





SERVICE BLUEPRINTS

How to read the Service Blueprints

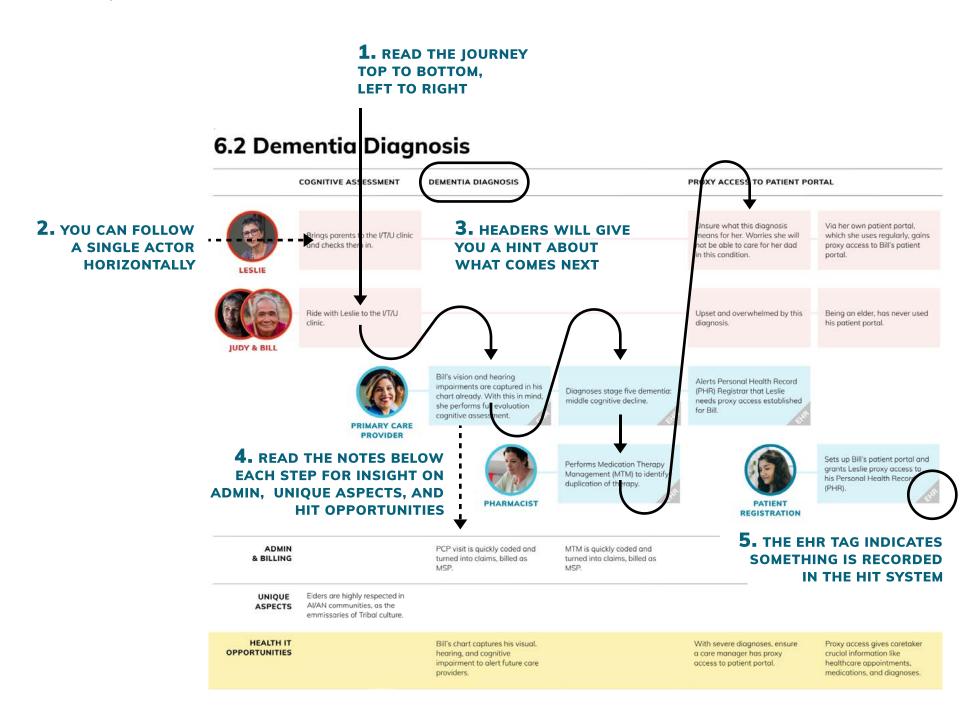
The journeys in this report present seven stories of patients and caretakers receiving care in adverse circumstances. The purpose is to convey stories that, read collectively, paint a dynamic and encompassing picture of the varying needs of the Al/AN population and IHS staff when it comes to health services.

These are composite experiences of real people and the processes they engage in to seek and provide care. Examples of regulations and reporting requirements are pulled from interviews and Subject Matter Experts.

However, these represent a "happy path" from an IT perspective. While retaining real challenges in the landscape such as ruralness and lack of connectivity, IT solutions are added to the stories to illustrate how IHS might service existing needs with modern solutions. These solutions are not meant to be prescriptive. They are simply examples of how Health IT can improve care. Solution-agnostic use cases are listed at the end of this report.

How the Stories Were Crafted

The HCD team selected stories based on patient's health disparities for Al/AN patients. The sequence of events was crafted to highlight Health IT opportunities and unique aspects of I/T/U that can be affected positively by Health IT opportunities as comprehensively as possible. Many health disparities and health outcomes were left out due to scope and to whether it covered a variety of Health IT opportunities. Workshops with team members from the Health IT Modernization project, HHS and the IHS were conducted to ensure the right opportunities were being highlighted based on experience and discovery conducted by many of those team members.



JOURNEY 1: HIGH-RISK PREGNANCY

CHRISTINA'S JOURNEY

Christina lives in a remote area of a reservation. She becomes pregnant, and later discovers she has preeclampsia.

TRIBAL FACILITY MEDICAID TELEHEALTH PRIVATE FACILITY TRANSPORTATION

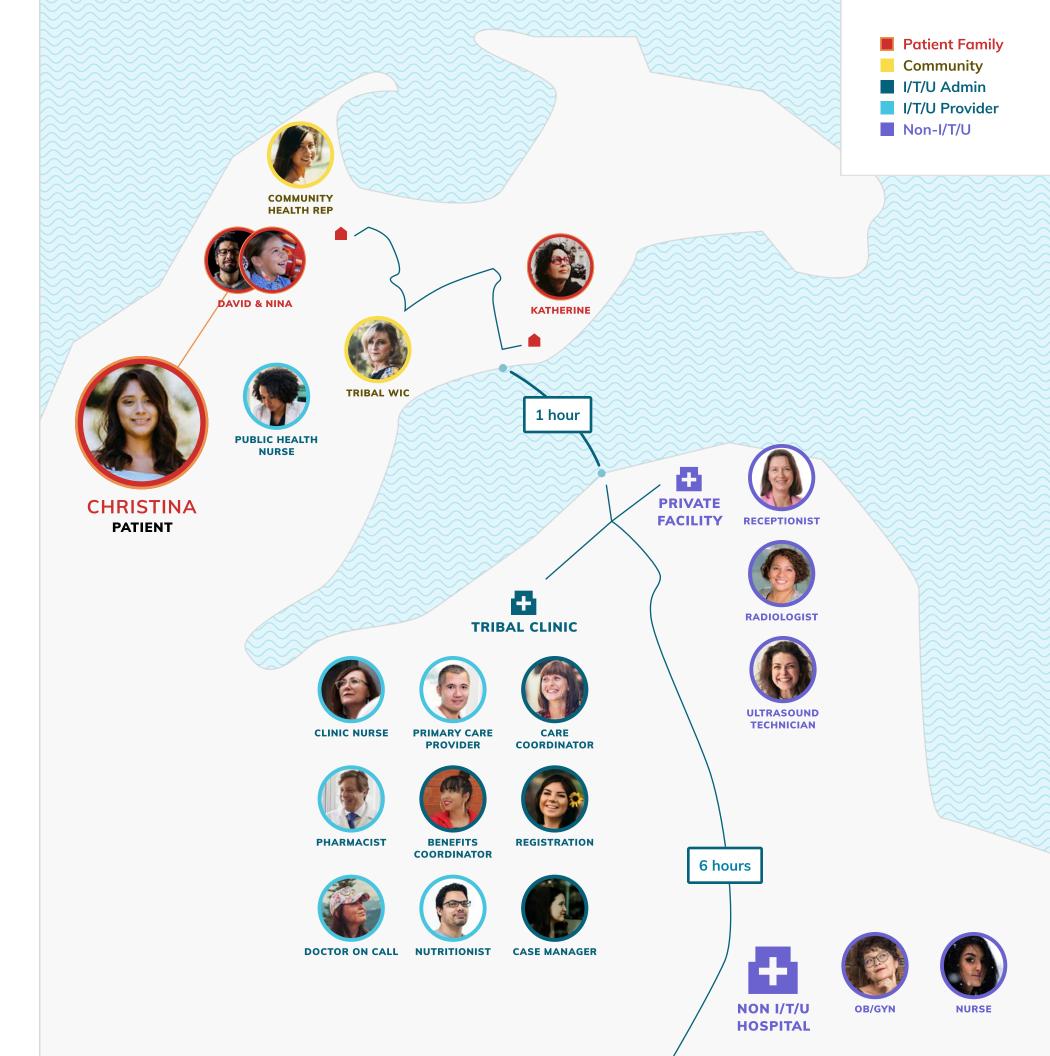
COMMUNITY EXTERNAL REFERRAL REMOTE MONITORING HOME CARE PREGNANCY AND DELIVERY

Christina's Background

Christina and her husband David live in a very remote area of the reservation. There is no cell phone service where they live, so they frequently visit Christina's aunt, Katherine, to use her phone.

David's child Nina, Christina's stepchild, lives with them. David and Christina share a car, and they both work at a local restaurant.

Christina's Primary Care Provider has been treating her since her birth, and he has treated many of her family members as well.



1.1 Christina goes to clinic to test for pregnancy

POSSIBLE PREGNANCY

SCHEDULING AND CHECK-IN

MEDICAID ENROLLMENT



CHRISTINA

Realize they might be pregnant. Go to the tribal clinic because there are no pharmacies nearby to get a pregnancy test. Call the facility using Katherine's phone to schedule an appointment, and check in at a private kiosk upon arrival. Christina adds Katherine and David as alternate contacts, knowing that it is hard to reach her at home.

Christina enters updated information and indicates that she does not have insurance.

Christina shares personal information, such as salary, home address, and living situation.

Christina understands the importance of Medicaid, how to apply, and how to track the status of her application.



Babysits Nina while Christina and David are at the clinic.



Alerted that Christina does not have insurance. Finds Christina in the waiting room to see if she qualifies for Medicaid. Determines Christina is a Medicaid candidate. Begins her application, and explains how to complete it and track its status online.



Schedules Christina's appointment for later in the day.

ADMIN & BILLING

Flagging for insurance is important to save IHS and PRC funds.

IHS is the "payer of last resort," so I/T/U facilities must rely on third-party payers for funding.

UNIQUE ASPECTS In rural environments, patients often travel long distances for most services, and rely on family for support. In small communities, the local clinic may employ family and friends.

Alternative means of contacting patients is crucial in rural areas.

HEALTH IT OPPORTUNITIES

A private check-in process is good for patients who do not want to disclose their medical information to I/T/U staff they may know. Check-in is an opportunity to ensure there is valid contact information, plus backup contacts.

1.2 Medical encounter

PREGNANT ENTERS NOTES NURSE ASSESSMENT PCP CONSULT Called by the nurse. Enter the Visibly happy to learn that they Christina discloses her mother's examination room. are pregnant. history of preeclampsia. **CHRISTINA**



Uses standing order to test for pregnancy.

Screens Christina for depression, tobacco use, and substance abuse. (Chooses not to screen for domestic violence while her husband is present.

Collects vitals and a urine sample to test if Christina is pregnant.

Notes and pregnancy test results are immediately available for the doctor to see.



Reviews and authenticates the standing order after the fact.

Reviews the nurse's assessment before entering the room with Christina and David.

Delivers the news that Christina and David are pregnant.

Interviews Christina and David about their families' relevant medical histories. Learns of history of preeclampsia.

ADMIN & BILLING

Tracking screenings consistently is important for grant and program reporting.

UNIQUE **ASPECTS**

OPPORTUNITIES

HEALTH IT Standing orders in accordance with facility policies allow nurses to test patients before the doctor sees them.

Appropriate screenings are surfaced for this engagement. Links to reporting to measure

effectiveness on a population

level.

Measurements can be recorded directly into the patient's chart from medical devices to save time and avoid user error.

Encounters are best spent fully engaged, so doctors should read the chart before seeing the patient.

1.2 Medical encounter (cont'd)

OPPORTUNITIES

to enter notes more seamlessly.

component in the system to ensure standard practices every

step of the way.

DOCUMENTATION PRENATAL ORDERS BLOOD SAMPLES PHARMACY PICKUP Has blood drawn. Informed that Picks up vitamins from Speaks with nutritionist about their results will be ready in a pharmacy. prenatal health. few days. Collects blood samples for Christina's labs and submits them to a laboratory outside of the Tribal facility. **CLINIC NURSE** Discusses prenatal nutrition Adds orders for prenatal Knowing risk for preeclampsia, Wraps up notes within the EHR with Christina. Recommends vitamins, ultrasound, and labs, recommends simple diet during the time allotted using simple recipes, prioritizing food changes to help with blood and alerts their Care voice-activated documentation. that is traditional and available Coordinator. pressure. in her town. **NUTRITIONIST PRIMARY CARE PROVIDER** Dispenses prenatal vitamins. Immediate access to order for Arranges future medication prenatal vitamins. deliveries by mail order. **PHARMACIST** ADMIN Codes are suggested so visit can Prescription and delivery can be & BILLING be quickly coded and turned into quickly coded and turned into claims for Medicaid. claims for Medicaid. UNIQUE Remote populations need **ASPECTS** alternative ways to refill medication. Voice-to-text tools allow doctors **HEALTH IT** Doctors use a prenatal

1.3 Coordinating prenatal care

SCHEDULING NEXT STEPS ULTRASOUND HOME CHECK INS RECORD IN PATIENT PORTAL



With a child to look after, a job, and an hour-long drive to the clinic, it is a huge burden for Christina to attend prenatal visits.

Wishes to condense her trips into town to avoid missing work. David will likely need the car during these visits.

Learns that ultrasounds will have to take place outside of the clinic, which she can do nearby if she gets Medicaid. Did not realize she would need coverage when things got a bit more complicated. Wants to minimize travel into town.

Finds a time for a home visit that fits her work schedule.

Real-time access to all visit information.



Meets with Christina to set up her next steps: prenatal visits, ultrasounds, and labs. Discusses group prenatal care, where Christina meets other pregnant women in her community and shares rides to the clinic.

Reminds Christina to bring her Medicaid paperwork to the next appointment. For ultrasound, suggests a nearby private facility that accepts Medicaid

Schedules ultrasound appointment, back-to-back with prenatal care.

Sets up a few home visits with Public Health Nurse.

"Never move the patient more than you have to."



Alerted of Christina's transportation needs. Knows to contact Katherine or David if she cannot reach Christina to coordinate.



Sets up Christina's patient record based on EHR sent by the Care Coordinator and schedules her ultrasound appointment.



NURSE

Alerted of Christina's pregnancy and plans to visit her at home.

ADMIN & BILLING

UNIQUE ASPECTS Mobilizing care and bringing it into the community is convenient for patients.

HEALTH IT OPPORTUNITIES

Interoperability during scheduling means that both internal and external providers can see a complete picture.

Patient portals can give patients a record of all their encounters, and tools to take the next steps.

1.4 First trimester

MEDICAID APPLICATION

PRENATAL CARE

ADDITIONAL SCREENING



Carpools to Tribal clinic for prenatal visit. Meets other moms on the ride.

GROUP TRANSPORTATION

Brings the remaining paperwork to complete her Medicaid application.

Documents birth plan with doctor. Can access it any time in patient portal. Given resources to prepare for birth.



COMMUNITY HEALTH REP Drives Christina and rest of prenatal group to Tribal clinic.

PRIMARY CARE PROVIDER

Provides prenatal care to Christina back-to-backk with other members of the group.

Educates Christina on birthing options. Enters birth plan into EHR.

Screens her for domestic violence when David is not present.

Adds information to Christina's flow chart, which will be used from now through delivery.



Continues to babysit Nina while Christina goes to town.



Receives system update with prenatal care visit information.



Alerted that Christina does not have insurance. Finds Christina in the waiting room to see if she qualifies for Medicaid.

ADMIN & BILLING Benefits coordinators can complete Medicaid application and activate immediately.

CHR encounters and transportation can be quickly coded and turned into claims for Medicaid.

Flow chart data may allow for estimating costs for referred care.

UNIQUE CHRs are trusted members of the **ASPECTS** community.

Rural patients often need to rely on transportation provided by the facility.

HEALTH IT OPPORTUNITIES EHR can be used for agreements and plans.

System alerts Primary Care Provider that one critical screening was not completed in the initial visit.

and ability to enter notes offline.

search by author, date, keywords,

Notes are easy to scan and

etc.

1.4 First trimester (cont'd)

OPPORTUNITIES

highlighted to the provider, not

buried within the report.

data fields such as Estimated

Delivery Date (EDD) should be

automatically transferred.

TRAVELS TO ULTRASOUND FIRST ULTRASOUND **PATIENT PORTAL HOME VISITS OFFLINE EHR ACCESS COMMUNITY SUPPORT** Attends birthing classes from Experiences first ultrasound! Receives access to ultrasound Takes the afternoon off work to Still working 30 hours per week Tribal Healthcare Program with Can't believe she can see her report in patient portal after and caring for Nina. go to first ultrasound. other women from her prenatal baby. provider approval. group. Downloads Christina's patient At 16 weeks, visits Christina at chart before leaving office, and Provides ride to the private home when she is not working can view it offline and enter facility for the ultrasound. to check on her health. notes which sync back to Christina's chart later on. COMMUNITY **PUBLIC HEALTH HEALTH REP NURSE** Greets Christing, confirms medical information, and Brings Christina to birthing performs ultrasound. classes and other offerings. Radiologist reads report and submits to Tribal clinic. RECEPTIONIST ULTRASOUND RADIOLOGIST **COMMUNITY TECHNICIAN HEALTH REP** Receives updates on Christina's Receives an alert when report Calls Christina to review report. health whenever the Public is sent to Tribal clinic EHR. Health Nurse visits her at home. **PRIMARY CARE PROVIDER** External facility will bill Medicaid Each PHN encounter can be **ADMIN** quickly coded and turned into for ultrasound. & BILLING claim for Medicaid. UNIQUE **ASPECTS** Any abnormalities should be Christina's work and home life are Asynchronous updates to EHR Beyond images and text, discrete Option to release reports **HEALTH IT**

immediately or after provider

approval, per facility preference.

tracked in her chart under social

determinates of health.

1.5 Diagnosed with preeclampsia

changed with preeclamptic

diagnosis.

into the patient's EHR. Automated

readings are labeled as such.

Doctor can set parameters for

alerts.

OPPORTUNITIES

HIGH BLOOD PRESSURE PREECLAMPSIA DIAGNOSIS DIET CHANGES **FURTHER SUPPORT NEW BIRTH PLAN** At 28 weeks, sees the Public Creates new birth plan with Nervous about changes, but Health Nurse for what is Meets with nutritionist while at doctor, and it is accessible comforted to meet new care expected to be a normal immediately through her providers. checkup. patient portal. Locates a hospital that can Offers counseling and support Notes blood pressure is higher accommodate Christina's Transfers all historical prenatal given this new diagnosis. than usual. Immediately drives high-risk pregnancy and takes care information to new Assigns High-Risk Pregnancy her to the clinic. Medicaid. It is 6 hours from the hospital. Case Manager. clinic. **PUBLIC HEALTH NURSE COORDINATOR** Prescribes more rest and leave Adjusts Christina's birth plan. Sees Christina that day. Knows from work, supplies wireless Alerts Care Coordinator that family history. Diagnoses blood pressure monitor, writes Christina will need to give birth preeclampsia. note giving Katherine proxy in a hospital. Facilitates a call access to WIC. with the hospital. **PRIMARY CARE PROVIDER** Recommends simple diet Meets Christina. Educates her Alerted of new diagnosis, plans changes to help with blood on the seriousness of her to see Christina while she is in pressure. Prioritizes food that is condition and what to do if her the clinic. traditional and available in her blood pressure monitor alarm town. goes off. **NUTRITIONIST CASE MANAGER** PHN visit can be quickly coded PCP encounter can be quickly Nutritionist consult can be quickly Telehealth can be quickly coded **ADMIN** and turned into claim for coded and turned into claim for coded and turned into claim for and turned into claim for & BILLING Medicaid. Medicaid. Medicaid. Medicaid. Keeping traditional diets in mind UNIQUE is empowering and effective. **ASPECTS** Home care medical devices feed Telemedicine allows doctors and Risk stratification is automatically **HEALTH IT**

patients to communicate from

afar.

1.6 Changes at home

MOVES IN WITH KATHERINE THE FAMILY HELPS ADDITIONAL ASSISTANCE



Cannot go to work anymore, needs to take it easy and get more rest. Put on unpaid medical leave from work.

Becomes sole wage earner.

Moves in with Aunt Katherine, taking Nina with her.



Cannot take care of Nina alone.

Visits whenever possible, and learns to provide care to Christina.



Looks after Nina and Christina. Brings meals to Christina during the day, so she gets more rest.

Learns to provide care to Christina during this time.

Goes to WIC with Christina's vouchers and a doctor's note.



Informed of Christina's move. Updates her chart, and the delivery address for medication is automatically changed.



Alerted of Christina's new address. Trains Katherine and David to care for Christina on bed rest.



Knows Christina and her Aunt Katherine. With a doctor's note, Katherine can use Christina's WIC voucher.

ADMIN & BILLING

PHN consult can be quickly coded and turned into claim for Medicaid.

UNIQUE ASPECTS Patients may have several home addresses or none at all.

HEALTH IT OPPORTUNITIES

CHR is able to update patient's demographics information.

Tribal program vouchers information added to EHR.

1.7 Admitted to inpatient care

BLOOD PRESSURE ALERT

DRIVE TO CLINIC

DRIVE TO HOSPITAL



Blood pressure monitor alarm rings. Calls Case Manager.

Rides to clinic with CHR.

Takes EMS 6 hours to hospital. Comforted knowing that medical technicians are present.

Admitted to inpatient care.

Wishes her family were present. Keeps a print out of her birth plan in case she cannot communicate during birth.



Receives alert about Christina's blood pressure. Speaks with Christina on the phone. Calls CHR to pick her up.



Reads Christina's chart, measures blood pressure, deems it dangerous. Confirms with care team that Christina is in critical condition.



DAVID & NINA

Visits once, but cannot plan time off. Checks in over phone calls. Given proxy access to Christina's patient portal.



Goes immediately to Christina's house and drives her 1 hour to the clinic.



Brings Christina to her bed and checks in on her periodically.





Meets Christina as an inpatient. Reviews birth plan. Converses with her Primary Care Provider about preeclampsia diagnosis.



Notifies hospital that Christina is on her way, makes sure they can take her in. Orders ambulance to transport Christina to hospital.

ADMIN & BILLING

CHR transportation can be quickly coded and turned into claim for Medicaid.

Doctor consult can be quickly coded and turned into claim for Medicaid.

EMS transportation can be quickly coded and turned into claim for Medicaid.

UNIQUE ASPECTS

HEALTH IT OPPORTUNITIES

Take-home medical devices ensure patients know when to seek help.

Proxy access can be designated by the patient.

delivery.

1.8 Birth

GOES INTO LABOR GIVES BIRTH RETURNS HOME MOTHERHOOD Gives birth! She is able to have Begins to feel labor pains. Calls Receives reminders for a nurse. Calls David, but no a natural birth, and the baby Stays in hospital for a few days Returns home with her new post-natal visits and resources looks healthy and beautiful. She to recover. baby via hospital shuttle. answer. Texts David and available to her. Katherine. is so happy. Checks in. Ensures Christina On the floor when Christina Christina Does not develop has resources including WIC Delivers baby. Ensures goes into labor. Knows her vouchers, traditional lactation complications, so she approves Christina and baby are healthy. condition, family history, flow her discharged. counseling, and early chart, and birth plan. motherhood classes. COMMUNITY **HEALTH REP** Provides early motherhood Registers David Jr. as new Locates birthing bed for education on swaddling and patient at their 6-week Christina, carries out orders breast feeding. Monitors postnatal visit. Baby is during delivery. Christina's blood pressure. automatically on Medicaid. **REGISTRATION** Video calls Christina as soon he Because he has been the sole reads her text, after their child wage earner, unable to take Meets his son! is born. They name him David time off to visit hospital. Awaits Junior. their return! Delivery and postnatal stay to be Transportation billed to Medicaid Six-week postnatal visit billed to **ADMIN** billed to Medicaid by non-I/T/U by non-I/T/U hospital. Medicaid. & BILLING hospital. UNIQUE **ASPECTS** External facility receives instant Mother's and baby's charts are Care team is able to track **HEALTH IT OPPORTUNITIES** access to patient EHR and transmitted to their primary care educational moments, some of pregnancy flowsheet to handle which are important for quality provider.

measures.

HHS/IHS Health IT Modernization

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Sponsored by the US Department of Health and Human Services (HHS).

Developed with invaluable contributions from:

Indian Health Service (IHS) Regenstrief National Indian Health Board (NIHB) Emerging Sun

Thanks to the team at the NIHB and the IHS for their dedication and passion.

Special thanks to all staff members at IHS-run, Tribal, and Urban facilities, and patients who contributed with their time, knowledge, experience, and connections.





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