

# The Pulsenmore ES Solution

- Pulsenmore ES Set up
- Workflows
- Key generation
- Authentication

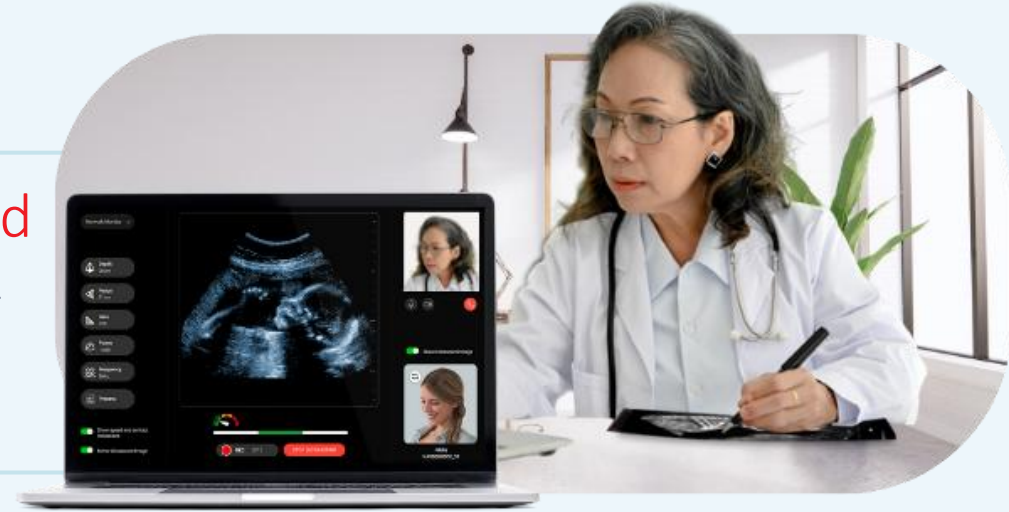


# Solution set up



## Clinicians' Dashboard

Remote communication & image interpretation platform.



## Patient's Self-Scan Device

Handheld ultrasound cradle that docks with the patient's personal smartphone.



## Patient's Mobile App

Communication platform enabling synchronous & asynchronous scan and includes patient guidance.

# Modes of operation



## Clinician-Guided

Synchronous teleultrasound visit:  
Guided, live and fully-controlled  
by the clinician



Fetal viability check that can diagnose movement, muscle tone, breathing, amniotic fluid volume,  
(suitable for remote biophysical profile without NST)

## App-Guided

Asynchronous self-scan using  
videos: Images uploaded for  
clinician review and feedback



Fetal heartrate: observed/not observed  
Fetal movement- observed/not observed  
Amniotic fluid-Normal/not normal

# Ultrasound specifications

Not aiming to replace nuchal translucency/anatomy scan

B-mode imaging and high safety profile for patients (no Doppler, MI/TI<1.0). Low frequency (2-5MHz)

Physician control via unique code access – limits activation, frequency & duration of use.

**The Clinician-Guided mode is a comprehensive fetal viability scan**

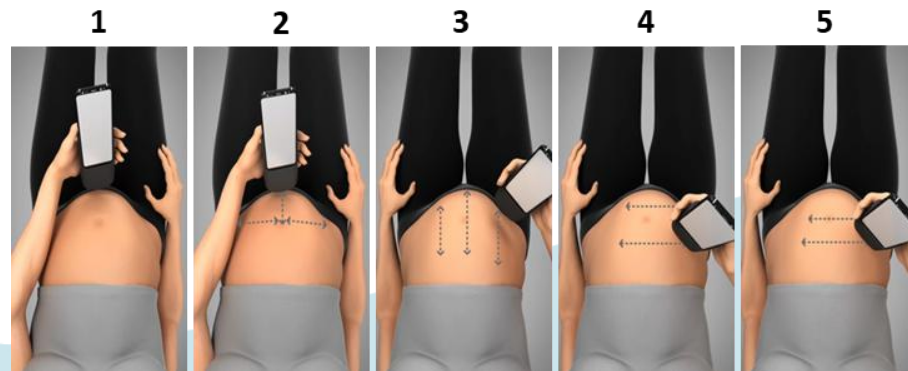
Clinician can review:

- Movement
- Muscle tone
- Breathing
- Amniotic fluid level
- Fetal heart rate
- AFL and FHR measurement tools

**The App-Guided mode is based on a pre-defined scan protocol to ensure standardized scans**

Clinician provide binary observation of:

- Fetal heartrate: observed/not observed
- Fetal movement- observed/not observed
- Amniotic fluid-Normal/not normal



# Impact

More than 15,000 users

More than 150,000 home scans diagnosed from afar to date, demonstrating that women can self-scan safely and reliably



Dr. Michal Levy  
Senior Physician, MFM unit  
Wolfson medical

**“Pulsenmore gives doctors better control of the prenatal care path. For patients its significantly reduces anxiety.”**



Prof. Asnat Walfisch  
Head of the Hospital for  
Women, Beilinson

**“The service grants expectants mothers with peace of mind and avoiding unnecessary ER and clinic visits”**



Dr. Avi Tsur  
Director of the Sheba Women's  
Health Innovation Center,  
Director of OBGYN

**“Now clinical visits can be seamlessly replaced by virtual consultations and HR pregnancy hospitalization can be shifted to home.”**

# Targeting and value proposition

## Private Market

**Target Audience:** Women attending private clinics

### **Benefits:**

Enhancing clinic revenue and patient satisfaction by offering expectant mothers the convenience of premium service and continuity of care

- **Convenience**
- **Revenue Growth for Clinics**
- **Enhanced Patient Engagement**

## Hospitals

**Target Audience:** High-risk pregnancy patients

### **Benefits:**

Enhancing high-risk pregnancy care with efficient, scalable remote monitoring solutions that optimize resources

- **Efficient Remote Monitoring:** Allows hospitals to track high-risk pregnancies seamlessly, reducing the need for frequent in-person visits.
- **Cost-Effective Care:** Reduces hospital readmissions while improving care quality and resource utilization

# Reducing hospitalizations and in-person visits for high-risk pregnancies through hybrid care

“Sheba Beyond” is Sheba’s virtual hospital (Sheba is ranked as one of the 10 best hospitals in the world).

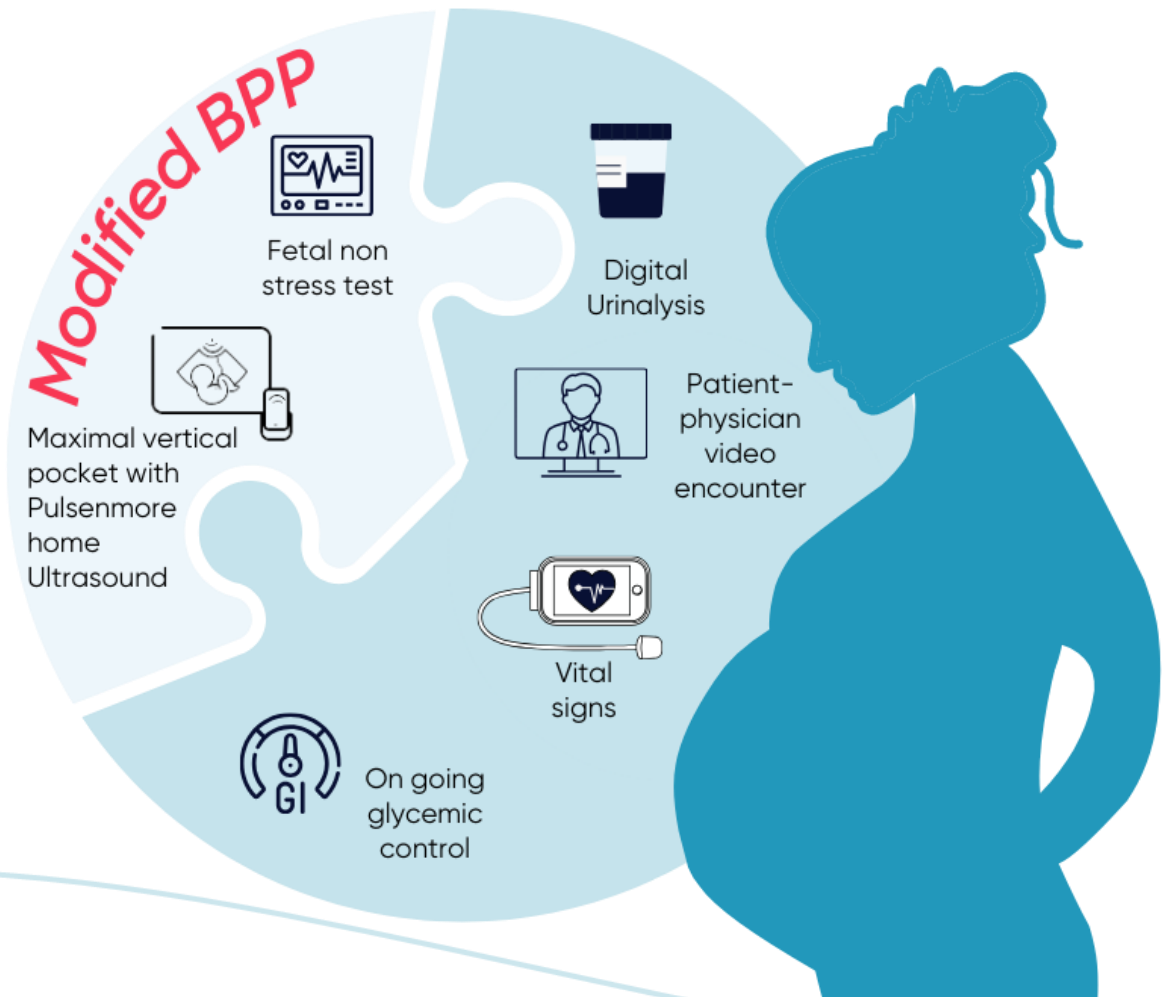
“Beyond” are using the Pulsenmore “Clinician-Guided” mode to **alternate clinic visits with virtual ones for high-risk pregnancies.**

Allow women to continue their work, life and family routines while receiving the highest level of care.

**Telemedicine encounter length is 63% shorter than the in-person visit and yields higher patient satisfaction\*.**



# The “Sheba Beyond” virtual hospital model



	OBGYN BEYOND protocol
Training	Face to face
Treatment plan	Individual (several protocols)
BP measurement intensity	Self-measured 1-3/day
Cardiotocography intensity	Real time mid-wives
Cardiotocography intensity	IUGR and PE – NST*2/d IHCP – NST*3/d
Ultrasound	Daily remote US for mBPP Twice/w full BPP for all Twice /w doppler for IUGR
Blood work and Urinary Analysis	All – twice/w Placental conditions additional sFlt-1 / PLGF and UPCR twice/w

Conclusion: Intense remote high pregnancy surveillance replacing hospitalization is feasible, timesaving and allows women to maintain their life routines. **It's a real game changer**

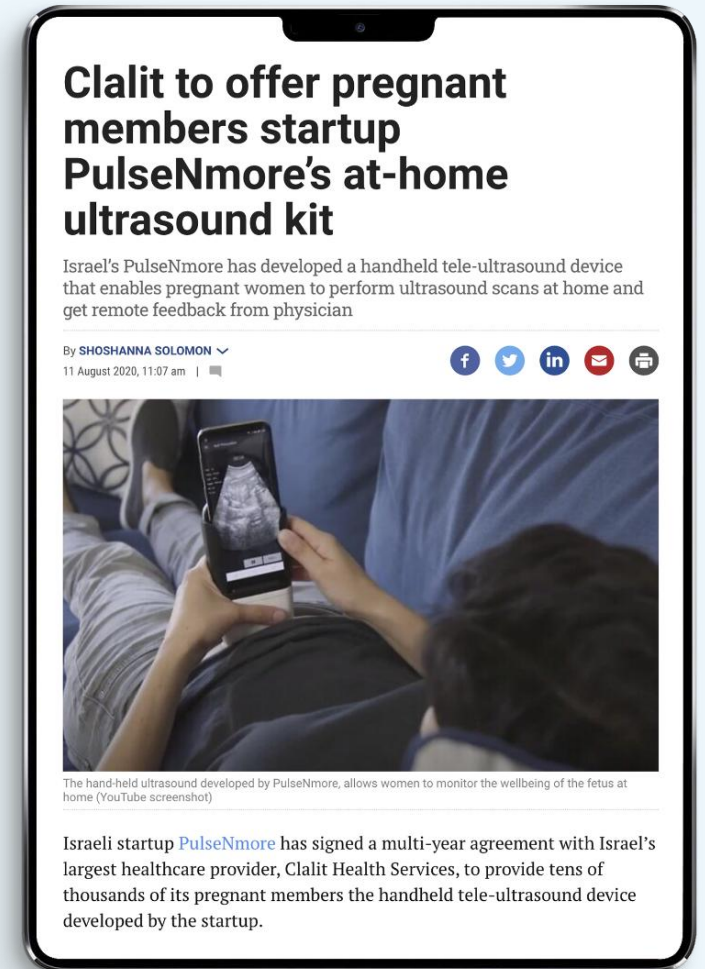
# Ensuring continuity of care with home scans for fetal well-being

Clalit is the largest HMO in Israel, with 4.6 million insured members, and 83,000 births annually.

Launched the Home Ultrasound service in 2021 in its' App-Guided mode.

Since then, more than 120,000 home scans were diagnosed by Clalit's remote reading center.

Patients can successfully self- scan, get remote fetal well-check, continuity of care, and early indication of warning signs!



# Benefits & demonstrated clinical value



## Payers

- Prenatal force multiplier - Better resource management
- Transitioning patients to communities
- Unique & innovative offering
- Reducing capacity gaps and prenatal care deserts
- Fight Burnout
- Optimizing hospital utilization



## Providers

- Safe & reliable, easy to use & integrate within workflow
- 73 Seconds for a sonographic assessment
- Greater flexibility
- Strengthening patient provider relationships
- Earlier detection of warning signs



## Patients

- Greater access & continuity of care
- 63% Shorter visits duration
- Saves cost of travel
- 30% Less anxiety
- Greater convenience and satisfaction
- Improved family bonding

### Main References:

Hadar et al. Mobile Self-Operated Home Ultrasound System for Remote Fetal Assessment During Pregnancy. *Telemed J E Health*. 2022 Jan;28(1):93-101  
Nir O, et al. Integrating technologies to provide comprehensive remote fetal surveillance: A prospective pilot study. *Int J Gynaecol Obstet*. 2023.  
Pontones, C.A et al. Feasibility and Acceptance of Self-Guided Mobile Ultrasound among Pregnant Women in Routine Prenatal Care. *J. Clin. Med*. 2023  
Dekalo A et al. Maternal Anxiety and Antenatal Attachment in Women with History of Previous Pregnancy Loss. 2023

# Enabling quality care where previously not possible



Increase access to care in rural  
& urban maternity care  
deserts




Improve productivity  
& offer workforce  
flexibility



Reduce maternal stressors  
& unplanned visits



# What is the Pulsenmore ES?

- The device is used to scan, acquire, display, and transmit ultrasound images to a clinician dashboard.
  - The smartphone's processor is used to filter the raw ultrasound image and display it on the screen by the mobile application installed on the smartphone.
  - The device generates ultrasound images which are transmitted to the healthcare professional.
  - The healthcare professional provides image interpretation and assessment of obstetric parameters.
  - The patient does not receive any data or diagnostic information directly from the device or the mobile application.
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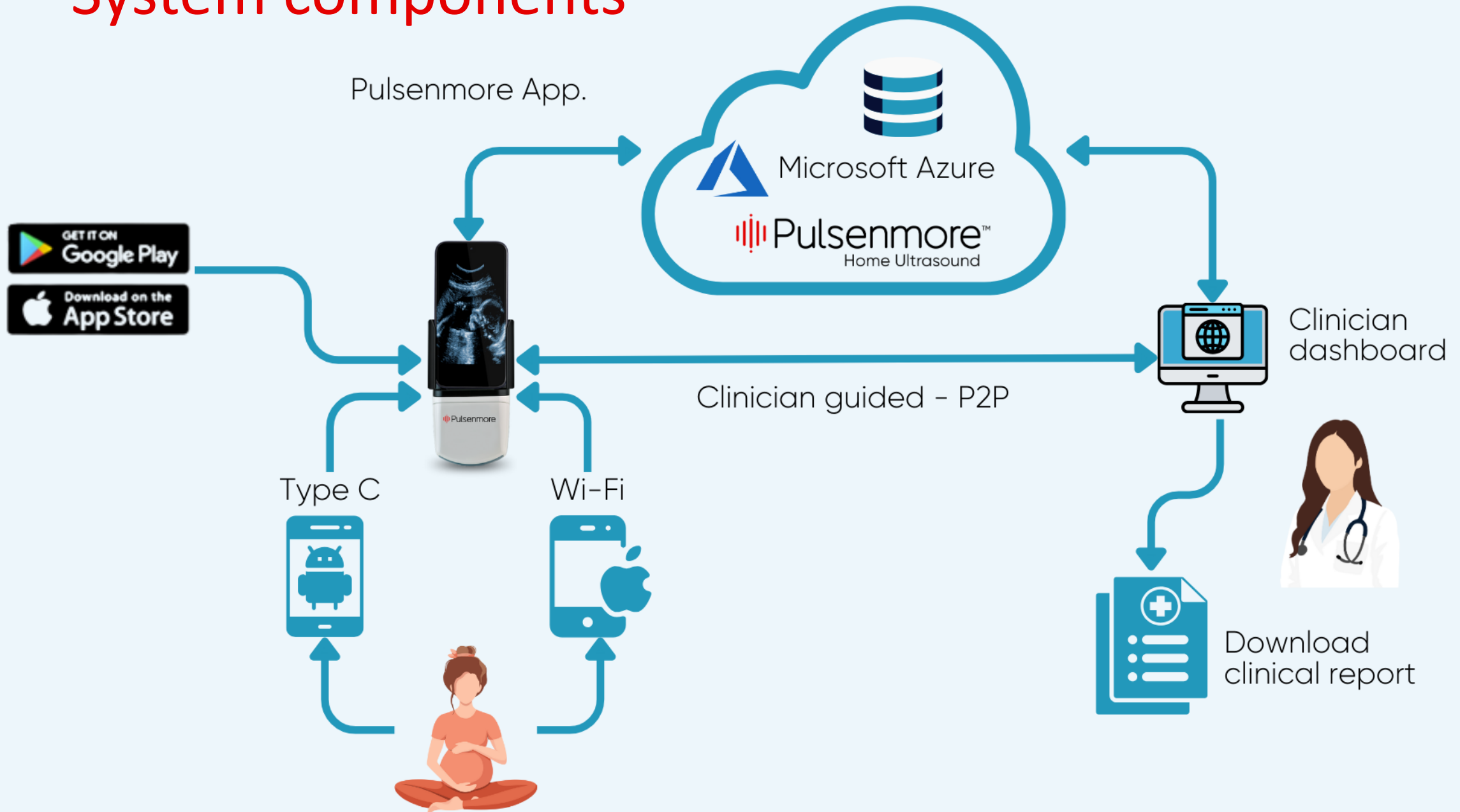
# Important to know

There are 2 sub models to the Pulsenmore ES device; Pulsenmore ES – Type C and Pulsenmore ES Type – iOS.

The device is a non-sterile, single patient, reusable device and is intended for a single pregnancy.

The communication between the device and the healthcare provider is done by wireless communication (Wi- Fi or cellular data network communication).

# System components




# How does the key generation work?

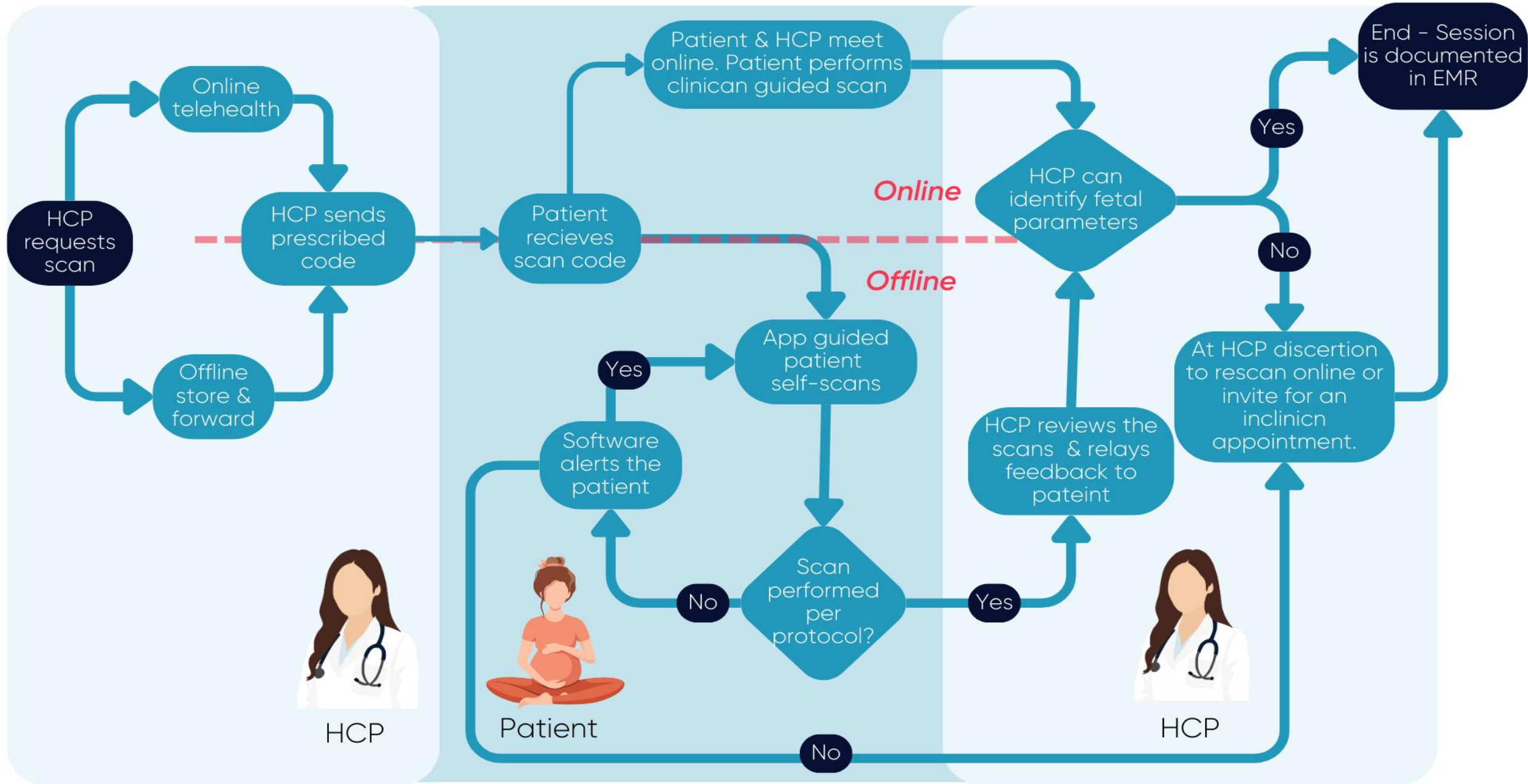
The Key generator enables the HCP to produce a unique Key. By providing this Key to the patient, the HCP authorizes the patient to perform a scan (App-Guided or Clinician-Guided). In Realtime Interactive (Clinician-Guided mode) sessions this Key is used as a unique identifier of the meeting which can be joined by patient and healthcare professional.

The Key is a unique sequence of alphanumeric characters that uniquely defines user experience for mobile application user.

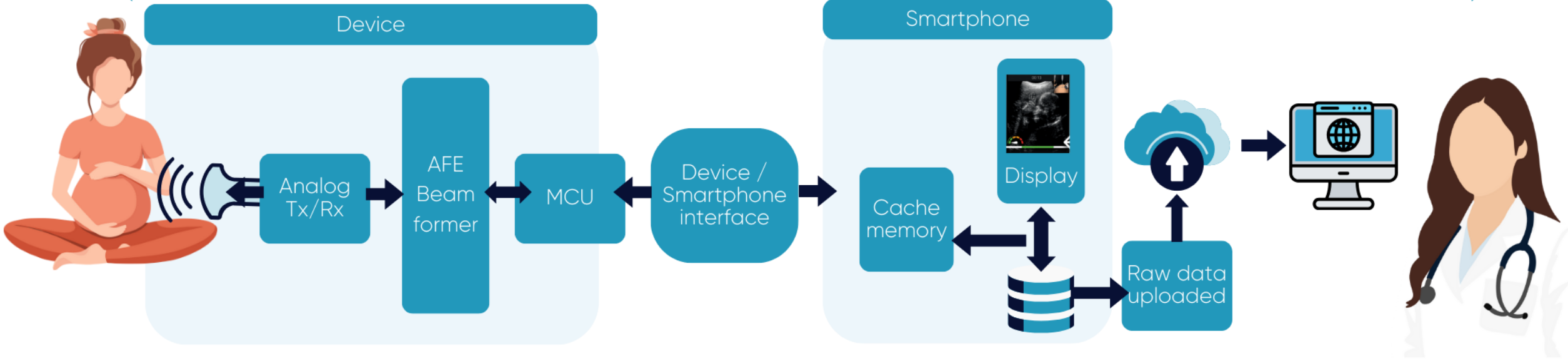
The following properties are hard associated with a specific Key:

- Tenant in Pulsenmore notation. This defines which healthcare provider is authorized to work with the user. This is further used to authorize access to recorded data by other actors.
  - Allowed type of procedure. Store and Push (App-Guided) or Realtime Interactive (Clinician-Guided). This defines mobile application behavior and general user experience being guided/unguided by medical personnel.
  - Number of procedure instances. This defines how many times procedure can be repeated.
  - Maximal procedure duration.
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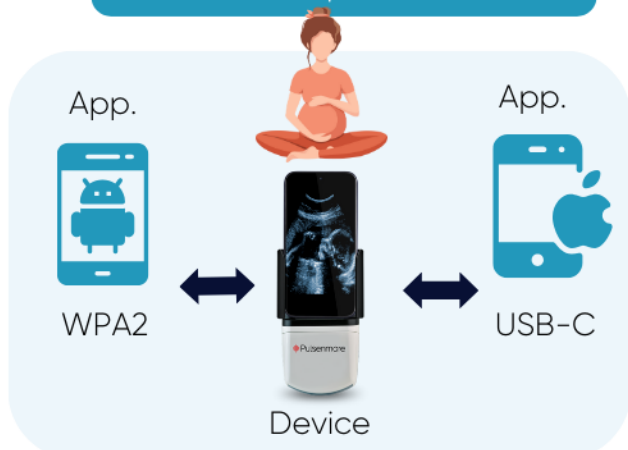
# Information workflow



# Remote ultrasound functionality



## Device/smartphone interface



## Mobile App utilities

- Software upgrades (App store)
- Firmware upgrades (PNM cloud)
- Security updates
- Tutorial videos
- UI/UX language support

## Clinician dashboard

- Patients list
- Administration (scan approval)
- M-mode / Measurements
- Ultrasound parameters (for CG)

# Remote ultrasound support module