



INDIAN HEALTH SERVICE HUMAN-CENTERED DESIGN

JOURNEY 1: HIGH-RISK PREGNANCY [SECTION 3 OF 11]

SERVICE BLUEPRINTS

How to read the Service Blueprints

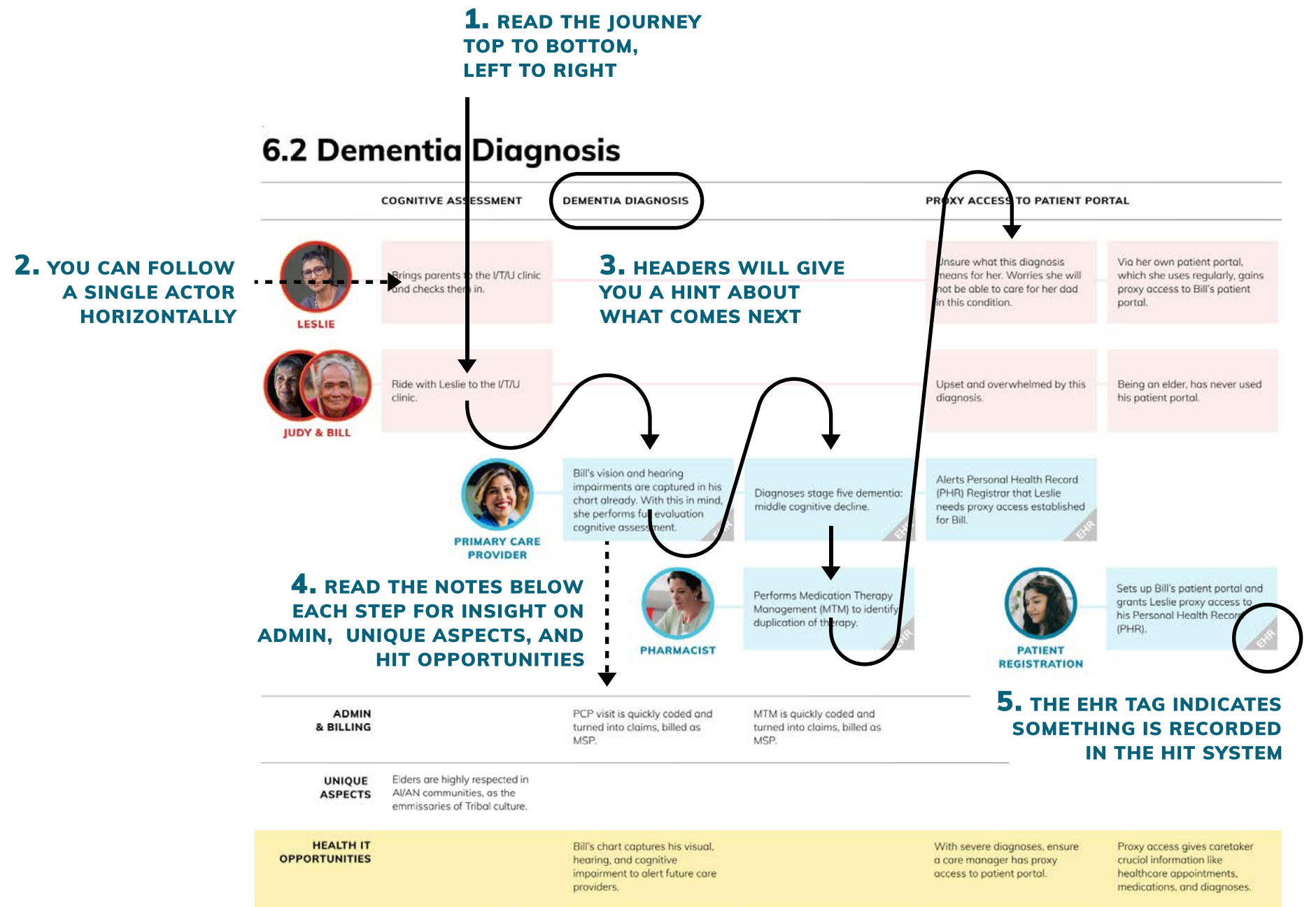
The journeys in this report present seven stories of patients and caretakers receiving care in adverse circumstances. The purpose is to convey stories that, read collectively, paint a dynamic and encompassing picture of the varying needs of the AI/AN population and IHS staff when it comes to health services.

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 AI/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

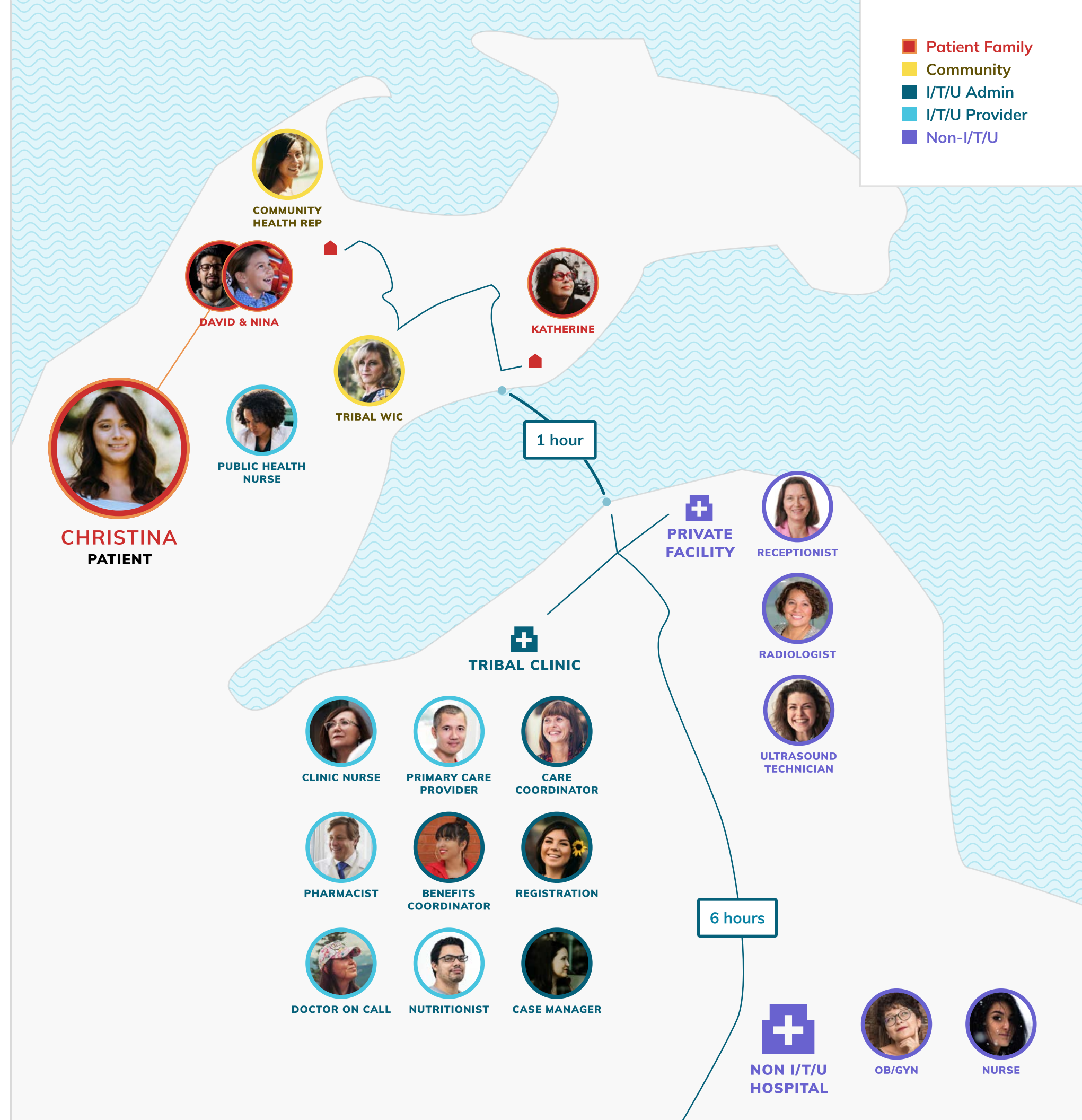
PREGNANCY AND DELIVERY

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



DAVID & 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.



KATHERINE & NINA

Babysits Nina while Christina and David are at the clinic.



BENEFITS COORDINATOR

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.



REGISTRATION

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.

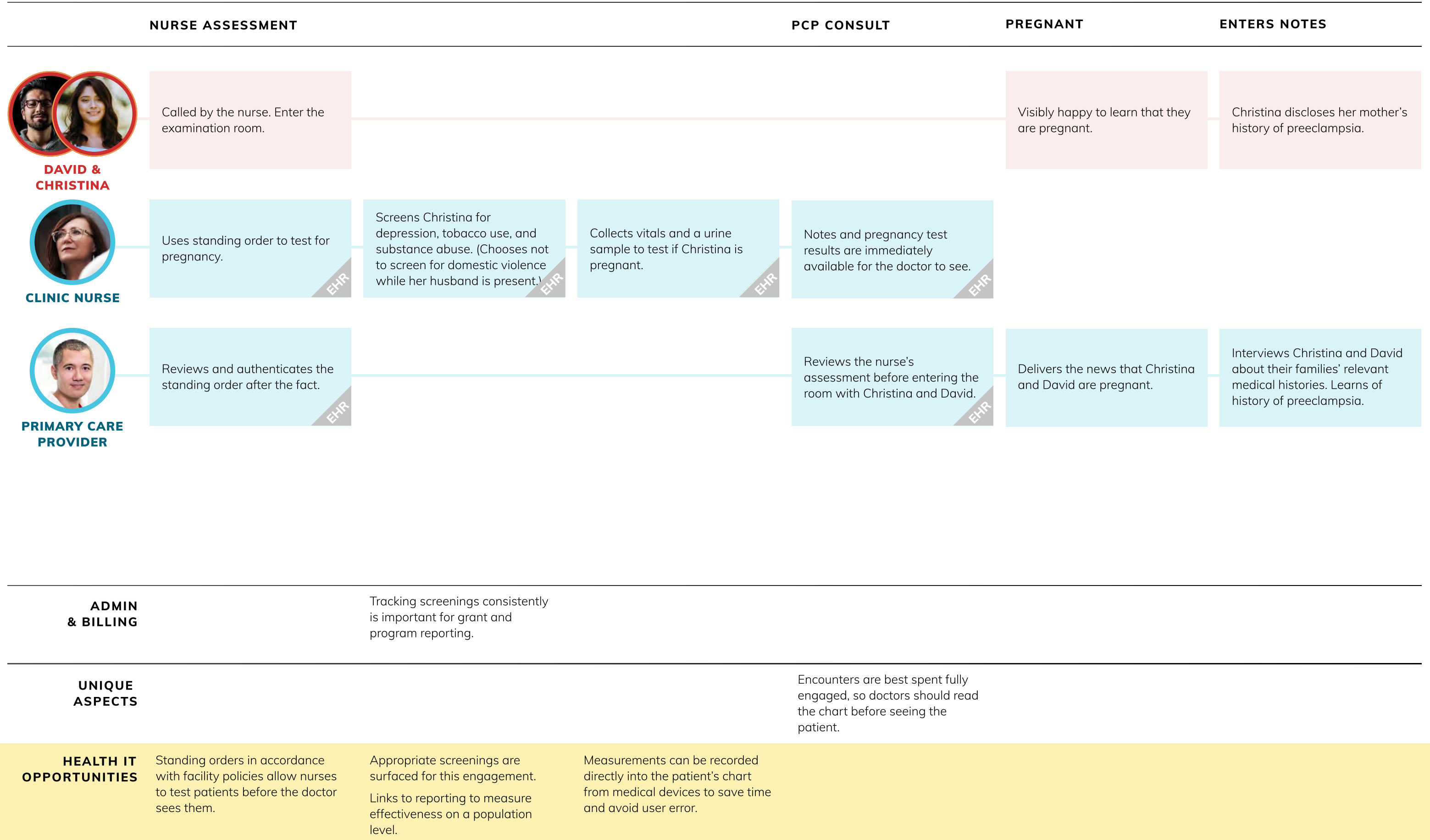
Alternative means of contacting patients is crucial in rural areas.

HEALTH IT OPPORTUNITIES

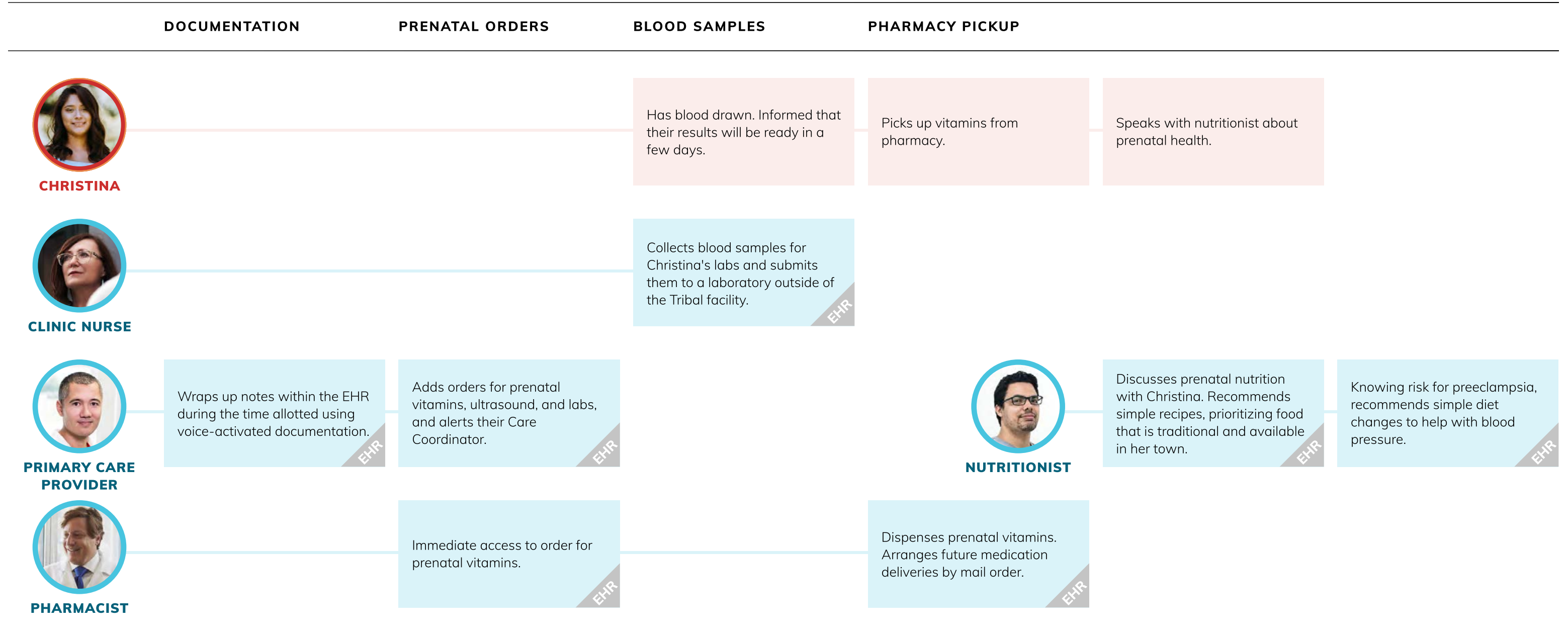
A private check-in process is good for patients who do not want to disclose their medical information to I/T/U staff they may know.

Check-in is an opportunity to ensure there is valid contact information, plus backup contacts.

1.2 Medical encounter



1.2 Medical encounter (cont'd)



ADMIN & BILLING

Codes are suggested so visit can be quickly coded and turned into claims for Medicaid.

Prescription and delivery can be quickly coded and turned into claims for Medicaid.

UNIQUE ASPECTS

Remote populations need alternative ways to refill medication.

HEALTH IT OPPORTUNITIES

Voice-to-text tools allow doctors to enter notes more seamlessly.

Doctors use a prenatal component in the system to ensure standard practices every step of the way.

1.3 Coordinating prenatal care

SCHEDULING NEXT STEPS

ULTRASOUND

HOME CHECK INS

RECORD IN PATIENT PORTAL



CHRISTINA

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.



CARE COORDINATOR

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."



COMMUNITY HEALTH REP

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



RECEPTIONIST

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



PUBLIC HEALTH NURSE

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

ADMIN & BILLING

UNIQUE ASPECTS

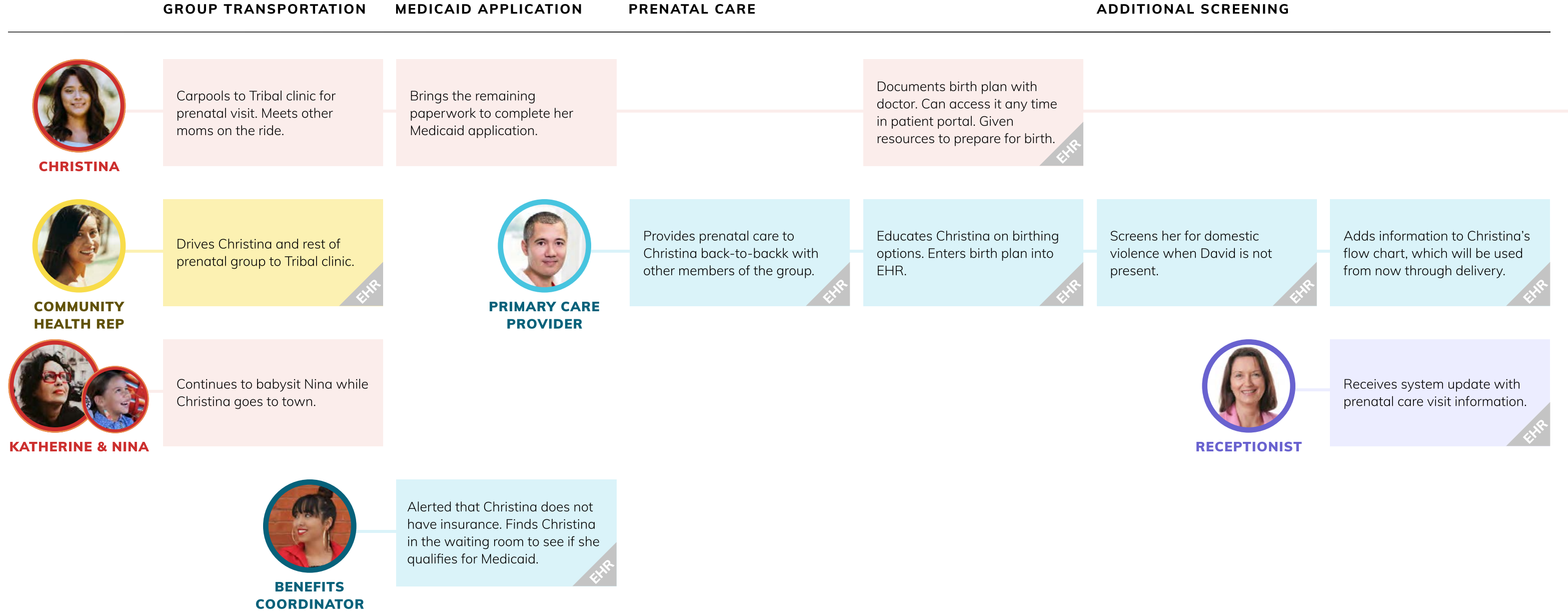
Mobilizing care and bringing it into the community is convenient for patients.

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



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 ASPECTS

CHRs are trusted members of the community.

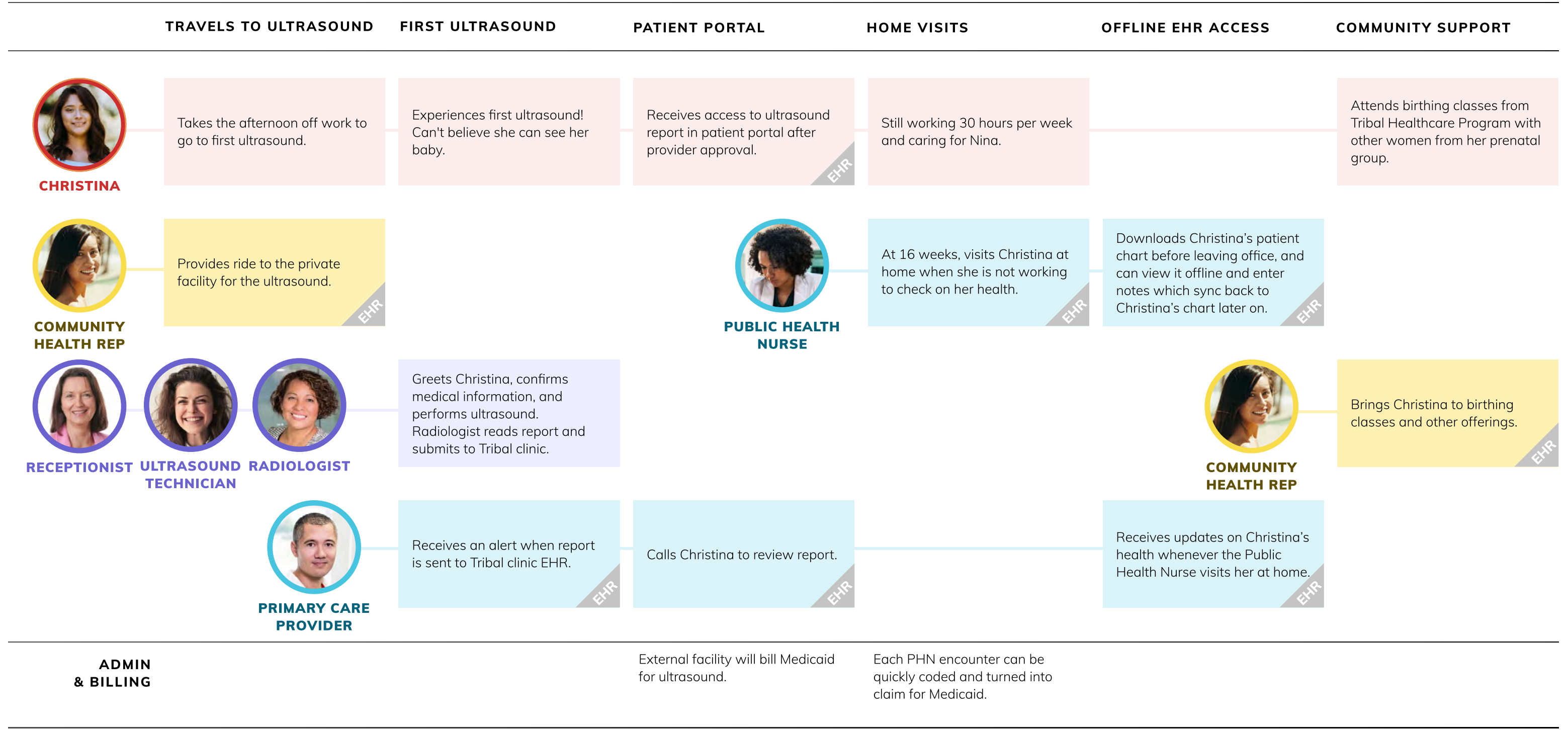
Rural patients often need to rely on transportation provided by the facility.

HEALTH IT OPPORTUNITIES

EHR can be used for agreements and plans.

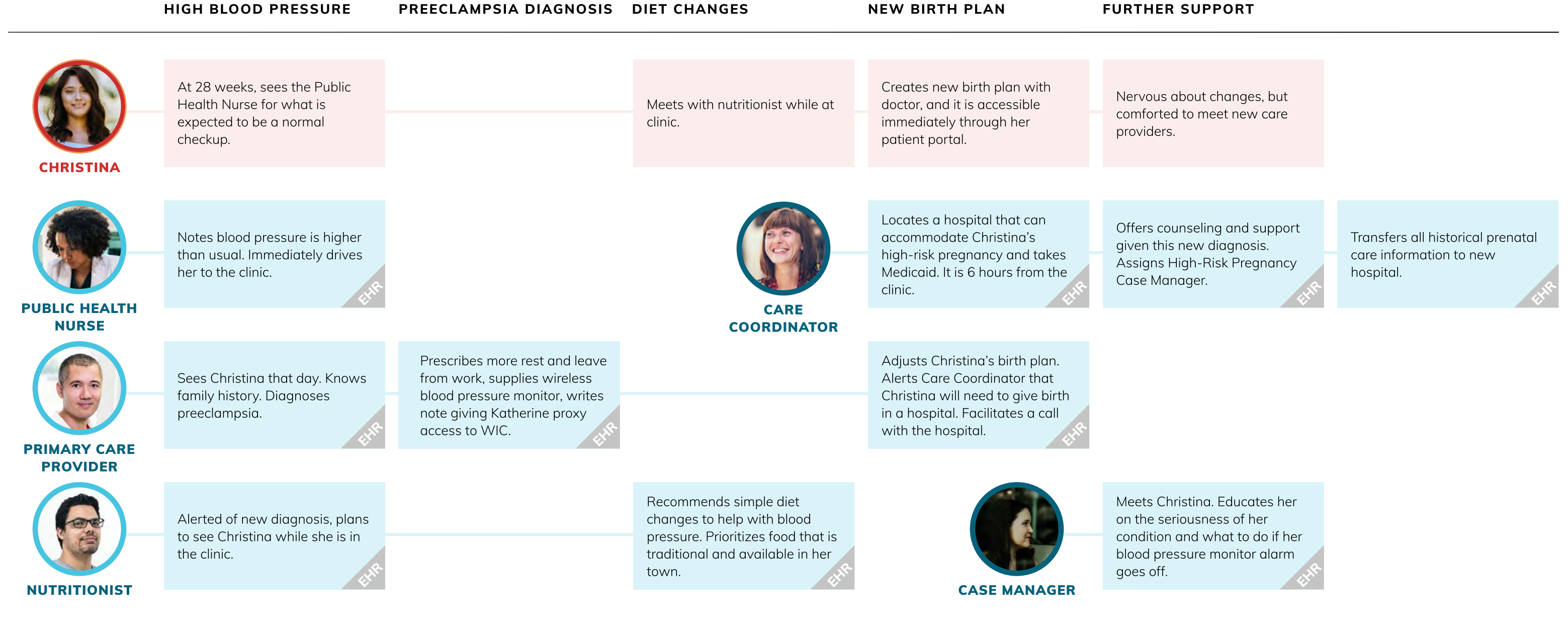
System alerts Primary Care Provider that one critical screening was not completed in the initial visit.

1.4 First trimester (cont'd)



UNIQUE ASPECTS	HEALTH IT OPPORTUNITIES
	Any abnormalities should be highlighted to the provider, not buried within the report.
	Beyond images and text, discrete data fields such as Estimated Delivery Date (EDD) should be automatically transferred.
	Option to release reports immediately or after provider approval, per facility preference.
	Christina's work and home life are tracked in her chart under social determinates of health.
	Asynchronous updates to EHR and ability to enter notes offline. Notes are easy to scan and search by author, date, keywords, etc.

1.5 Diagnosed with preeclampsia



ADMIN & BILLING

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

PCP encounter can be quickly coded and turned into claim for Medicaid.

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

Telehealth can be quickly coded and turned into claim for Medicaid.

UNIQUE ASPECTS

Keeping traditional diets in mind is empowering and effective.

HEALTH IT OPPORTUNITIES

Risk stratification is automatically changed with preeclamptic diagnosis.

Home care medical devices feed into the patient's EHR. Automated readings are labeled as such. Doctor can set parameters for alerts.

Telemedicine allows doctors and patients to communicate from afar.

1.6 Changes at home

MOVES IN WITH KATHERINE

THE FAMILY HELPS

ADDITIONAL ASSISTANCE



CHRISTINA

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

Moves in with Aunt Katherine, taking Nina with her.



DAVID

Becomes sole wage earner. Cannot take care of Nina alone.

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



KATHERINE & NINA

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.



COMMUNITY HEALTH REP

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

EHR



PUBLIC HEALTH NURSE

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

EHR



TRIBAL WIC

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

EHR

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



CHRISTINA

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.



CASE MANAGER

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



DOCTOR ON CALL

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



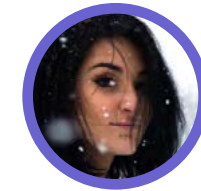
DAVID & NINA

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



COMMUNITY HEALTH REP

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



NURSE

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



PRIMARY CARE PROVIDER

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



OB/GYN

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

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.

1.8 Birth

GOES INTO LABOR

GIVES BIRTH

RETURNS HOME

MOTHERHOOD



CHRISTINA

Begins to feel labor pains. Calls a nurse. Calls David, but no answer. Texts David and Katherine.

Gives birth! She is able to have a natural birth, and the baby looks healthy and beautiful. She is so happy.

Stays in hospital for a few days to recover.

Returns home with her new baby via hospital shuttle.

Receives reminders for post-natal visits and resources available to her.



OB/GYN

On the floor when Christina goes into labor. Knows her condition, family history, flow chart, and birth plan.

Delivers baby. Ensures Christina and baby are healthy.

Christina Does not develop complications, so she approves her discharged.



COMMUNITY HEALTH REP

Checks in. Ensures Christina has resources including WIC vouchers, traditional lactation counseling, and early motherhood classes.



NURSE

Locates birthing bed for Christina, carries out orders during delivery.

Provides early motherhood education on swaddling and breast feeding. Monitors Christina's blood pressure.



REGISTRATION

Registers David Jr. as new patient at their 6-week postnatal visit. Baby is automatically on Medicaid.



DAVID

Video calls Christina as soon he reads her text, after their child is born. They name him David Junior.

Because he has been the sole wage earner, unable to take time off to visit hospital. Awaits their return!

Meets his son!

ADMIN & BILLING

Delivery and postnatal stay to be billed to Medicaid by non-I/T/U hospital.

Transportation billed to Medicaid by non-I/T/U hospital.

Six-week postnatal visit billed to Medicaid.

UNIQUE ASPECTS

HEALTH IT OPPORTUNITIES

External facility receives instant access to patient EHR and pregnancy flowsheet to handle delivery.

Mother's and baby's charts are transmitted to their primary care provider.

Care team is able to track educational moments, some of which are important for quality measures.

HHS / IHS Health IT Modernization

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