

Use case 19 – On the Road to Cancer Care 2020

We operate in an increasingly complex and intricate field – medicine. And while this was perhaps an extreme example, if we're all a little honest, we can see a bit of our own experiences in my story. Fear of navigating the U.S. medical system. Confusion. Senseless redundancies. All of them create stress and worsen patient outcomes. My name is Felecia Martin. I am 33 years old and a resident of Philadelphia. You've sort of met me already [*gesture to video monitor*], but now I want to invite you to take a little time-travel walk with me and see what my story looks like instead in the year 2020, a time where the vision for healthcare technology goes beyond individual components and competencies. It is a time where healthcare technology can harness the unique abilities of large data repositories, research and development, and consumer product innovators, centered on a platform that's foundation is patient-centered information.

During my pregnancy, I received a lot of support from my health insurance company and I frequently visited the Independence Blue Cross member portal to check my co-pay and benefits. I was also enrolled in BabyBluePrints pregnancy care management through Independence, which provided me with a personal registered-nurse health coach who assisted me throughout my pregnancy.

I visited my Ob-Gyn at Aria-Jefferson Health for my normal postpartum follow-up appointment to check on the pre-eclampsia I experienced during my pregnancy. My obstetrician found something unexpected during my visit; she discovered a suspicious lump in my breast. Because I had recently given birth, I expected my body to undergo some drastic changes, and I didn't notice the lump myself. Needless to say, I was extremely alarmed and worried. Luckily, my doctor had access to my medical history and my family history, and she reminded me that because my mother had breast cancer, my own risk of breast cancer was higher. I was able to have a mammogram then and there, in the same visit. After reviewing the mammogram, she recommended that I schedule a biopsy of the breast mass..

[NextGen comments here, shows ambulatory EMR, shows the visit workflow, closes encounter - C-CDA pushed to Mirth Results CDR via xds.b, talks about claims data is sent to the payer.]

My doctor also informed me that because my blood pressure was still high due to my pre-eclampsia, that my risk of having a stroke was increased. To help me learn about the signs and symptoms of stroke, my doctor recommended an educational video for me. My encounter information triggered the health system's and payer's connected health platforms and by the time I left the office, I received a notification on my app alerting me to watch the video. Let's take a look at a snippet of one of those videos right now [*cue video*]

During the few days in which I was trying to decide which center to go to for my biopsy and my possible cancer assessment, I had an accident at home in which I fell. On the ambulance ride to the Penn Medicine ER, I lamented the fact that I would have to relay my tumultuous medical history to these new doctors, but, interestingly enough, the emergency department at Penn Medicine was able to access a complete summary of my clinical history and medical status, which was great because it saved me a lot of time and explaining. I had already learned about Philadelphia's health information exchange, HealthShare Exchange, which now was able to facilitate the sharing of my health information between my Ob-Gyn at Jefferson and the ED at Penn Medicine — just when I needed it most.

[EPIC -Penn]: CAH push into Epic Care Everywhere and XCA query retrieve from the CDR)]

It seemed that the worst that I had experienced that day was a sprained left wrist. What's much more important, though, is because the emergency department had access to my clinical history, the team there was aware of my Ob's assessment of the suspicious lump in my breast. The ED team suggested that I have a consultation with Dr. Mitchell, a surgeon by training, who happened to be a leader in precision-medicine-centered oncology care in Philadelphia.

Dr. Mitchell and the genetic counselors with whom he worked made me feel confident that they had a full understanding of my health status, and they arranged for the biopsy. I consented to — if necessary — having my tissue sample sent to NantHealth, the genomic analytics company that provides molecular profiling, with the possibility of matching me to an immunologic-based therapy in the event the results of the biopsy came back positive. I was initially worried about the cost of enrolling in this type of

evaluation and care, so I pulled up the Independence Blue Cross app on my phone to check my coverage. Seeing this, Dr. Mitchell also accessed a system called Navinet in his office and confirmed that Independence covered my treatment regimen. I left my appointment feeling like I had a concrete plan, and I knew what to expect both financially and clinically.

[EndoSoft EHR – XDS.b query for patient information from HIE, Demo EHR workflow | Show IBC App | Show Navinet Portal | Close encounter in EndoSoft]

Two weeks later I was diagnosed with triple negative breast cancer and soon thereafter I underwent surgery. Dr. Mitchell and his team sent the tissue from my surgery to NantHealth.

Thanks to Dr. Mitchell's future thinking, my NantHealth GPS Cancer Report was already part of my medical record when I came for my follow-up appointment. This analysis recommended available treatments based on my cancer type and its molecular profile. Dr. Mitchell and the geneticists explained that they were going to recommend a treatment option that might allow me to avoid traditional chemotherapy, based on the GPS Cancer results. As he went to order my medication in the EHR, an alert popped up showing him that, based on my GPS Cancer Report, another immunotherapy drug would be a more effective choice. The team decided to enroll me in a Stage 3 clinical trial for an immunologic-based therapy as an alternative adjuvant treatment for my type of cancer.

[EndoSoft receives the NantHealth GPS report via direct and the report is automatically attached to the patient record | Cloudmine alerts is send to EndoSoft]

As the working mother of a newborn, and being diagnosed with breast cancer, my ongoing appointments and scans — for both postnatal and oncology care — took up a lot of time and organization during this period. HSX's platform through Mirth and Cloudmine, made accessing my records, tests, and everything much easier for my medical team, as I shuttled between doctors' offices at different health systems. The Independence Connected Health Platform helped me access with my records and my care team. Combined, the HSX and Independence platforms were even able to facilitate the data sharing for my telemedicine appointments with my primary care physician. My oncology appointments were always in person, so it was a big plus to know that Independence

covered scheduled telemedicine visits with my primary care physician so she could check in with me regularly, without disrupting my daily schedule, especially on days I was too sick to leave the house.

So . . . After all that . . . Fast forward to today. If I look healthy and happy to you, it's because I am! My treatment went smoothly. I am now the healthy mother of a beautiful infant who is the center of my world and the light of my life. I am in complete remission from cancer due to the remarkably targeted cutting-edge, personalized treatment that I received — all supported by robust information exchange, interoperating throughout from the various healthcare entities invested in my care course. This connected, cohesive, and patient-centered health experience was truly amazing. The advances in care and technology minimized the stress on me and, most importantly, have left my body cancer free.