# Connections MAGAZINE LISSUEZ 2018

Focus on the Patient



MESSENGER

**ONLINE BOOKING** 

KIOSK

Transforming healthcare through Patient Engagement



ISSUE 7 • 2018

#### Connections Magazine

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O 8 THE FUTURE OF PATIENT ENGAGEMENT: Nothing says patient-centric healthcare like Patient Engagement, but what's needed for success? The right tools, the right training, and a bit of creative thinking.

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# It's All About the Patients

# Message



You hear a lot of talk in healthcare about personalized, integrated medicine. About innovations and solutions to better serve patients. About effective Patient Engagement. And about products to help you with the transition to value-based care.

At some healthcare IT companies, all that remains just talk. But at eClinicalWorks, **we turn talk into reality**.

Every day, our 5,000+ employees are working to realize a vision of truly integrated healthcare. Their roles vary widely, from working out the most intricate details of software to helping customers and potential customers understand just how powerful that software is and how it can transform their medical practices.

One thing unites every one of us: A focus on patients.

This latest issue of Connections examines that commitment to patients from many angles.

V11, the latest version of our industry-leading EHR/PM solution, features dozens of improvements and enhancements. Some are big and obvious, others subtle enough that only veteran users or those interested in specific functionalities may notice them. But they're all about better documentation of each patient's case.

Safe and effective treatment of patients is behind our making personal genomic profiles available to physicians directly in the EMR. For the first time, eClinicalWorks practices will have the most personalized tool available — the individual patient's genetic map — to help them achieve better medical outcomes by guiding decisions about the effectiveness and dosage of medications, and shaping more effective treatment plans.

Our commitment to patients is also seen in our continuing refinement of our telemedicine solution, **healow TeleVisits**. In this issue, we offer you a short history of telemedicine's achievements and potential.

And on page 22, you can read about how Jacksonville, Florida's **Rainbow Pediatric Center** is using healow TeleVisits to help patients save the time and expense of coming to the office every three months — while maintaining the same standard of care they'd get with a physical office visit.

Much of our focus remains on what happens throughout the patient visit. So we're highlighting the success our customers are having with **Kiosk** for patient check-in. We take a fresh look at the latest **healow app integrations** that are available to our patients.

And in our Employee Spotlight feature, we take a closer look at how a member of our Patient Engagement team works behind the scenes to help practices meet the needs of their patients every day.

Building on the success we enjoyed in 2017 won't be easy, but we think we've got a simple and effective plan to do just that: Put customers and patients first!

Enjoy the issue!

Girish Navani

#### June

#### 6/2 - 5

DDW 2018 Walter E. Washington Convention Center

Washington, DC

#### 6/3 - 5

CPCA Region IX Clinical Excellence Conference Sheraton Grand at Wild Horse Pass Phoenix, AZ

#### 6/6

eClinicalWorks Day Minneapolis, MN

#### 6/6

eClinicalWorks Day Tampa, FL

#### 6/13

eClinicalWorks Day Boston, MA

#### 6/13

eClinicalWorks Day Portland, OR

#### 6/14 - 15

Becker's 16th Annual ASC Conference Swissotel Chicago Chicago, IL

#### 6/14 - 15

The New Mexico Primary Care Association 2018 Annual Conference Isleta Resort & Casino Albuquerque, NM

#### 6/20

eClinicalWorks Day Kansas City, MO

#### 6/20

eClinicalWorks Day Warner Robins, GA

#### June

#### 6/20 - 24

2018 Optometry's Meeting Colorado Convention Center Denver, CO

#### 6/20 - 22

AHIP Institute & Expo 2018 San Diego Convention Center San Diego, CA

#### 6/27

eClinicalWorks Day Buffalo, NY

#### 6/27

eClinicalWorks Day Lafayette, LA

### **July**

#### 7/11

eClinicalWorks Day Memphis, TN

#### 7/11

eClinicalWorks Day New York City, NY

#### 7/18

eClinicalWorks Day Idaho Falls, ID

#### 7/18

eClinicalWorks Day *Richmond, VA* 

#### 7/18

eClinicalWorks Day Shreveport, LA

#### 7/18 - 20

2018 FSASC

Annual Conference Hyatt Regency Grand Cypress *Orlando, FL* 

#### July

#### 7/25

eClinicalWorks Day Jacksonville, FL

#### 7/25

eClinicalWorks Day Louisville, KY

#### 7/25 - 27

2018 American Indian & Alaska National Behavioral Health Conference Omni Shoreham Hotel Washington, DC

#### **August**

#### 8/1

eClinicalWorks Day 9:00 am - 2:00 pm *Amarillo, TX* 

#### 8/1

eClinicalWorks Day Lexington, KY

#### 8/8

eClinicalWorks Day Pittsburgh, PA

#### 8/8

eClinicalWorks Day Visalia, CA

#### 8/14 - 15

CPCA 2018 Billing Managers Conference Portola Hotel & Spa at Monterey Bay Monterey, CA

#### 8/15

eClinicalWorks Day Grand Rapids, MI

#### 8/15

eClinicalWorks Day Houston, TX

#### **August**

#### 8/16 - 17

CPCA 2018 Chief Financial Officers Conference Portola Hotel & Spa at Monterey Bay Monterey, CA

#### 8/22

eClinicalWorks Day Edison, NJ

#### 8/22

eClinicalWorks Day Seattle, WA

#### 8/22

eClinicalWorks Day St. Louis, MO

#### 8/26 - 28

NACHC Community Health Institute (CHI) & EXPO Hyatt Regency Orlando Orlando, FL

#### 8/29

eClinicalWorks Day Bethesda, MD

#### 8/29

eClinicalWorks Day Wichita, KS

#### September

#### 9/5 - 7

FAHP 2018 Annual Conference Hilton Orlando Bonnet Creek *Orlando, FL* 

#### 9/12

eClinicalWorks Day Atlanta, GA

#### 9/12

eClinicalWorks Day Nashville, TN

#### September

#### 9/16 - 19

Health 2.0 12th Annual Fall Conference Santa Clara Convention Center Santa Clara, CA

#### 9/19

eClinicalWorks Day Dallas, TX

#### 9/19

eClinicalWorks Day Indianapolis, IN

#### 9/27 - 29

International Vision Expo West Sands Expo *Las Vegas, NV* 

#### 9/29 - 10/2

Plastic Surgery, The Meeting McCormick Place Chicago, IL

#### 9/30 - 10/3

MGMA 2018 Annual Conference Boston Convention and Exhibition Center Boston, MA

#### October

#### 10/4 - 5

CPCA 2018 Annual Conference Sacramento Convention Center Complex Sacramento, CA

#### October 5-7

eClinicalWorks
2018 National Conference
Gaylord Opryland Resort
and Convention Center
Nashville, TN

#### **October**

#### 10/10 - 12

AAFP FMX New Orleans Morial Convention Center New Orleans, LA

#### 10/12

eClinicalWorks Day Honolulu, HI

#### 10/16 - 18

NACHC 2018 Financial, Operations Management / IT (FOM/IT) Conference Planet Hollywood Resort & Casino, Las Vegas, NV

#### 10/17

eClinicalWorks Day
Austin, TX

#### 10/17

eClinicalWorks Day *Phoenix, AZ* 

#### 10/17

eClinicalWorks Day Westborough, MA

#### 10/22 - 24

2018 CAHP Annual Conference Manchester Grand Hyatt Hotel San Diego, CA

#### 10/24

eClinicalWorks Day Albany, NY

#### 10/24

eClinicalWorks Day Chicago, IL

#### 10/31

eClinicalWorks Day Birmingham, AL

#### 10/31

eClinicalWorks Day Tampa, FL

For more information about eClinicalWorks Day, tradeshows, and conferences, visit our Events Page at https://www.eclinicalworks.com/resources/events/

# Checking in? Check this out!



Checking in for a medical appointment today is simple, private, and efficient. Thanks to Kiosk, there's no more jostling in line, no concern that the medical staff will forget about you, and no worrying that someone might overhear your personal information.

But Kiosk is about more than a fast way for the patient to let the practice know they have arrived. It can update demographic data, check on insurance coverages, collect payments, and even offer questionnaires to patients.

eClinicalWorks practices are using Kiosk for all those purposes, and becoming more efficient at the same time.

In 2016, The Children's Clinic, located in Jonesboro, Arkansas, worked with our Patient Relationship Management Services team to set up Kiosk, which also helped patients become comfortable with other technologies for online health access — now enjoyed by 92% of the practice's patients.

In New York City, Riverdale Family Practice relies on Kiosk to help them fulfil their mission of offering open access to healthcare to everyone in their Bronx community.

"We have our office open from 8 in the morning to 8 in the evening, Monday through Friday, and Saturday we are here in the morning for emergencies," says Dr. Frank Maselli.

At the Center for Health, Education, Medicine & Dentistry in Lakewood, New Jersey, Kiosk made its debut on the dental side of the practice, and showed immediate results, cutting check-in times to under two minutes.

And in Eugene, Oregon, River Road Medical Group, a longtime eClinicalWorks practice, has taken a creative approach to training patients on Kiosk. They used student volunteers to meet with patients in the waiting area, and installed an eClinicalWorks video on the waiting room TV to show just how easy and effective Kiosk is. And Kiosk has helped patients grow attached to other online resources.

"Like anything, you have to build it up so that you get to that critical mass," says Josie Van Scholten, River Road's practice manager. "I feel like we're on the cusp of being able to make important changes in people's lives."

#### Saving Minutes, Improving Care

CityMD, a network of urgent care, walk-in clinics with locations in New York City, Seattle and Washington, D.C., has experienced tremendous growth since their founding in 2010. To provide a better patient experience, reduce staff burdens, and reduce transcription errors, CityMD installed Kiosk at all their locations, beginning with their Murray Hill clinic in New York City.

Kiosk has trimmed three to four minutes off the average wait time. Given that the office sees 95 to 100 patients daily, that translates to a savings of more than 1,400 staff hours annually.

CityMD reports that more than 98% of their patients now check in using Kiosk. The efficiency and convenience Kiosk offers is an essential

component in CityMD's ability to fulfill their model of care delivery.

For Rhode Island's Coastal Medical, Kiosk has been a true game changer. Thanks to a focused campaign, Kiosk use increased from just under 3,000 patients in the first quarter of 2017 to more than 33,000 patients in the first quarter of 2018.

But Kiosk is about more than convenience. When patients are presented with a simple, electronic means of paying their bills, practices see increased revenue. Coastal reports an 11% increase in collections from March 2017 to March 2018, which translates to \$3,000 per day. And those collections, the practice says, are monies they would otherwise probably never have collected.

Today, 80% of Coastal Medical's patients who check in using Kiosk update some aspect of their demographic information. And more than 350,000 Kiosk check-ins were recorded in March 2018 alone. ■

Is it time to modernize your patient check-in process?

Learn more about healow Kiosk and the app for iPad:

https://www.eclinicalworks.com/products-services/patient-engagement/kiosk/

Staff at the Murray Hill office estimate that Kiosk has trimmed three to four minutes off the average wait time.



Saving 1,400+ staff hours annually.



Nothing says patient-centric healthcare like Patient Engagement, but what's needed for success? The right tools, the right training, and a bit of creative thinking...

#### Online Booking

When patients need to see their doctor, the first thing they usually do is set up an appointment. But *how* they make that appointment is changing as more and more practices incorporate online and interactive Patient Engagement products into their day-to-day operations.

Dr. S. Mark McNeill, founder of **Trillium Family Medicine** in Asheville, North Carolina, was determined to find ways to make his solo practice more efficient without reducing his availability or patient satisfaction.

healow Open Access® scheduling with online booking was the answer. Dr. McNeill decided to train as many of his patients as possible to book their appointments online. Now, three out of every four Trillium patients book their appointments online. Dr. McNeill has been able to

make do with a single full-time medical assistant and a part-time office manager, rather than the four or five employees the average solo family practice needs. And while patients can book their own appointments, Dr. McNeill reserves a few same-day and next-day appointments for patients who have to be seen on short notice.

**The Children's Clinic** in Jonesboro, Arkansas, brought in the healow Patient Relationship Management Services team to train staff and patients in the use of Patient Engagement tools. After a survey found that 63% of parents wanted to book appointments online, the practice implemented Open Access.

**Prime Care Family Practice** in Prince George, Virginia, also adopted Open Access scheduling, and reduced the number of annual phone calls by 10,000, while easing the burden of emails and text messages that nurses had to deal with.

#### Messenger & healow Pay

However much a medical practice has embraced healthcare IT products and services, there's a good chance that they could do even more.

Some practices call upon the power of the healow Patient Relationship Management Services team, who visit a practice to provide on-site training to providers and patients in the use of things like Kiosk, Patient Portal, and online resources.

Others tap into their own "super user" staff to maximize the tools available to them through eClinicalWorks.

Messenger campaigns are one of the most effective ways for practices to better engage their patients.

There are dozens of campaigns available, including appointment reminders, administrative notifications, lab and prescription notifications, and educational outreach. Practices can also send patient satisfaction surveys, gathering valuable feedback to help guide them to better service and greater efficiency.

They can create a campaign to reach out to all patients who are overdue for a mammogram or colonoscopy, parents whose children are due for immunizations, or any patient who may not have come in for their annual wellness checkup.

Nevada's **Carson Medical Group**, for example, has used Messenger to send out 200,000 appointment reminders, focusing simply on improving compliance with annual wellness visits. Messenger helped Carson meet requirements of the Meaningful Use program, deliver needed care, and promote better medical outcomes.

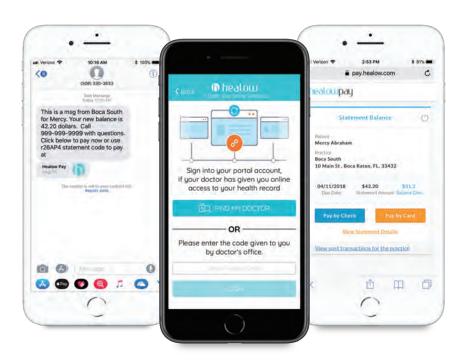
**Gwinnett Center Medical Associates** in suburban Atlanta illustrates the range of Messenger campaigns, from the popular birthday greeting — just letting patients know you're thinking of them — to boosting compliance with recommended mammograms.

And, through the use of Patient Portal, Gwinnett Center was able to reduce daily phone calls by 80%, from about 500 calls a day to just 100.

Compliance with mammograms was also a priority at **River Road Medical Group** in Eugene, Oregon. One day, practice manager Josie Van Scholten realized she had sent 11 snail-mail letters to one patient to remind her to come in for a mammogram. There had to be a better approach.

River Road turned to Messenger campaigns, using texts and emails to reminders about mammograms and colonoscopies. In just one year, compliance rates improved by more than 30%.

And the newest Messenger campaign, **healow Pay**, offers patients a great new way to see and pay their bills, anytime and from any device!



healow Pay gives patients quick and easy access to their statements, on whatever device they prefer to use. With 24/7 access, paying bills is easier than ever. And practices offering healow Pay may see quicker payments, reducing accounts receivable for greater efficiency.

# Gaining an Edge: The Power of PRM Services



Each year, a lot of professional sports teams enjoy a good season, and even make the playoffs. But only a few rank among the best. The key difference often lies in coaching and chemistry.

In healthcare, as in sports, practices need more than talented providers, dedicated staff, and great healthcare IT. Many eClinicalWorks practices are finding something extra in the guidance, training, and expertise of healow Patient Relationship Management (PRM) Services.

#### Improving Patient Engagement

The healow PRM Services team analyzes a practice's needs and workflows, visits with providers and patients, trains them on Kiosk, Patient Portal, healow apps, and Open Access® booking, and develops customized marketing plans.

By creating the best possible customer experience, patients are encouraged to become fuller partners in managing their own health. That leads to deeper involvement, better medical outcomes, and higher satisfaction for patients and providers alike.

#### Diverse Challenges

eClinicalWorks practices have diverse needs when it comes to improving their Patient Engagement strategies.

- Prime Care Family Practice in Prince George,
   Virginia, realized they were overly reliant on the telephone.
- Riverdale Family Practice was looking for a way to handle the diverse and ever-growing patient population in their Bronx neighborhood.
- The Door Adolescent Health Center in Manhattan needed new ways to connect with youth.
- The Children's Clinic of Jonesboro, Arkansas, found parents lacked the skills and confidence to use technology.
- Chattanooga CARES needed a comprehensive strategy for reaching their 750 HIV/AIDS patients in southeastern Tennessee.

# Smartphones and healow Champions

Each of these practices turned to healow PRM Services for help.

Prime Care hired scribes to help their providers, and assigned "healow champions" to serve as a training resource. They saw fewer phone calls, reduced risk of burnout, and higher quality metrics.

Riverdale Family Practice embraced Kiosk for checkin, and created a "wall of wellness" in their waiting room to educate patients, while The Door empha-

sized smartphone apps, engaging youth on the devices they use daily.

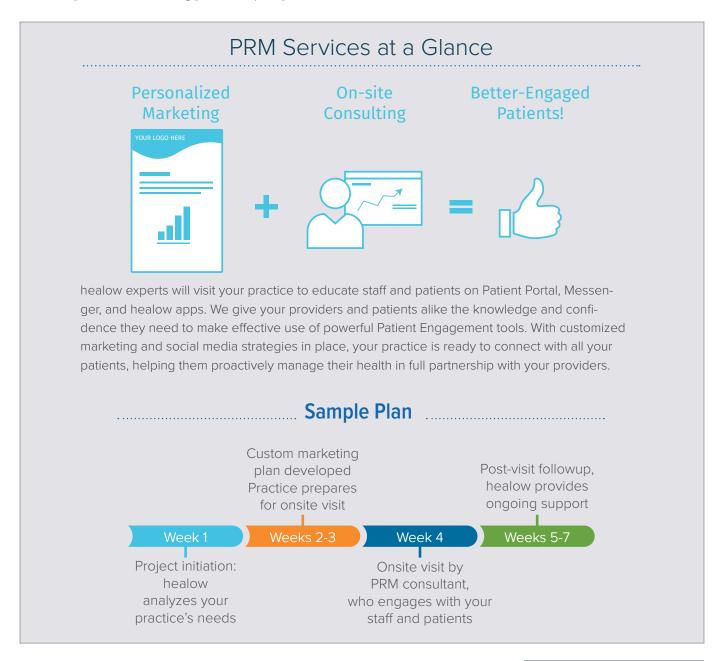
#### Reaching Out to All in Need

The Children's Clinic worked with healow PRM Service team members to educate and assist parents with logging in to both Patient Portal and the healow app. Parents went from standoffish to confident and excited.

Chattanooga CARES also implemented the full suite of Patient Engagement tools, including Patient Portal, Kiosk, Messenger, and healow TeleVisits. They found healow Open Access® booking particularly helpful, as it offers HIV/AIDS patients an easy, confidential way to book appointments, which is critical to improving testing and medication compliance.

#### Toward Value-Based Healthcare

For these and many other eClinicalWorks practices, stronger Patient Engagement through healow PRM Services is paying off — in better compliance, fewer gaps in cap, better outcomes, reduced stress, and more efficient use of resources. In short, PRM Services is helping eClinicalWorks practices achieve the goals of value-based care.



# Telemedicine: Empowering Practices and Patients

For many patients and providers today, the word telemedicine still evokes doubts. For some, it belongs to the future, to the day when our technology finally catches up to the enthusiasm of medical visionaries. Others look to the past, and cast a critical eye on what they assume to be telemedicine's thin and unconvincing résumé.

Well, it's time to put those doubts away. Telemedicine is not only a reality, but it's fast becoming an essential tool for medical practices of all kinds.

Popular uses include primary care, the management of chronic conditions, and delivering two or more services.

#### Is Telemedicine Truly Effective?

A March 2016 report, "Personalized Telehealth in the Future: A Global Research Agenda," published in the Journal of Medical Internet Research, noted that one of the major applications of telemedicine to that point had been its use for home monitoring.<sup>1</sup>

In 2016, European doctors for the first time began using telemedicine to monitor the care of patients with chronic heart failure. An assessment by Dr. Gian Franco Gensini and colleagues in the November 2017 Cardiac Failure Review found that, in a study of 200 patients with implantable defibrillators, "a significant reduction of emergency visits in the remote monitoring group was observed when compared to usual care."<sup>2</sup>

Telemedicine has even been used to good effect in a setting many people might not think of — correctional facilities. The January 2018 issue of Urology Practice reviewed the use of telemedicine from 2007 to 2014 to provide general urologic care to male prisoners in Iowa. The study found telemedicine could safely be used to "replace in-person visits for many urologic conditions, especially in younger men and those in which access to specialized care may be limited." §



<sup>&</sup>lt;sup>1</sup> https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4795318

 $<sup>^{2}\</sup> https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5739893/\#r25$ 

<sup>&</sup>lt;sup>3</sup> http://www.urologypracticejournal.com/article/S2352-0779(17)30001-8/pdf

#### Video Visits in Real Time

For many providers, the use of technology for remote monitoring and intervention among patients with cardiac or other chronic health conditions, while interesting, is of less immediate value and interest than knowing whether telemedicine works for ordinary visits. And even if it does, how can they overcome obstacles such as costs, equipment, and insurance reimbursements?

The answers are that telemedicine is a lot easier, cheaper, and more effective than you might think. Just ask the folks at Rainbow Pediatric Center in Jacksonville, Florida.

Insurers and policymakers alike recognize the growing power, importance, and effectiveness of telemedicine.

# IMPLEMENTING TELEMEDICINE AT HEALTH CENTERS NATIONWIDE

When Dr. Prasanthi Reddy and her staff noticed that compliance with appointments and medication routines had begun to lag among their patients with Attention Deficit Hyperactivity Disorder, they undertook a three-month trial of healow TeleVisits, inviting parents and kids to use the computer for their periodic, three-month checkups.

Read more about Rainbow Pediatric Center in our customer success story on page 22

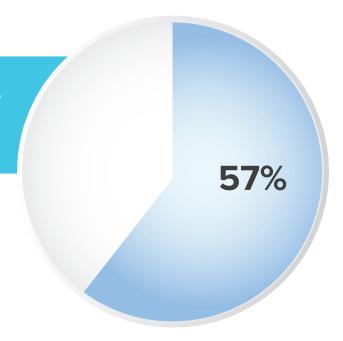
Dr. Reddy said one patient who normally drives about an hour-and-a-half to get to the office loved the convenience of TeleVisits, and encouraged RPC to continue using them.

One of the reasons that we chose our ADHD patients," said Jocelyn Restrepo, a pediatric nurse practitioner at Rainbow, "is because most of the visit is conversational. A lot of what we do is assessing how the patient is doing in school, are they having any side effects with the medication, how do the parents feel, how does the child feel, what is the feedback they are getting from teachers?"

# Ensuring Successful Implementation

Beyond an individual practice, there are several more general principles that can help ensure success with telemedicine. Practices need to decide how they are going to use telemedicine, develop an implementation strategy, and then follow up with strong promotion among their patients.

Fortunately, strategy and promotion are included as part of telemedicine implementation. Helping staff and patients understand the power of telemedicine is often as simple as listing the common ailments that



Percentage of health centers using telemedicine in at least one aspect of their practice.

Source: 2016 survey by National Association of Community Health Centers

can be the subject of a remote visit, including urinary tract infections, behavioral health consultations, rashes, patient education, and follow-up appointments for minor surgeries and other office procedures. And if there's still any doubt, practices also have marketing materials available to them, including magnets, posters, and educational videos.

Rainbow's success echoes the experiences of other providers who have implemented telemedicine for video visits. A February 2018 report in JMIR Medical Informatics showed positive results for telemedicine use at Jefferson Health, a large, urban academic-affiliated health system in Philadelphia.<sup>4</sup>

The system used telemedicine for 3,018 medical visits between January 2015 and December 2016. Among 764 patients who responded to a survey, 86% agreed that telemedicine had made it easier to get care, and 91.3% were satisfied with the video visits themselves.

The Jefferson Health project, demonstrated "...the promise that scheduled telehealth video visits hold for improving access, supporting a positive patient experience and providing effective care."

<sup>4</sup> https://medinform.jmir.org/2018/1/e10/

#### Innovations on the Medical Horizon

But as far as it has come, telemedicine is likely to see even more remarkable advances in the decade ahead.

Insurers and policymakers alike recognize the growing power, importance, and effectiveness of telemedicine. Already, more and more insurers are recognizing that remote visits — where medically appropriate — should be covered by insurance.

According to the American Telemedicine Association, more than 30 states already have telemedicine parity laws that require reimbursement at the same rate as an in-person visit.<sup>5</sup>

Electronic prescribing is now an indispensable part of medical practice, recognized as both more secure and less prone to error than hand-written prescriptions.

And innovations such as healow Virtual Room will also change clinical practice, allowing providers and patients who are taking part in a traditional office visit to use telecommunications technology to interact with remote medical specialists.

At eClinicalWorks and healow, our commitment to innovation — and to our customers and their patients — extends to everything that we do. In our view, telemedicine is simply another means to the end we all share — raising the quality of medical care around the globe, and improving healthcare together.

#### More Than a Century of Innovation and Vision

It is true that the technologies available to providers today — such as healow TeleVisits — are lightyears ahead of those of even a generation ago. But the concept of telemedicine goes back to 1879!

In November of that year, the esteemed British medical journal The Lancet reported on the installation of telephones at Children's Hospital near Manchester. The innovation made it possible "...to hold free communication with the fever ward without the slightest risk of conveying infection to other parts of the Hospital."

And in a 1925 issue of Science and Invention, Hugo Gernsback sketched his vision of a "teledactyl" that would allow doctors to use a television screen to see patients many miles away.<sup>2</sup>

Both were forerunners to healthcare IT tools in common use today.

The 1970s STARPAHC project<sup>3</sup> combined the efforts of NASA, Lockheed, the Indian Health Service, and the Department of Health, Education and Welfare to deliver care to members of the Native American Papago tribe in Arizona.

And, in the wake of the Armenian earthquake of 1988, U.S. and Russian officials developed a "Telemedicine Spacebridge" project that made consultations available to doctors performing reconstructive surgeries and providing psychological rehabilitation to quake victims.<sup>4</sup>

Finally, the American Recovery and Reinvestment Act (ARRA) of 2009 and the accompanying Health Information Technology for Economic and Clinical Health (HITECH) Act gave medical technologies, including telemedicine, the momentum and funding that have led to widespread adoption.





- <sup>1</sup> http://www.thelancet.com/journals/lancet/issue/vol114no2935/PIIS0140-6736(00)X9003-4
- <sup>2</sup> https://www.smithsonianmag.com/history/telemedicine-predicted-in-1925-124140942/
- $^{3}$  https://www.ncbi.nlm.nih.gov/pubmed/17697507
- 4 https://www.ncbi.nlm.nih.gov/pubmed/21718090

1879 1975 2018

15

<sup>&</sup>lt;sup>5</sup> http://www.americantelemed.org/policy-page/state-policy-resource-center

# Actionable Genomics' Into The EMR

In partnership with Seattle-based ActX, eClinicalWorks is for the first time giving its providers the opportunity to take advantage of the remarkable advances in genomics. Patients' personalized data are guiding decisions about medications and treatments, helping to open the new age of precision medicine.





ActX's analysis of an individual patient's DNA will reveal that patient's genotype, which is basically the inherited map the person carries in their genes. The genotype can furnish strong evidence that a given medication will be safe and effective, could have side effects, or should be avoided entirely. If a medication is contraindicated, the physician receives an alert and detailed information about the risks.

#### Facing Life's Biggest Questions

Since the dawn of history, human beings have sought answers to timeless questions: What sustains us? Why do we age? Why must we die?

The discovery of the structure of DNA in 1953 opened a new era in human understanding, offering hope that we might someday answer the deepest mysteries of our species. That hope has been renewed and strengthened with every advance in genetic research.

But knowing our genetic blueprint — elegantly recorded in approximately three billion DNA base pairs — is hardly the end of the story. As a host of geneticists,

researchers, thinkers, and policymakers have observed, genes are *not* destiny.

Except for a few rare variants that inevitably lead to serious illness, the bulk of genetic information sketches the *potential* course of an individual's life, and a *possible* fate.

Our destinies depend upon a complex interaction among genes, environment, diet, lifestyle, and even chance. In short, for the vast majority of people, medical knowledge and prevention can have a profoundly positive impact on life.

#### ActX and Actionable Genomics

Dr. Andrew Ury is founder and chairman/CEO of ActX, a Seattle-based company that focuses on what are called "actionable genomics," the evidence-based genetic risks that physicians and the patients under their care can, in fact, do something about.

In partnership with EHR companies, including eClinical-Works, ActX sends patients' genomic data into the EMR, giving providers powerful new tools to guide clinical care, from choosing the optimal type and strength of medications, to guiding decisions about therapies for serious medical conditions.

In 1983, when very few physicians were using computers for documentation or record-keeping, Dr. Ury founded a commercial EMR company. In 2012, after many years of clinical practice, involvement with EHR companies, and advisory roles in healthcare and healthcare IT, Dr. Ury decided to launch a new endeavor.

"I've been interested in genetics for a long time," Dr. Ury said, "and looking for something that would have a big impact, that EHR companies would be interested in partnering with, but something that would be hard for them to do on their own."

#### From Test Kit to EMR Results

The process begins with a physician's order authorizing the patient to proceed with a genetic profile. ActX sends an easy-to-use DNA test kit to the patient, who provides and returns a saliva sample. Once ActX completes the genotyping work, that patient's profile is made available to the doctor, right in the eClinicalWorks EMR.

The announced completion of the Human Genome Project on April 14, 2003, came almost exactly 50 years after the day that Francis Crick and James D. Watson described the double-helix structure of deoxyribonucleic acid in a one-page article in "Nature."

Dr. Ury noted key advantages that ActX offers over direct-to-consumer test kits such as those offered by 23andme.com or ancestry.com:

- The level of analysis that ActX offers is much deeper and broader.
- The data is medically and scientifically vetted and easily available to the patient's healthcare provider with a genomic profile built into the eClinicalWorks EMR.
- Each time the physician prescribes a medication in the eClinicalWorks EMR, the safety and efficacy of the medication in question are checked against the patient's

- genetics, and the physician is alerted before the prescription is finished.
- Whenever a serious, actionable condition is detected, the physician receives an alert.

#### A Dynamic Database

As Dr. Ury notes, genomic testing is not a static, "one and done" process. As genetic technology advances and new drugs come onto the market, ActX continues to keep up with each patient's profile and potential interactions.

"This is a dynamic database," he said, "and once we have your genetics on file, we analyze it frequently. That will automatically be updated."

#### **GENOMIC MILESTONES** Swiss biologist Friedrich Biochemist Erwin Chargaff American microbiologist A paper in "Science" by Frederick Sanger and England's Louise Joy Brown Miescher discovers nucleic publishes research that Robert Guthrie develops Mary-Claire King and colleagues publish a is born following in vitro PKU test, first preventive method of rapidly and fertilization (IVF), becoming acids, the biomolecules hints at structure of DNA Allan C. Wilson asserts that constitute DNA screening test for a genetic human and chimpanzee the first of more than 5 and its role as carrier of accurately sequencing DNA are 98.4% similar. long stretches of DNA. (deoxyribonucleic acid). genetic information. disorder in newborns. million "test tube babies." A lab in Belgium Norwegian physician Ivar Francis Crick and James Researchers Stanley California's Genentech Asbjørn Følling discovers Cohen, Herbert Boyer, completes first becomes first biotech company D. Watson describe the phenylketonuria (PKU), and Paul Berg pioneer genomic sequence, of to express a human gene double-helix structure which can cause severe of DNA in a one-page the first recombinant bacteriophage MS2, a in bacteria, producing the disability in children. DNA molecules. single-stranded RNA virus. hormone somatostatin. article in "Nature."

So, just how likely is it that genetic profile data will have an impact on an individual's medical treatment? A lot more than one might think.

About 3% of the population, Dr. Ury said, has what is considered an actionable risk — a genetic variant that can be addressed through some combination of preventive screening, medication, and lifestyle changes. But a staggering 90% of the population, he added, has a genetic variant that can signal a potentially harmful drug-genomic interaction. And people have, on average, six such medications that could be contraindicated: The medication may simply not work, or it could cause serious harm.

Naturally, the importance of those statistics grows as we age, since many people begin taking medication for one or more conditions as they grow older.

"Think of it as avoiding trial and error on medications," Dr. Ury said.

#### On the Edge of Tomorrow

In the 25 centuries since Hippocrates of Kos first proposed natural explanations for human diseases, science

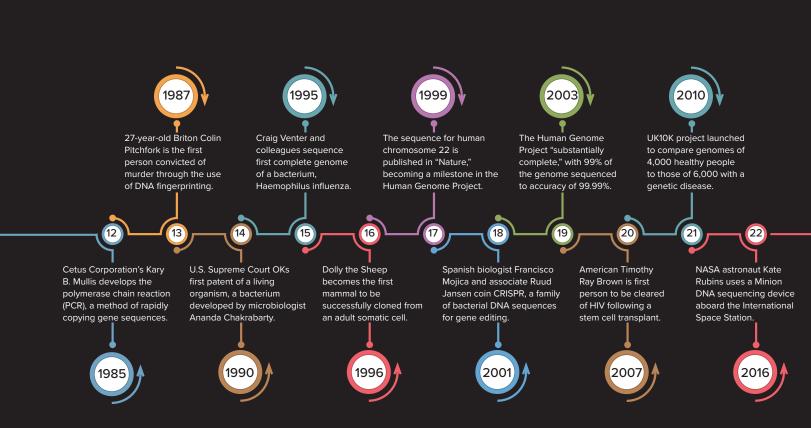
has steadily gained ground in the quest to answer the most critical questions about human life and death. Nowhere is that more evident than in genetics.

After all, the announced completion of the Human Genome Project on April 14, 2003, came almost exactly 50 years after the day that Francis Crick and James D. Watson described the double-helix structure of deoxyribonucleic acid in a one-page article in "Nature." That's a mere blink of the eye in the course of human evolution.

Human knowledge continues to grow, and is as remarkable as the technological and medical advances that have resulted from that knowledge. But we should continue to heed the voices of caution. As Steven Monroe Lipkin writes in "The Age of Geneticism": "Genetic medicine's goals are to make more precise evaluations of disease risk, a concept embedded in probability, not certainty."

Lipkin's advice is directed to patients, but providers and the general public should also take note. The wonders of medical and genetic science must advance hand-in-hand with the caring touch, good judgment, and foundational ethics that have always marked the medical arts.

Integration with ActX is available in eClinicalWorks V11 and will be in general release by the end of Summer 2018.



# On Track to Better Health

For most folks, tracking your health used to mean an annual physical, checking your weight and blood pressure once in

health and fitness are recording the steps they take, the stairs they climb, the calories they burn, and how long and

conditions, allowing them to connect home health monitoring devices and wearables to their healow app accounts. Healthcare providers now routinely check on their patients' vital data through the healow Hub directly within the eClinicalWorks EMR.

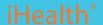
















The widespread use of health trackers overturns assumptions that older patients are less likely to embrace technology. A July 2016 article in Forbes <sup>1</sup> cited survey data compiled by Accenture that found 17% of Americans over age 65 use health trackers, nearly as high as the 20% of those under age 65 who use them. The survey also found that about half of people, regardless of age, were willing to use a tracker.

For some patients, there are clinically important reasons to do so. Over three months in the summer of 2015, Grove Medical Associates in Auburn, Massachusetts monitored the health habits of a group of patients using tracking devices from iHealth and Withings.

Patients began to learn new habits, incorporating physicians' advice about diet, health and exercise into their daily lives. For one patient, Jim, daily blood pressure monitoring may have saved his life. One morning, he awoke in a sweat, with pain in his left arm. After taking his blood pressure twice and getting alarmingly high readings, his wife insisted he go to the doctor, where they confirmed a mild heart attack.

Fortunately, medication and dietary and lifestyle changes helped Jim recover. And it led him to encourage friends to use health trackers.



The critical question, of course, is whether all this tracking and data are really improving our health. For someone like Jim and his fellow Grove Medical patients the answer is a resounding yes.

For others, the answer depends upon the quality of the devices they use, and how consistently they use them. Studies of the effectiveness of health trackers have been inconclusive, experts say, because of small sample sizes and the fact that some users don't stick with the devices long enough to produce meaningful results.

But rapid advances in technology mean that newer devices coming onto the market — along with the latest versions of existing devices — are capturing more and better data than ever before. What's more, companies such as eClinicalWorks are making it easy to integrate that data directly into the patient's health record.

The bottom line? Consumers should stick with tracking. With the rapid advances in technology, the devices are becoming more valuable for patients and doctors.

Patients who are recovering from a heart attack or dealing with a chronic condition may see the most immediate benefits, helping them stay healthier longer. But for millions of others in good health, apps and trackers are building awareness, helping form good health habits, and preventing illness.

Either way, that's a pretty good track to be on. ■







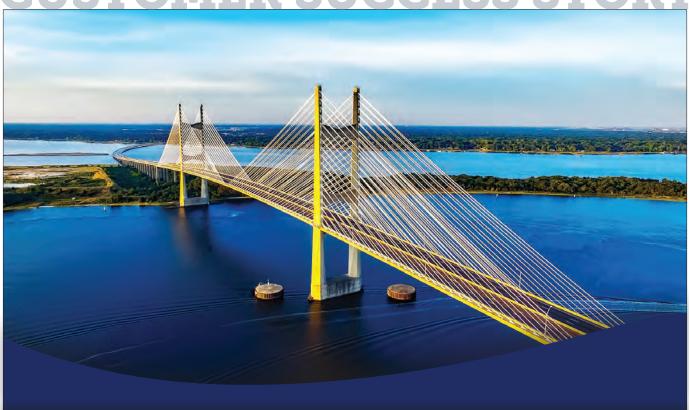






eClinicalWorks

# CUSTOMER SUCCESS STORY



#### RAINBOW PEDIATRIC CENTER

USING TELEVISITS FOR ADHD PATIENTS

#### The Challenge

The staff at Rainbow Pediatric
Center in Jacksonville, Florida had
noticed that some patients were
having trouble getting to their
appointments, particularly children
with Attention Deficit Hyperactivity
Disorder (ADHD), many of whom had
appointments every three months.
Given increasingly busy family
schedules, the practice needed a
way to better serve families while
maintaining standards of care.

#### The Solution

Rainbow Pediatric Center
decided to offer ADHD patients
and their parents a three-month
trial campaign using the healow
telemedicine solution, TeleVisits.
Where medically appropriate,
patients and their parents could
conduct a remote visit, thus
reducing the need to take time
off from school and/or work to
physically travel to the office every
three months.

#### The Results

After just one month with TeleVisits, Rainbow Pediatric Center saw a 60% improvement in compliance among ADHD patients. Dr. Prasanthi Reddy estimates that 80% of her patients are now actively engaged through the Patient Portal. She has added electronic prescribing to offer additional convenience, and intends to extend the use of TeleVisits to other areas of the practice.

#### Growing as Their Patients Grow

When she founded Rainbow Pediatric Center (RPC) in 2004, Dr. Prasanthi Reddy's goal was to engage the community by offering comprehensive, quality medical care to children, and doing so with a holistic approach. Nearly 15 years later, with two locations



Dr. Prasanthi Reddy

and eight providers, Dr. Reddy is confident she has achieved her original purpose.

"We're now seeing families refer other families to us, and it's wonderful to see kids that I took care of 15 years ago who were teenagers now bringing their kids to us," Dr. Reddy said.

"That's the best compliment that we can get."

But technology and lifestyles change over time. Today's patients are busier and more tech-savvy than ever. With the wide availability of smartphones and the Internet, Rainbow Pediatric Center has put more and more of the power of eClinicalWorks to use.

#### How eClinicalWorks Is Helping

"eClinicalWorks is user friendly," Dr. Reddy said. "It's easy for new providers who come on to learn how to use the system, and there are lots of bells and whistles. I can choose to use them, or keep it simple. Through the years as we've changed and incorporated different services into our practice, I was very happy to find that my EMR already has all of that built into it."

For example, Dr. Reddy's colleague Dr. Jorge Rivera does allergy testing, and RPC staff were excited to discover that the eClinicalWorks EHR has an allergy and immunology module.

"We are currently working on connectivity with labs right now, to get interfacing," Dr. Reddy added. "And I was excited about being able to prescribe controlled substances electronically — that's big for families with ADHD. It evolves as our needs grow. I haven't had an issue where I had something that needs to get done and eClinicalWorks couldn't make that happen for me."



As Rainbow Pediatric Center has continued to expand its services, providers have been pleased to find eClinicalWorks offers them all the functionality they need, such as the allergy and immunology module.

# Telemedicine for ADHD Compliance

It is no surprise, then, that Rainbow Pediatric Center would turn to healow TeleVisits to better meet patients' needs.

Dr. Reddy and her staff had noticed that compliance with appointments and medication routines had begun to lag among ADHD patients, many of whom were required to visit the office every three months. She and Jocelyn Restrepo, a pediatric nurse practitioner, called the families of all ADHD patients and encouraged them to participate in a three-month trial of TeleVisits.

"We said 'Let's give it a try, let's see how you feel about it," Dr. Reddy said.

Patients agreed. And once they had tried TeleVisits, they loved it.

Dr. Reddy said that one parent who normally drives about an hour-and-a-half to bring her child to the office loves the convenience of TeleVisits, and encouraged RPC to continue using them. She said it was saving her three hours every three months and was obviously the wave of the future.

"That just gave us the motivation to continue on," Dr. Reddy said. "It was amazing to see the compliance improved by about 60% just in the first month alone. Parents would be in the middle of a soccer game, and say 'I just pulled my child out so you can talk to him for a little bit.' We could see the kids were very excited about it, too, saying 'Hey, my doctor is on the computer screen!"

#### **CUSTOMER SUCCESS STORY**

# Maintaining the Standard of Care

One of the reasons that we chose our ADHD patients," Restrepo said, "is because most of the visit is conversational. A lot of what we do is

assessing how the patient is doing in school, are they having any side effects with the medication, how do the parents feel, how does the child feel, what is the feedback they are getting from teachers?"

At the same time, RPC recognized that there could be no relaxation in the standard of care they provide.

"You might screen a patient using TeleVisits and say, 'You know, I can take a look at your child and talk you through it, but if there's a more extensive physical that needs to be done, then we'll invite you in," Dr. Reddy said.

"They still need to come into the office a few times a year," Restrepo said. "We need to check blood pressure and weight. There are standards of care that we need to follow. But your typical follow-up visits do not need to be addressed in the office necessarily, because you don't need to do a physical exam each time.

Having the option for parents to download an app on their phone, pick up their kid from school, and do the visit in a car — maybe before they even leave the pickup line — well, that is just really great!"

# Convenience and Accessibility

The importance of a successful implementation of TeleVisits — or any other technology — should not obscure its significance as an extension of the quality of care that Rainbow Pediatric Center already provides. New tools do not replace, but instead add value to

Dr. Reddy herself sees the integration of technology as another opportunity to extend the philosophy that informs the entire practice.

the time-honored practice of quality medicine.

Lisa Badz, the mother of Logan and Lola, both of whom have ADHD, recognizes that TeleVisits will be an extremely convenient tool for her family. But the real reason she

has taken her children to Rainbow Pediatric Center for many years is Dr. Reddy herself.

"I trust her with my children, and she's really a wonderful provider," Badz said. "She's been very knowledgeable about explaining the whole process with children who have ADHD. We started out by first communicating with all the teachers in their schools, to see exactly where the children were on the scale of ADHD. Then we met with her and came up with a plan."

Dr. Reddy herself sees the integration of technology as another opportunity to extend the philosophy that informs the entire practice.

"Especially in pediatrics, it's really important for parents to know that your doctor is available to you 24/7," she said. "That fact alone gives them peace of mind, especially if you're a new parent with a new baby. Every little thing might be concerning to you. We give them guidance at the first newborn visit, that these are the things to



After a three-month trial of healow TeleVisits, providers and patients at Rainbow Pediatric Center agreed telemedicine makes good sense for ADHD patients — and could be applied to others in the future.

#### CUSTOMER SUCCESS STORY

Behavior is not going to change with one or two reminders. It's got to be something consistent. Once they see the value in it, they're hooked. So, that's the trick. It's all about the reinforcement.

— Dr. Prasanthi Reddy

watch out for, these are the things that you should be worried about, and these are the things that you will see that are normal. Even then they get worried, but that's OK. We tell them to call us after hours, there's always a doctor on call."

#### Taking the Next Step

Even with that strong, traditional foundation in place for her practice, Dr. Reddy recognizes that successfully integrating new technologies requires fresh thinking about how to engage patients and help them succeed with new tools.

"Behavior is not going to change with one or two reminders," she said. "It's got to be something consistent. Once they see the value in it, they're hooked. So, that's the trick. It's all about the reinforcement."

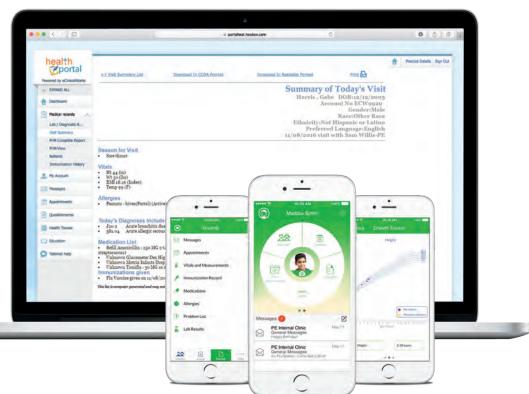
> Staff at Rainbow Pediatric Center have focused on educating and training parents in the use of Patient Portal and the healow Kids app to achieve greater efficiency in the office and improved satisfaction among their patients.

When parents arrive for regular checkups for their four-month-old children, for example, they are given a packet of information about the healow apps and Patient Portal, and staff make sure the parents have successfully used both. Vaccine information, as well as information sheets from Bright Futures, with a wealth of health and nutrition material for new parents, are made available through the Patient Portal.

That persistent, hands-on approach takes time and effort on the part of all eight providers at Rainbow Pediatric Center, who have also made good use of social media to spread the word about all they have to offer. Those efforts are paying off, with what Dr. Reddy estimates to be at least 80% of the practice's patients now making use of Patient Portal.

#### A True Healthcare IT Partner

"We've been focusing on our ADHD patients with the virtual visits," Restrepo said. "That's been a big project. But in the future I definitely think that we'll consider using telemedicine for other visits. We've got the asthma



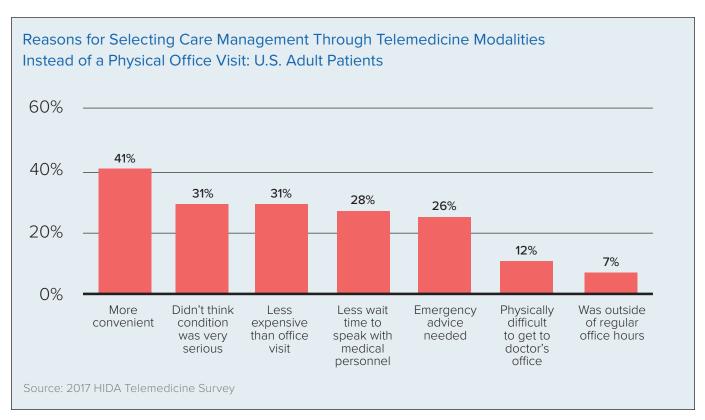
#### CUSTOMER SUCCESS STORY

clinic. We've got a concussion clinic that we're opening up. And the breastfeeding program. So, eClinicalWorks has been a great asset for us in all of these endeavors that we're beginning."

"I think eClinicalWorks has been a great EHR," Restrepo added. "I've used a few different EMR vendors in previous jobs, hospital settings and outpatient settings, and really eClinicalWorks has been great."

Dr. Reddy agrees that technology — and eClinical-Works — will play an ever larger role at Rainbow Pediatric Center in the years ahead, with Tele-Visits being extended to patients with behavioral health issues, including anxiety and depression.

"You can't practice the same way that you practiced 20 years ago," she said. "We were always paperless, we have always been electronic, but through the years we have just been more active in engaging patients through social media, through the Patient Portal, making sure they're more involved. eClinicalWorks is a great partner. I've had nothing but support from them, and it's nice because if I have concerns, or questions or ideas, I feel like I can approach them, and I will be heard. And I don't think that can be said of a lot of EMRs out there."



Patients say the top reason for using telemedicine is convenience. Even patients who currently do not use telemedicine identify it as a leading benefit. Nearly 30 percent said telemedicine offered shorter waiting times for speaking to medical personnel.

HIDA's research indicates that patients planned to increase their use of telemedicine in 2017 and beyond, with a majority saying they plan to replace more than half of traditional office visits with telemedicine over the next three years. Additionally, offering telemedicine can increase total physician visits, according to an analysis from the RAND Corporation.

# A Day in the Life of...

Product Analyst Merlin Mathew



Have you ever wondered what it's like for our employees, doing their day-to-day work? We certainly have. So we took to the eClinicalWorks streets and interviewed one of our product analysts, Merlin Mathew, about her life at eCW.

#### WHAT IS YOUR JOB?

I'm a Product Analyst on the Patient Engagement team, based in New York City.

## HOW LONG HAVE YOU BEEN WITH ECLINICALWORKS?

Nine years! Since May 2009.

#### WHAT DO YOU LOVE ABOUT YOUR JOB? AND WHAT'S A TYPICAL DAY LIKE?

It's always challenging and different, and I work with a great team. Our customers are everywhere and anywhere that eClinicalWorks is in use, domestically and internationally. But I'm more on the back end. I'm the person who comes up with the requirements and changes, works with the developers, does product testing, and trains internal folks.

One day it could be working with the developers, and another writing out technical specifications. I like that, because I don't like monotony. But one thing for sure — the day always starts with coffee. Usually a mid-roast. And I prefer Colombian!

## WHAT LED YOU TO ECLINICALWORKS?

My background is in biomedical engineering, but I've always grown up with the need to help people. I love to travel, and go on mission trips. I love seeing there's a need to help people, and being able to make a difference, whether it's using Messenger to help practices reach out to their patients, or going to the Philippines to help people. I try to bring that to what I do day to day.

## HOW DO YOU AND YOUR TEAM HELP PRACTICES SUCCEED?

The first thing is to make sure they're using Messenger. But then, really understanding their workflows, and how they use eClinicalWorks. Because each practice is a little different. And for me, someone who is behind the scenes, it's also keeping up with what's going on in medicine. What are the latest epidemics? What's trending in medicine? What new screenings are available? My dream growing up was to find a cure for cancer. But life took me in a different direction, and I love it. Now, I can't imagine being in a lab every day!



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