

# INDIAN HEALTH SERVICE HUMAN-CENTERED DESIGN

JOURNEY 6: DIABETES COMORBIDITIES [SECTION 8 OF 11]

# SERVICE BLUEPRINTS

# How to read the Service Blueprints

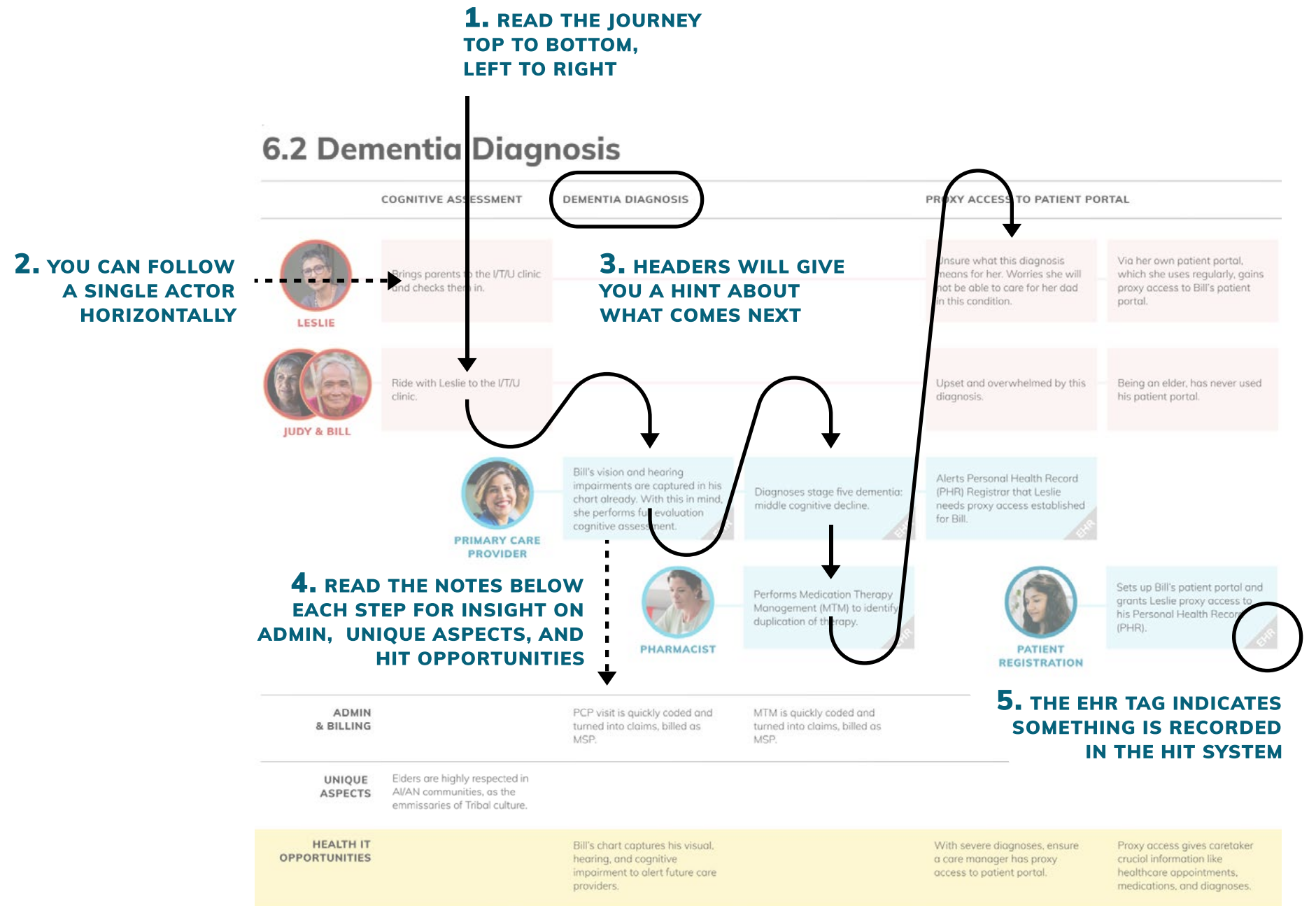
The journeys in this report present seven stories of patients and caretakers receiving care in adverse circumstances. The purpose is to convey stories that, read collectively, paint a dynamic and encompassing picture of the varying needs of the AI/AN population and IHS staff when it comes to health services.

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 6: DIABETES COMORBIDITIES

# DAVE'S JOURNEY

Dave lives on a reservation. He has diabetes, and discovers he will need a cholecystectomy.

AI/AN VETERAN

PATIENT TRANSFERS

INPATIENT CARE

LAB

SURGERY

SPECIALTY TELEHEALTH

IHS FACILITY

PHARMACY

VETERAN AFFAIRS

# Dave's Background

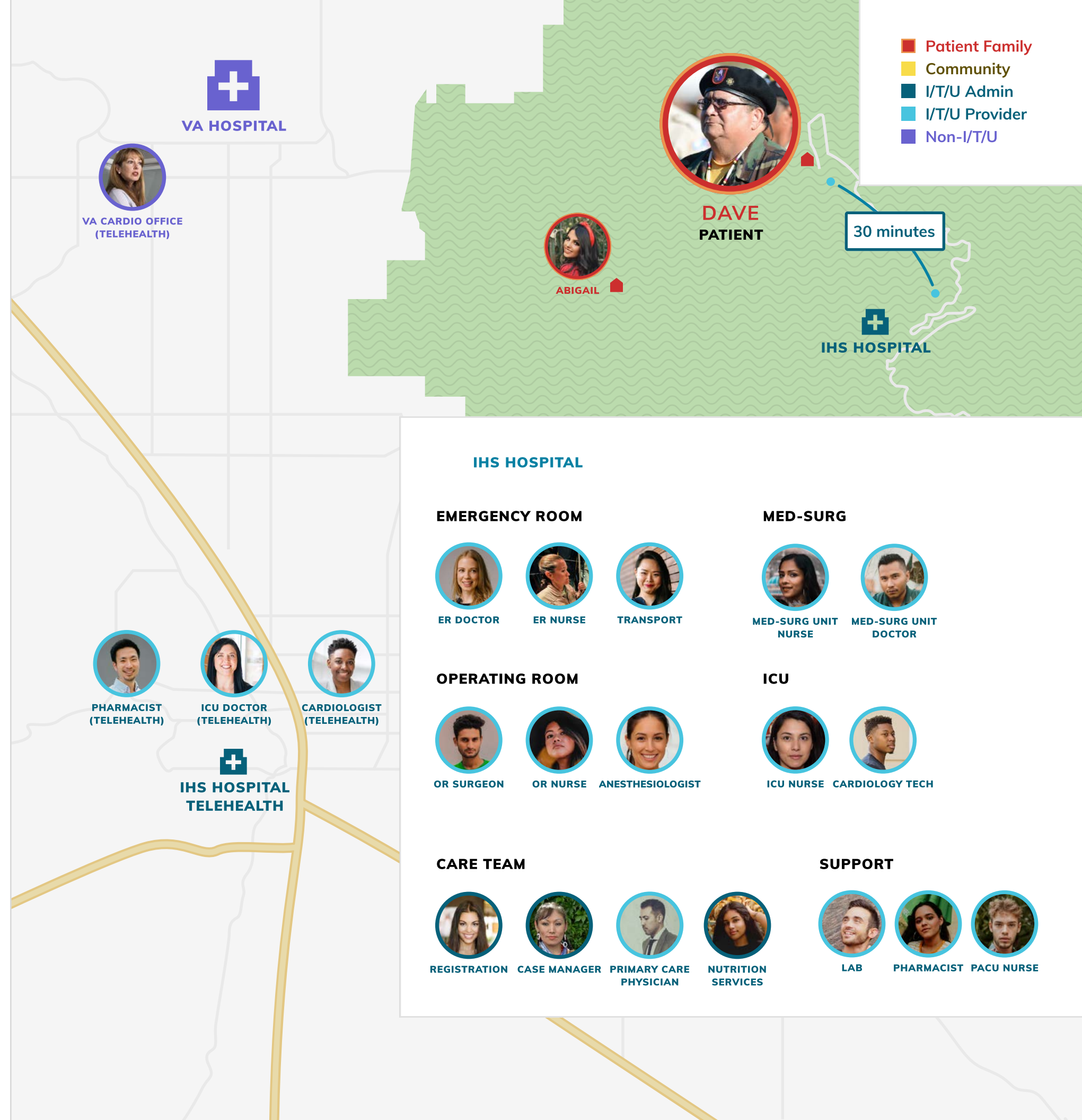
Dave is a veteran who was living in the city for many years and using the VA hospital. Recently, he moved back to the reservation to be closer to family and friends.

Dave has diabetes, and does pretty well at managing his care, although he does not always keep to the best diet, and is not the most proactive about his health.

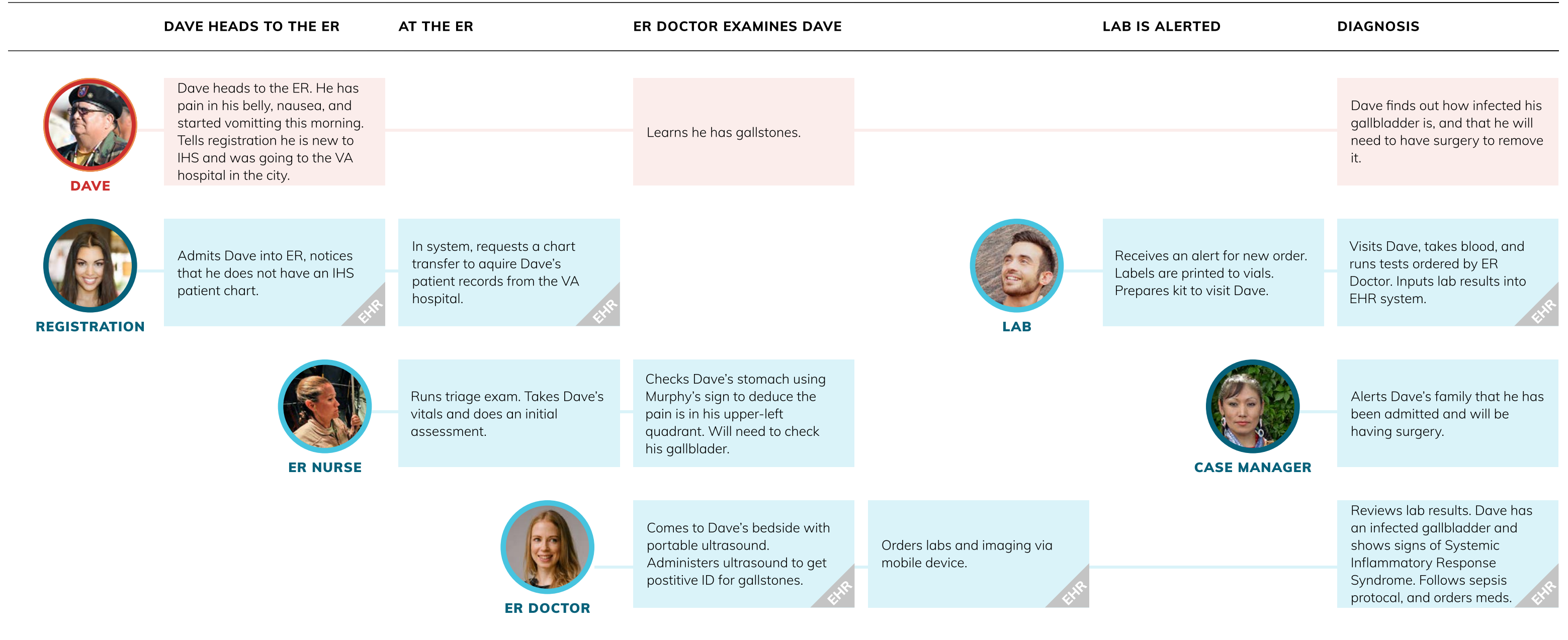
He has been having pain in his stomach for awhile but has been avoiding going to the doctor. Dave has not switched over his patient records or found a new doctor now that he has moved back to the reservation.

## THE VETERAN PATIENT

A large portion of the AI/AN population has access to Veteran Affairs (VA) services along with IHS services. They have more options for places to go for healthcare, but it is dependent on where the patient lives, and the care is fragmented in such a way that patients often need to choose to stay with one system or the other. Many patients are not aware they are eligible for either one system or another.



# 6.1 Dave Visits the ER



**ADMIN & BILLING**

**UNIQUE ASPECTS**

**HEALTH IT OPPORTUNITIES**

Ability to access patient records from other government-provided care programs.	EHR-integrated ER dashboard allows full view of all patients, their care teams, and order statuses.	Smart machine links results into EHR.	Reliable mobile device to aid speed required in ER setting.
---	---	---------------------------------------	---

# 6.2 Dave Prepares for Surgery

## RECEIVES MEDICATION

## PREPARED FOR SURGERY

## MOVED TO OR



DAVE

Learns how severe his infection is and what treatment his care team has planned to help him.

Receives diabetes medications and antibiotics to treat his severe infection while he awaits surgery.

The OR team comes up to the ER introduces themselves, then the OR nurse walks Dave through the procedure and he prepares for his surgery.



ER NURSE

Waits for alert that Dave's meds and sepsis antibiotics are ready, then runs an IV and makes sure Dave understands what is happening with his health.

Receives alert that the Pharmacist has approved and processed the script.

EHR

Retrieves medication from dispensing cabinet, scans Dave's inpatient wristband, and administers medication.

Calls surgeon on the phone to confirm he has seen prompt in EHR.



TRANSPORT

Moves Dave from the ER bay to the operating room.



PHARMACIST (TELEHEALTH)

Receives script remotely, and reviews Dave's chart to ensure proper medication and dosage are administered along with preventing any interactions with Dave's current medications.

Approves medication and sends order to dispensing cabinet.



OR SURGEON

Sees Dave's procedure in EHR, and checks operating room (OR) availability. Books room and alerts team what time is available for Dave's surgery.

EHR

Enters delayed admin orders to OR.

EHR

Reviews all Dave's orders—decides which ER orders will be carried over now that he's being transferred, adjusts his delayed orders accordingly.

EHR



ABIGAIL

Dave's niece gets a call from her mother—her Uncle Dave is in the hospital. Adjusts her schedule so she can stay close by and check in with Dave.



ANESTHESIOLOGIST

Creates delayed order for meds needed for surgery and organizes flow sheet for administering meds to Dave during surgery.

EHR



OR NURSE

Prepares Dave for surgery, uses electronic bedside consent form.

## ADMIN & BILLING

## UNIQUE ASPECTS

### HEALTH IT OPPORTUNITIES

Pharmacy remote prescription filling. Smart devices or plug-ins allow vitals to automatically be uploaded into EHR and are accessible to remote staff.

Automatic dispensing in cabinet Pharmacy alert to nurse.

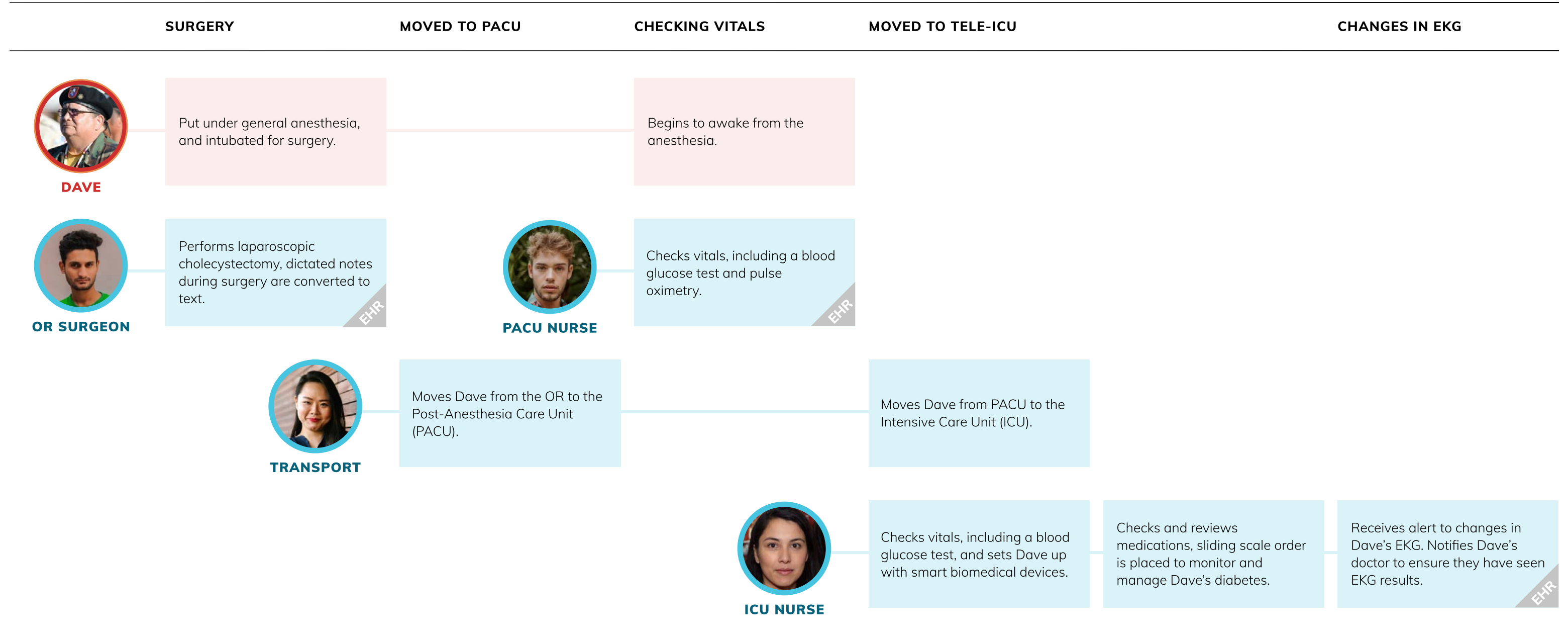
Med scan into EHR creates log of patients' medications and updates department inventories.

Flow sheet is saved in EHR. Booking clinical staff and OR rooms sync through EHR and alert teams.

ER orders are not lost upon patient transfer—all care team can see all orders, administered and open, so admitting provider can curate them.

Electronic Medication Administration Records viewable for all as consolidated list.

# 6.3 Dave Has Surgery



**ADMIN & BILLING**

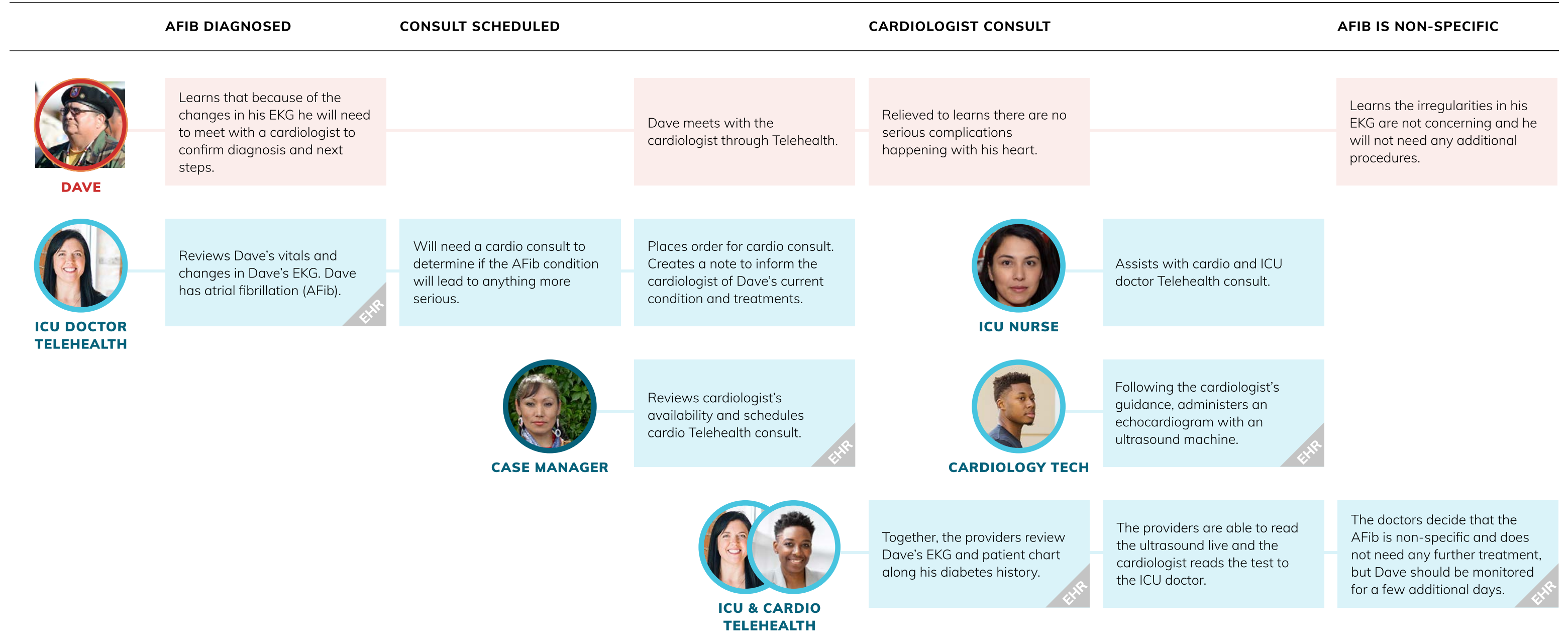
**UNIQUE ASPECTS**

**HEALTH IT OPPORTUNITIES**

EHR integration with voice dictation tools allow for surgery to be documented in patient file.	Patient wristband scanned and transport logged into EHR.	Meds administered are captured with NCU codes for billing.	Vitals logged automatically in EHR. Orders are carried over between departments for evaluation and awareness.	Alert when patients vitals have been cleared and they can be relocated to inpatient room.	EHR automatically captures biomedical equipment logs, images and vitals, including ventilators, monitors, heart rate, and more.
--	--	--	---	---	---



# 6.4 Changes in EKG



**ADMIN & BILLING**

Some facilities set up Telehealth as direct care with contractors, others as external care, needing referrals (PRC).

**UNIQUE ASPECTS**

**HEALTH IT OPPORTUNITIES**

Support for Tele ICU.

Full visibility of all network providers' calendars.

Alerts parameters setup based on patient's condition. Remote monitoring over Telehealth.

# 6.5 Dave Moves to the Medical Surgical Unit

## PATIENT HAND-OFF

## MOVED TO MED-SURG FLOOR



**DAVE**

Learns he will be moved to the med-surg unit floor to be monitored for a few days.

Receives medications on his dosage schedule before he is prepared to be transported to his new floor.



**ICU DOCTOR  
TELEHEALTH**

Submits order to transfer Dave to med-surg unit to have his recovery monitored.

Calls med-surg unit doctor to hand off. Reviews Dave's chart and vitals. Briefly walks the med-surg doctor through Dave's care.



**MED-SURG UNIT  
DOCTOR**

Receives hand-off patient information over the phone, reviews Dave's chart, and begins writing delayed orders for Dave while he is under the med-surg team's care.



**TRANSPORT**

Receives alert that Dave will need to be moved to med-surg unit for recovery.



**ER NURSE**

Continues to closely monitor Dave's EKG results, vitals, and blood glucose.

Prepares to hand off Dave's patient information to the med-surg unit nurse.

EHR

Administers medications to Dave so that after his transfer his new care team has time to review new patient protocol before administering his next dose.



**MED-SURG UNIT  
NURSE**

Receives hand-off patient information over the phone. Checks the availability on the floor, and ensures that the room and bed for Dave are ready for him to arrive.

**ADMIN  
& BILLING**

**UNIQUE  
ASPECTS**

**HEALTH IT  
OPPORTUNITIES**

EHR logs and tracks inpatient patients' locations for care teams.

# 6.6 Dave is Moved to Inpatient Care for Surgery Recovery

## FIRST NIGHT IN THE HOSPITAL

## SECOND DAY IN THE HOSPITAL



**DAVE**

Moves to the med-surg unit floor where he will stay until he is discharged.

Spends his first night in the hospital. Kept on a liquid diet as care team continues to monitor his progress.

Diabetic status causes concern his incisions will take longer to heal. Receives phone call from Abigail, is reassured that she'll be around if he needs her.

Still recovering, feeling better than the first day. Can eat solid foods now.



**MED-SURG UNIT DOCTOR**

Does an initial assessment, documents the patient history. They review the diagnosis and Dave's condition and create a note in his chart.

Orders become active. Reviews blood glucose levels to see if sliding scale order needs adjustments, and evaluates any standing orders.

Places order for nutrition consult.

Checks in with Dave, reviews vitals, and approves a solid food diet.



**MED-SURG UNIT NURSE**

After the doctor finishes their initial assessment, the nurse completes admissions orders.

The nurse checks Dave's vitals, allergies, the nursing orders that were passed off, and whether there are any diet orders in place.

Evaluates Dave's pain levels and checks his sutures and how he is healing.

Continues to check Dave's vitals and blood glucose levels. Brings med cart with to dispense medications to Dave according to his dosage schedule.



**PHARMACIST**

Reviews Dave's medications and his chronic conditions, checks for drug interactions and reviews with Dave to do a med reconciliation.

Verifies the meds and releases them to the dispensing cabinet while providing clear dosage instructions, to ensure Dave is given the correct amount of medication.



**NUTRITION SERVICES**

Receives order that Dave has been cleared for solid foods. Reviews the diet restrictions his care team has put into place, then meets with Dave to set up a nutrition plan.

**ADMIN & BILLING**

**UNIQUE ASPECTS**

**HEALTH IT OPPORTUNITIES**

Patient pass-offs between staff digitized. Checklists are created to streamline process.

Hospital-wide protocols are prompted in EHR for clinical staff to quickly process and check through.

Medication schedule automated and updated in EHR when Electronic Medication Administration Records protocol is processed.

Non-clinical staff are fully integrated to better serve patients and provide seamless care.

# 6.7 Dave's Recovery

## THIRD DAY IN THE HOSPITAL

## DISCHARGED FROM HOSPITAL

## DAVE IS BACK HOME



DAVE

Dave is feeling better each day and begins to walk on his own with minimal pain.



MED-SURG UNIT NURSE

Continues to check Dave's vitals and blood glucose levels. Examines Dave's sutures, asks how his pain is while resting and if there were any changes when he had his meals.

EHR



MED-SURG UNIT DOCTOR

Checks in on Dave's progress and is confident that Dave's recovery will continue to progress smoothly.

Excited to hear his health has stayed consistent enough that he is cleared to go home. Calls Abigail to tell her he can be picked up from the hospital.

Receives alert that Dave has been approved for discharge. Gathers discharge care instructions and walks Dave through the great news.

EHR

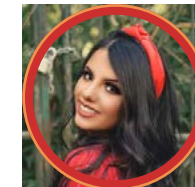
Begins processing discharge protocol, puts in order for Dave to have follow up appointments with a Primary Care Provider and his VA cardiologist.

EHR



CASE MANAGER

Receives notification Dave has been cleared for discharge. Confirms that Dave would prefer to establish primary care with the IHS facility, as it is closer.



ABIGAIL

When his niece arrives, he tells her about the patient portal and gives her his discharge paperwork.

Confirms with Dave that he has transportation available, then confirms he is clear on how he needs to continue his diet and that he can return to normal activities after another week.

Happy to hear she can pick up her uncle from the hospital and help bring him home, she quickly hurries over.

Once he and his niece arrive at his home, she helps him set up his patient portal.

After helping Uncle Dave set up his portal, she reviews with him what foods he needs to be eating and goes to the grocery store for him.

### ADMIN & BILLING

Entire episode is coded and billed to the VA

### UNIQUE ASPECTS

AI/AN Veterans care at I/T/U facilities is covered by VA funds

### HEALTH IT OPPORTUNITIES

Vitals are logged and charted to view progress over time.

Documents are created and readily available in patient's chart and the patient portal.

# 6.8 Checking in with Primary Care Provider

## PCP APPOINTMENT

## VA CARDIO APPOINTMENT



**DAVE**

Has an appointment with his PCP at the IHS facility for the first time.

Mentions to PCP he had a cardiologist at the VA, would like to check in with that person about the AFib. Works with Case Manager on appointment.

At the time of the VA cardio appointment, comes to the IHS facility to use the Telehealth room.

Once he and his niece arrive at his home, she helps him set up his patient portal.



**PRIMARY CARE PHYSICIAN**

Reviews Dave's history and details about the surgery, reviews his charts from the VA care teams.

Checks on Dave's surgery recovery. Does a wellness check up since Dave mentioned he wants to transfer his care to this facility.

Recommends Dave check in with a cardiologist to follow up on the AFib. Documents his notes and writes referral to VA cardiologist.

EHR



**CASE MANAGER**

Follows up with Cardiologist at the VA for referral. Schedules Telehealth appointment with them.

Schedules follow-up Telehealth appointment with VA cardio. Receives their cardio notes from the VA system.



**VA CARDIO OFFICE (TELEHEALTH)**

Confirms Telehealth appointment with Dave.

Reviews Dave's history, examines him with the help of a nurse who is at the IHS facility. Asks for some labs.

Documents the encounter, requests a Telehealth follow up to review lab results.

**ADMIN & BILLING**

PCP encounter will be quickly coded and billed to the VA.

Referral process to VA cardiologist may require PRC approval process.

VA cardio encounter is covered by VA. IHS to invoice for Telehealth facility usage and nurse.

**UNIQUE ASPECTS**

Current VA and IHS health care systems do not interact.

**HEALTH IT OPPORTUNITIES**

Ability to refer to specialists at the VA for eligible patients.

Ability to hold Telehealth consults with specialists from the VA

Interoperability between IHS and VA EHR.

# HHS / IHS Health IT Modernization

Created by the HCD team at &Partners:

Sabrina Fonseca  
Arden Klemmer  
Rients van Blanken  
Kate Murphy  
Angela Palm  
Eduardo Ortiz

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.



(302) 505-1472

[hello@andpartners.io](mailto:hello@andpartners.io)

[andpartners.io](http://andpartners.io)

