ent.” Yet what perpetuates the usability challenge is allowing insufficiently trained clinicians to use the EHR “their way” and ignoring the best practices (i.e., consistency) gleaned by trainers across thousands of implementations.

EHR training is a constant tug of war. Because EHRs are necessarily complex, education is essential. Unfortunately, it’s often difficult for clinicians to set aside time for such in-depth training. Clinicians are among our best-trained professionals, having spent years of study in medical school. While clearly recognizing the value of proper training, they somehow fail to perceive learning about EHRs as an investment.

In my 12+ years’ tenure as an EHR product manager, my experience with the correlation between training and satisfaction has been anecdotal. No real statistics exist to validate what I’ve learned from the college of hard knocks – that insufficiently trained clients are dissatisfied clients.

Shedding light on the problem. Now we have data to illuminate the problem. A recently published study (72,000 clinicians at 156 provider organizations) by **the Arch Collaborative** has examined EHR satisfaction. Its conclusion: “If health care organizations offered higher-quality educational opportunities for their care providers, and if providers were expected to develop greater mastery of EHR functionality — many of the current EHR challenges would be ameliorated.”

Across this extensive dataset, the study notes that “the single

greatest predictor of user experience is not which EHR a provider uses or what percent of an organization’s operating budget is spent on information technology, but how users rate the quality of the EHR-specific training they received.”

These are telling statements that highlight the challenges EHR vendors face regarding client satisfaction. With as many as 30% of practices looking to replace their EHRs, one wonders if their experience with a new EHR will be any better without a commitment to training. They also explain why EHR vendors that impose prescriptive training requirements are perceived as having a better product when compared with those that allow their clients to dictate the training curriculum and requirements.

These also help to explain why many of the advanced features that EHRs offer are underutilized. Population health comes to mind. Clinicians who are frustrated by clicking their way through poorly configured workflows that require bouncing from screen to screen aren’t going to be receptive to messaging about evidence-based best practices. Instead, they’ll succumb to alert fatigue and ignore every message as an interruption. Population health DOES work when well-trained clinicians breeze through optimized workflows that sequentially match the patient exam. Actionable population health information interspersed within such a workflow is unobtrusive and valuable. Instead of being an interruption, population health becomes a component of clinical decision making.

Opportunities. The conclusions of this study create some opportunities. Organizations, such as pharmaceutical, medical device and medical services companies, working with clinicians using an EHR should be prepared for workflows that differ from client to client, even those using the same EHR. They should be aware that client staff using the EHR may not have received (or paid attention to) the in-depth training offered by the EHR vendor or that workflows in place may not have been optimized. Coaching that incorporates those best EHR practices emphasizing fewer interruptions and actionable information will be welcomed by clinicians. •

Point-of-Care Partners are experts in EHR workflow. We can help your organization better prepare for discussions with clinicians about EHRs, including best practice workflows. Let me know how we can help. Please contact me at michael.burger@pocp.com.

2 Part 2: ePA 2.0: Taking Electronic Prior Authorization to the Next Level



*By **Jocelyn Keegan**, Payer Practice Lead,
and **Ken Kleinberg**, Innovative Technologies Practice Lead*

Electronic prior authorization (ePA) is gaining traction and attention after a lull in progress and focus. The need for ePA is easy to understand. ePA is essential in reducing time to therapy, friction and costs by aligning payer and provider goals. The “how” is catching up in a big way. Now new technologies, evolving standards, government regulations and ePA’s role as a critical tool for value-based care have created a perfect storm. The industry has brought ePA to an inflection point, and several leading payers, providers, vendors and standards groups are driving to advance ePA by making automated prior authorization (PA) the norm rather than the exception.

A way to conceptualize this progress is shown in the figure below. There are three phases in the evolution of ePA. The industry is rapidly transitioning from phase 1.0 and heading to phase 2.0.

ePA 1.0. This first phase is focused on ePA for medications covered under a patient’s pharmacy benefit. Substantial progress has been made and is ongoing. Take, for example, the latest version of the SCRIPT standard by the National Council for Prescription Drug Programs (NCPDP). NCPDP SCRIPT version 20170701 contains ePA transactions that are more robust than those contained in the current ePA standard (ASC X12 278) and offer the ability for performing ePAs in real time.

Adoption of the NCPDP standard will be reinforced with the **newly proposed rule** from the Centers for Medicare and Medicaid Services (CMS), which would require use of ePA transactions contained in NCPDP SCRIPT 20170701 for drugs prescribed un-

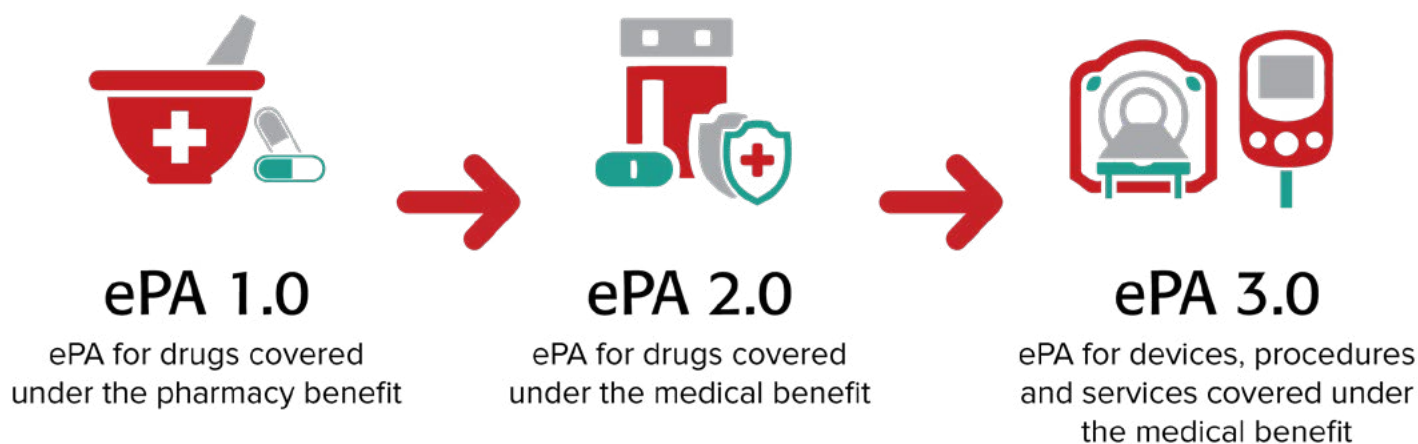
der Medicare Part D instead of the ASC X12 278. The proposed implementation date is January 1, 2021.

Another CMS rule will support and accelerate use of the real-time pharmacy benefit check (RTPBC). The rule will require adoption of a “Real-Time Benefit Tool” by **Medicare Part D plans beginning January 1, 2021**. NCPDP has developed a draft standard for this transaction, which was approved to move forward at the August 2019 workgroup meeting.

With the RTPBC, both prescriber and patient can have up-to-date information on the out-of-pocket costs of a drug that is being prescribed as part of the electronic prescribing (ePrescribing) process at the point of care through the electronic health record (EHR). When used with ePA, the two transactions deliver more accurate information about coverage and costs of drugs at the point of prescribing and allow physicians to help their patients begin therapy faster. The newly proposed ePA transactions would enable the prescriber to submit the required information in real time and indicate in the RTPBC whether PA is needed. This will help the physician obtain faster approval and improve speed to therapy.

Improving the quality of the signal for PA through RTPBC will bolster the accuracy and utility of ePA as part of the prescribing process, such as support from industry groups such as the American Medical Association, which continues to support adoption of ePA as a way to reduce physician burden.

The evolution of electronic prior authorization



Taking ePA to Level 2.0. ePA 2.0 involves automating PAs for drugs covered under a patient's medical benefit (mPA), such as drugs covered under Medicare Part B. Reducing provider burden is an increasing focus from the Department of Health and Human Services, including notices of proposed rulemaking that would increase the ability for payers to share coverage decisions as members change plans and make continued investments in emerging technologies that can expose coverage rules to providers in their work flow.

Currently, most PAs for those medications are processed manually through antiquated phone, fax and paper processes. There are several drivers propelling ePA to the next level. These are being addressed by various stakeholder initiatives. For example:

- **Specialty pharmacy.** A large driver for mPA is the rapid growth of expensive specialty medications. Specialty medications are the fastest growing segment of the nation's drug spend, primarily due to their high costs and use in addressing the large and expanding patient populations with chronic diseases. The **government estimates** that 60% of Americans have a chronic disease and 40% have two or more chronic conditions.

At the same time, prescribing specialty medications generally is a manual process, leading to provider frustration and reduced speed to therapy. Automating and standardizing specialty pharmacy transactions will be the focus of a new workgroup that has been formed by NCPDP. The goal is to bring greater focus and coordination in how NCPDP standards are used for the

electronic exchange of data in specialty pharmacy, including addressing gaps that exist in ePrescribing for specialty medications. This will complement and support ongoing NCPDP efforts to automate various aspects of specialty pharmacy, including the patient enrollment process. In addition, NCPDP and HL7 are working together to use Fast Health Interoperability Resources (FHIR) to extract the necessary clinical data required for enrollment from the native EHR.

Administrative burdens. Three-quarters of physicians (specialists and primary care) report the burden of PA is high. According to the **American Medical Association**, doctors and their staff spend the equivalent of nearly two business days navigating PA. Because this administrative burden is so great, about a third of physicians maintain staff members who exclusively deal with PAs. It usually takes days—even weeks—for an **insurance company** to decide whether it will approve a PA request. Needless to say, this leads to delays in therapy and frustration for both patients and providers. These factors are increasing the demand by provider associations for an mPA solution. Point-of-Care Partners (POCP) is tracking no fewer than a half-dozen separate, industry-led conversations to reduce the need for mPA and its associated provider burden.

Costs. Significant administrative costs are associated with PA. **Research by the Council for Affordable Quality Healthcare** reveals that each manual prior authorization for medical care costs \$3.50 for plans and \$6.61 for providers. Going electronic

Many challenges must be addressed to bring ePA to version 3.0.

brings that down to \$2.80 per transaction for payers and \$0.03 for providers. All in all, the study found that transitioning to electronic medical prior authorization could create \$278 million in annual savings for providers and \$139 million for health plans.

Da Vinci. Significant investment from CMS, payers, providers and vendors is under way to accelerate adoption of ePA leveraging application program interface (API)-based standards. HL7's FHIR is the basic building block for the **HL7 Da Vinci Project** — a private, multistakeholder initiative — with a number of use cases including PA. Da Vinci's open business model process enables payers, health systems and other industry participants to identify and enumerate use cases that involve managing and sharing clinical and administrative data among industry partners. Coverage Requirements Discovery, an early use case, leverages a FHIR-based API that enables care delivery organizations and providers to query payers in real time to find relevant guidance prior to care delivery to increase efficient delivery of care and corresponding payment. Building further, Documentation Templates & Rules enables providers to understand coverage requirements for a particular patient at the plan level, and work is under way to map the necessary clinical data required to automate the PA request itself with Prior Authorization Support. All of these use cases are in a single track at HL7's September Connectathon in Atlanta.

To be sure, this new tranche of work is early, but stakeholders are ramping up to enable their platforms for API access so ePA can move to the next level.

Moving to ePA 3.0. ePA 3.0 will automate PA for devices, procedures and services covered under the medical benefit. Electronic medical prior authorization is in its early phases, but real work is under way with significant interest and attendance at

Da Vinci working sessions and Connectathon activities. Many challenges must be addressed to bring ePA to version 3.0. For example:

- The quality of provider data varies by vendor and payer capabilities. Payers will need to streamline and combine how pharmacy and medical claims are processed, as well as increase the **accuracy** and **availability** of PA requirements and benefit detail in workflow in **real time**.
- The increasing complexity of plan design, high-deductible plans, and members in at-risk contracts is **increasing pressure on plans to improve available provider tools**. Consensus will be needed on what those tools should be, the standards to support the underlying business design and how they will be handled in work flows.
- Refinements are needed in EHRs to support mPA. The **ability to seamlessly share or identify in real time existing data locked into EHRs** with APIs or data to create necessary attachments must be addressed. EHRs still provide little or no support for PA, except for enabling attachments using existing HIPAA-named standards. Creating a clear path for implementers from FHIR to other ePA standards is critical. •

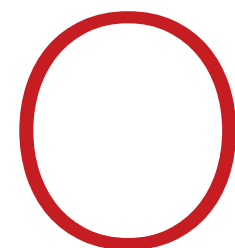
Need more information? *POCP is here to help. Drop us a line (jocelyn.keegan@pocp.com and ken.kleinberg@pocp.com). Also, don't overlook the wealth of information in our new **ePA report**. This extensive document — with 40+ diagrams and tables and 90+ references — offers health care stakeholders an independent analysis of the market, realistic maturity models and a profile of what vendors and service companies are currently doing pertaining to ePA so they can arm themselves with the information needed to plan strategically and meet their goals. Set up a one-on-one meeting to discuss how this report may help your organization by calling us at 877-312-7627, option 4, or dropping us an email at info@pocp.com.*

3

Part 3: How Artificial Intelligence Is Poised to Transform Medication Management



By **Michael Solomon, PhD, MBA,**
Practice Lead, eCare Management



Over the past few years, artificial intelligence (AI) has been touted as a transformational force in health care. The AI health market has experienced explosive growth, with public- and private-sector investments estimated to reach \$6.6 billion in 2021.

Health care is embracing AI for a range of applications, from robotic surgery to drug development to clinical research. In addition, AI is being adopted as a practical tool to reduce costs, improve outcomes and replace labor-intensive, repetitive tasks that are prone to



error. Those applications make AI poised to transform medication management. This article takes a brief look at how that is happening today.

What Is AI? Before we look at how AI may be used, let's level-set. **Real-world AI technology** may be defined as specialized software being deployed today to improve health care. Two types of AI technology are gaining real traction in health care:

- **Machine learning** is the most prevalent type of AI technology. Its algorithms use such heuristic techniques as mixing/matching and trial and error to improve and adapt models automatically (i.e., without programmer intervention). It has applications in areas where traditional statistics start to run out of steam, such as with larger datasets and where it's not clear what assumptions or models should be used.
- **Natural Language Processing (NLP)** uses a combination of expert rules and AI techniques to process unstructured free text, such as clinical notes, and transform it into structured data for more accurate searches/discovery and decision support. Advances in the technology and the explosion of computerized clinical notes are driving NLP into the mainstream of Health information technology (health IT).

Other emerging AI technologies (e.g., artificial neural networks, deep learning) show promise. However, they are probably a few years away from significant, real applications in health care, including in the area of medication management.

Use of AI in Medication Management. We often hear about the use of AI to collect and analyze complex health data and provide previously undiscovered insights through deep learning. Reflecting on persistent problem areas in medication use and therapy, AI is being used in a number of ways to improve medication management. Six examples come to mind. AI is being used today to:

1. **Improve medication safety.** AI is a complex tool that can reduce diagnostic and therapeutic errors by evaluating large sets of data against complex, multifactorial and dynam-

cally changing criteria (such as drug utilization review). The value of such approaches already is being demonstrated. A team at Brigham and Women's Hospital evaluated a probabilistic, machine-learning approach — based on statistically derived outliers — to detect medication errors. The study found the screening system could generate alerts that might otherwise be missed with existing clinical decision support systems.

2. **Reliably and cost effectively predict health risks and outcomes across large populations.**

Currently, AI is being used to prevent drug overdosing. A group in Michigan is using patients' medication histories from various sources, including electronic health records (EHRs) and state-run prescription drug monitoring programs, in algorithms that calculate "overdose risk scores" and predict risks of overdosing from a prescribed opioid. Interventions based on outcomes of high-risk patients are then recommended. This example exemplifies AI's value in medication management by augmenting clinical decision making.

3. **Reduce time and expense.** AI shows promise for improving accuracy in, and thereby reducing costs of, medication-related tasks. For example, AI-enabled dosage error reduction is among the top 10 AI applications in health care with the greatest cost-saving potential. This application of AI could save \$16 billion annually.

4. **Streamline the prior authorization process.** Despite the growing use of electronic prior authorization (ePA), submission and review of clinical documentation for drugs requiring approval — especially therapies involving specialty drugs — is plagued with duplicate data entry, delays and rework. The required documentation is often located in the clinical notes narrative of the (EHR. Required clinical data can be extracted and transformed into structured data using NLP. This information — along with other necessary data — forms the clinical documentation to send at the same time as an ePA request is submitted.

How do ePA programs ascertain which data are required? This is where evidence-based algorithms and machine learn-

ing come into play. With AI, the adjudication process is transformed. ePA becomes a decision support tool for the prescriber. The evidence-based algorithmic programs factor in the therapy policy and restrictions (including formulary) and gather patient-specific data (e.g., the patient's health status and medical history) and outcomes of patient populations with similar characteristics to present the prescriber with therapy recommendations. Selection of one of the recommendations triggers automatic approval of the prior authorization (PA) request in real time.

This “next generation” ePA will be prevalent in the not-too-distant future. In fact, it's here today. One company has implemented an AI engine that uses NLP to extract data needed to adjudicate a PA. Another is working on increasing the level of automatic adjudication of PAs by using algorithms to predict which PAs should be approved. As a result, we'll see more consistent and accurate PA adjudications, faster turnaround for patients to get onto therapy and reduced administrative costs for both payers and providers.

5. Monitor medication adherence. AI technology can be used to monitor patient adherence and notify clinicians when intervention may be necessary. The application of NLP and machine learning turns what would otherwise be a labor-intensive and cost-prohibitive activity into one in which clinicians devote time only when needed. This has the potential to save money and lives. Medication nonadherence is estimated to be responsible for \$100 billion to \$300 billion annually in excess health care costs, a quarter of hospitalizations and about 125,000 deaths.

As a result, medication compliance is of great interest to payers. A Medicare Advantage plan identified members at risk of medication nonadherence who are receptive to such digital interventions as personalized text messaging about refills and remote patient monitoring instead of follow-up by letters or phone. By focusing on patients at greatest risk and communicating in the most effective way, adherence rates are rising.

This strategy could be extended to predict specific difficulties a patient will likely experience in adhering to a prescribed medication regimen and determine the most appropriate

intervention (i.e., right level of intensity and approach for patient compliance, optimal effectiveness and lowest cost). Drawing on the patient's EHR (both structured and unstructured data) and interactions with a virtual assistant, multiple sets of factors can continuously be monitored by analytics that both predict risks of failure and prescribe actions. For example, factors such as the number of medications a patient must take, involvement of multiple prescribing physicians, whether a spouse or caretaker resides in the home, and travel distance to a drugstore can all be considered simultaneously when determining the need for and frequency of follow-up consultations.

6. Schedule follow-up visits to assess therapy progress. The scheduling of follow-up appointments with a patient's doctor or pharmacist to assess a medication's progress often doesn't happen because of the time required and inconvenience. AI can help with a scheduling application that reduces patient wait times. It dynamically predicts expected wait times and sends a text message to patients two hours before their scheduled appointments with updates on when they can expect to be seen. This program uses machine learning to detect patterns in more than a million past appointment wait times and hundreds of related factors, including attributes of patients scheduled to be seen on a given day, the day of the week and the doctor's past performance on a given day. •

Looking ahead. *In just a few short years, machine learning and NLP will have profound and positive impacts on the delivery of health care and medication management. Point-of-Care Partners is tracking innovations in AI. We monitor and are actively involved in advances in standards, EHRs, electronic prescribing and other applications used at the point of care. Let us help you to navigate the rapidly changing world of health IT. Contact me at michael.solomon@pocp.com.*