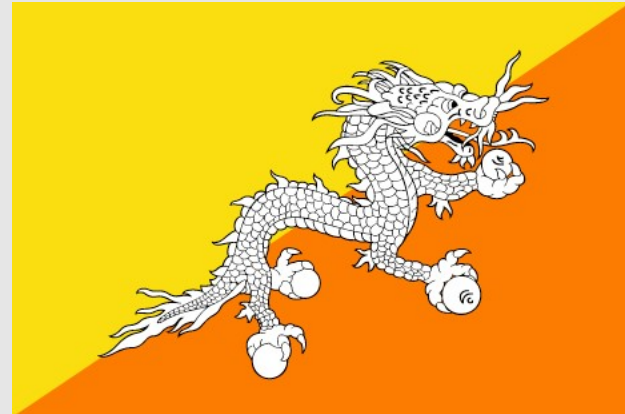




**Digital
transformation**



Requirement Definition Document Annex Workflow (To-Be)

June, 2023

Accenture Japan

PRIMARY DATA POINTS: FEEDBACK

We have consolidated the **primary data** required in each steps in the to-be journey. This is the list of the data that will be required for the project:

Green Highlight: The following data will be on-premise and not linked to health bank
Yellow Highlight: The following data will need further discussion due to feasibility of wearable device

Data Availability:

- ✓ Yes
- △ Partial
- ✗ No

Data Category	Data Points	Availability	Database	Data Source	Who Input Data
Personal Information	Name	✓	National Digital ID Wallet	National Digital ID (NDI)	Government
	National Digital ID	✓	National Digital ID Wallet	National Digital ID (NDI)	Government
	Sex	✓	National Digital ID Wallet	National Digital ID (NDI)	Government
	DoB	✓	National Digital ID Wallet	National Digital ID (NDI)	Government
	Age (Interpreted)	✓	National Digital ID Wallet	National Digital ID (NDI)	Automation (Interpreted)
	Address (Permanent)	✓	National Digital ID Wallet	National Digital ID (NDI)	Government
	Mobile Number	△	Application	Application	Citizen
Opt-in Consent	✗	Application	Application	Citizen	
Health Information	Current Disease (Diagnosis)	△	Medical Bank	ePIS	Healthcare provider
	Medication / Prescription	△	Medical Bank	ePIS	Healthcare provider
	Family History	△	Medical Bank	ePIS	Healthcare provider
	Weight (Static)	△	Medical Bank	ePIS	Healthcare provider
	Weight (Dynamic)	△	Health Bank	Application	Citizen / Healthcare provider
	Blood Pressure (Static)	△	Medical Bank	ePIS	Healthcare provider
	Blood Pressure (Dynamic)	△	Health Bank	Application	Citizen / Healthcare provider
Self-Health Assessment	Heart Rate (Dynamic)	△	Health Bank	Wearable IoT	Automation
	Physical Activeness Self Assessment	△	Health Bank	Application	Citizen / HAS
	Alcohol Self Assessment	△	Health Bank	Application	Citizen / HAS
	Tobacco Self Assessment	△	Health Bank	Application	Citizen / HAS
	Nutrition Self Assessment (Salt Intake, Vegetable Intake, Betel Use)	△	Health Bank	Application	Citizen / HAS
Wearable Information	CVD Risk Assessment	△	Health Bank	Application	Automation
	Step Count	✗	Health Bank	Wearable IoT / Smartphone	Automation
	Physical Activity	✗	Health Bank	Wearable IoT / Smartphone	Automation
	Sleep Count (Optional)	✗	Health Bank	Wearable IoT / Smartphone	Automation
Genetics	Blood Samples – discarded after analysis	✗	BioBank	BioBank	Healthcare provider
	Genetics Testing Result (DNA array Data)	✗	BioBank	Gene Sequencer Machine	RCDC
App Information	Time needed to screen a patient (based on timestamp)	✗	Application	Application	Automation
	Telemedicine access rates for residents in remote areas	✗	Application	Application	Automation
Official Surveys	NCD Screening result	△	Household bank	MoH Annual Survey	HAS / VHWs
	GNH Survey: Health Barriers Section	✓	Household bank	GNH Survey	Government
	GNH Survey: Household Income & Source of Income	✓	Household bank	GNH Survey	Government
	Bhutan Living Standards Survey: Health Section	✓	Household bank	Bhutan Living Standards Survey	Government
	Data utilization for healthcare providers: Report Generating	✗	Application	Application	Automation

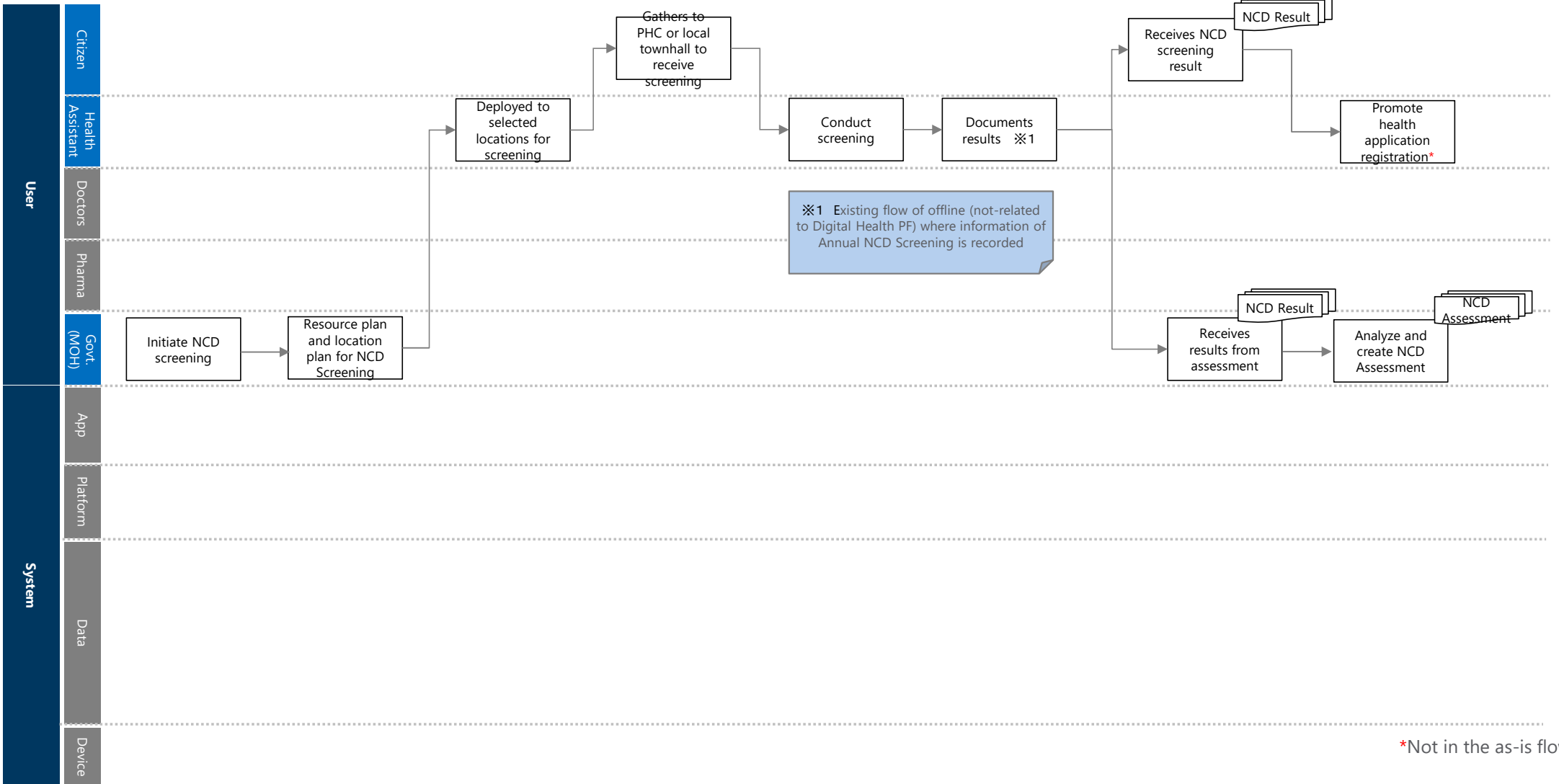
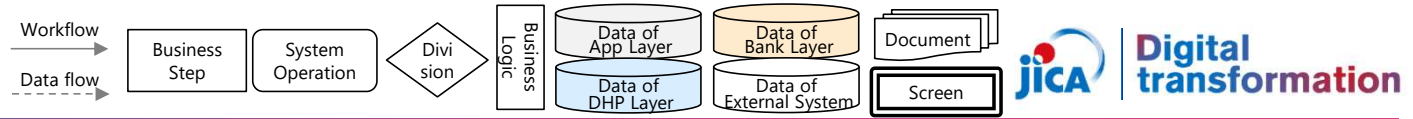


Digital transformation

1. Primary Data Point Updates
2. User Journey's Workflow Updates



STEP 1: FIRST TOUCHPOINT



STEP 1: FIRST TOUCHPOINT

USER: HEALTHCARE STAFF DURING NCD ANNUAL SCREENING

Initial Assumption Only

Wireframe

Description

Sample Data

1 Physical Touchpoint



2 Physical Touchpoint

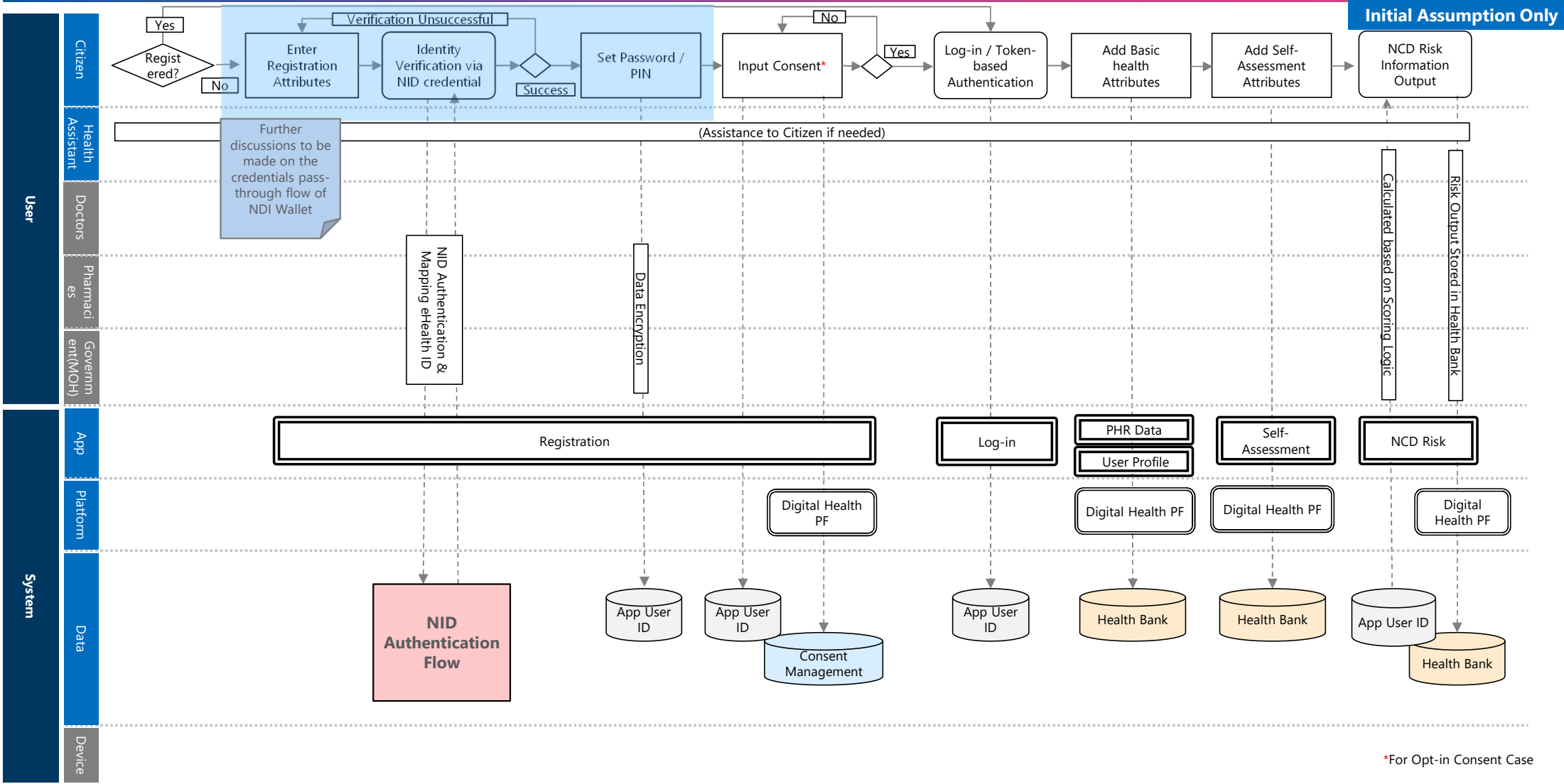
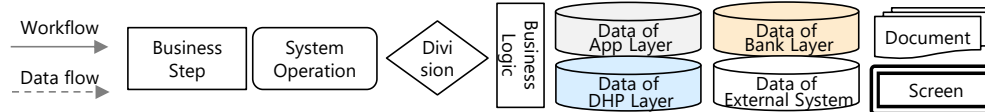


1 NCD screening by NCD focal point is conducted. Citizens are asked to register to app if they are within the risk groups

2 Citizens received NCD Screening Result and inputs on health book (offline)

Input:
- NCD Screening Result (Existing flow (not-related to Digital Health PF))

STEP 2: APP REGISTRATION



*For Opt-in Consent Case

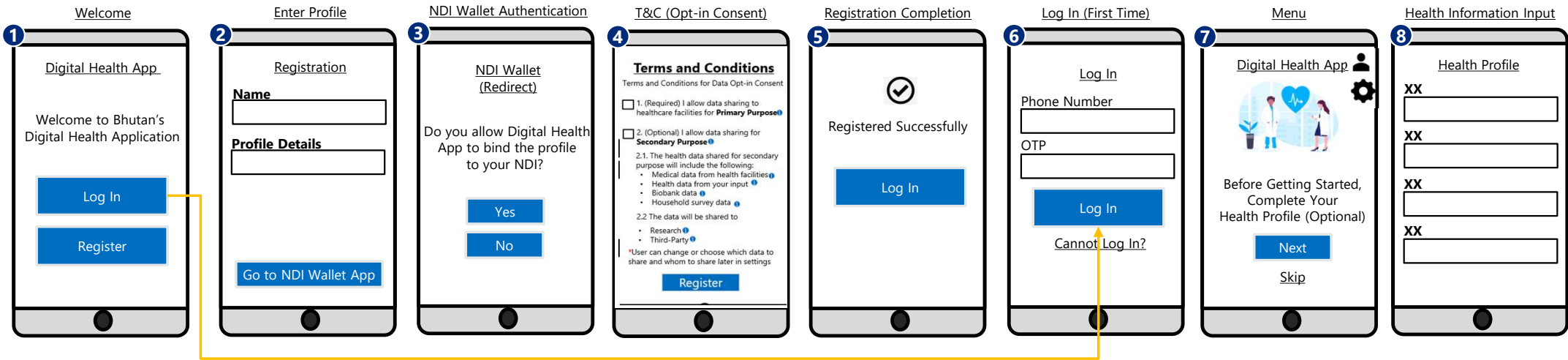
STEP 2: APP REGISTRATION FLOW (SELF-REGISTRATION)



USER: CITIZEN

Initial Assumption Only

Wireframe



Description

- 1** User can choose to register or log-in to the mobile application.
- 2** User enter registration attributes (profile details). After entering their details, there will be a deeplink redirect to NDI wallet on the mobile phone.
- 3** The Digital Health App redirects user to the NDI Wallet for authentication. If authentication successful and user allows for profile binding, the eHealth ID will be generated.
- 4** After authentication success, user will be redirected back to the app for T&C and opt-in consent for different purposes. Users will be able to click register once the required fields are checked.
- 5** After registration process is completed, user will be redirected to first-time log-in screen.
- 6** For first-time log-in, users will have to enter their phone number and receives OTP via SMS for verification for security. The system remembers user log-in and the next time they log-in, only PIN will be required to access the app.
- 7** First time users will be asked to enter their basic health profile as an initial data.
- 8** Users can initially enter basic profile (weight, height), and do different surveys to self-assess health risk. This will be later on useful for medical staff to assess in the initial health screenings.

Sample Data

<p>Input Registration Attributes:</p> <ul style="list-style-type: none"> - Name - Sex - Date of Birth / Age - Phone Number 	<p>Input Verification:</p> <ul style="list-style-type: none"> - NDI Wallet 	<p>Input PIN & Consent:</p> <ul style="list-style-type: none"> - Set Password / PIN - Opt-in Consent (Y/N) 	<p>Input Login Attributes:</p> <ul style="list-style-type: none"> - Phone Number - OTP via SMS - Password / PIN 	<p>Input Health Profile:</p> <ul style="list-style-type: none"> - Self-Health Assessments - Basic Health Information (Dynamic)
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(Reference) Consent Process

Updated agreed registration flow

Opt-in Registration Flow

1

Terms and Conditions
Terms and Conditions for Data Opt-in Consent

1. (Required) I allow data sharing to healthcare facilities for **Primary Purpose**

2. (Optional) I allow data sharing for **Secondary Purpose**

2.1. The health data shared for secondary purpose will include the following:

- Medical data from health facilities
- Health data from your input
- Biobank data
- Household survey data

2.2 The data will be shared to

- Research
- Third-Party

*User can change or choose which data to share and whom to share later in settings

Register

Medical Bank,
Health Bank,
BioBank,
Household Bank

Data Opt-out in User Settings

2

1

Settings

- Personal Information
- Link Apps & Device
- Switch Language
- Set Password / PIN
- Terms & Conditions
- Log Out

2

Personal Information

Allow Secondary Use

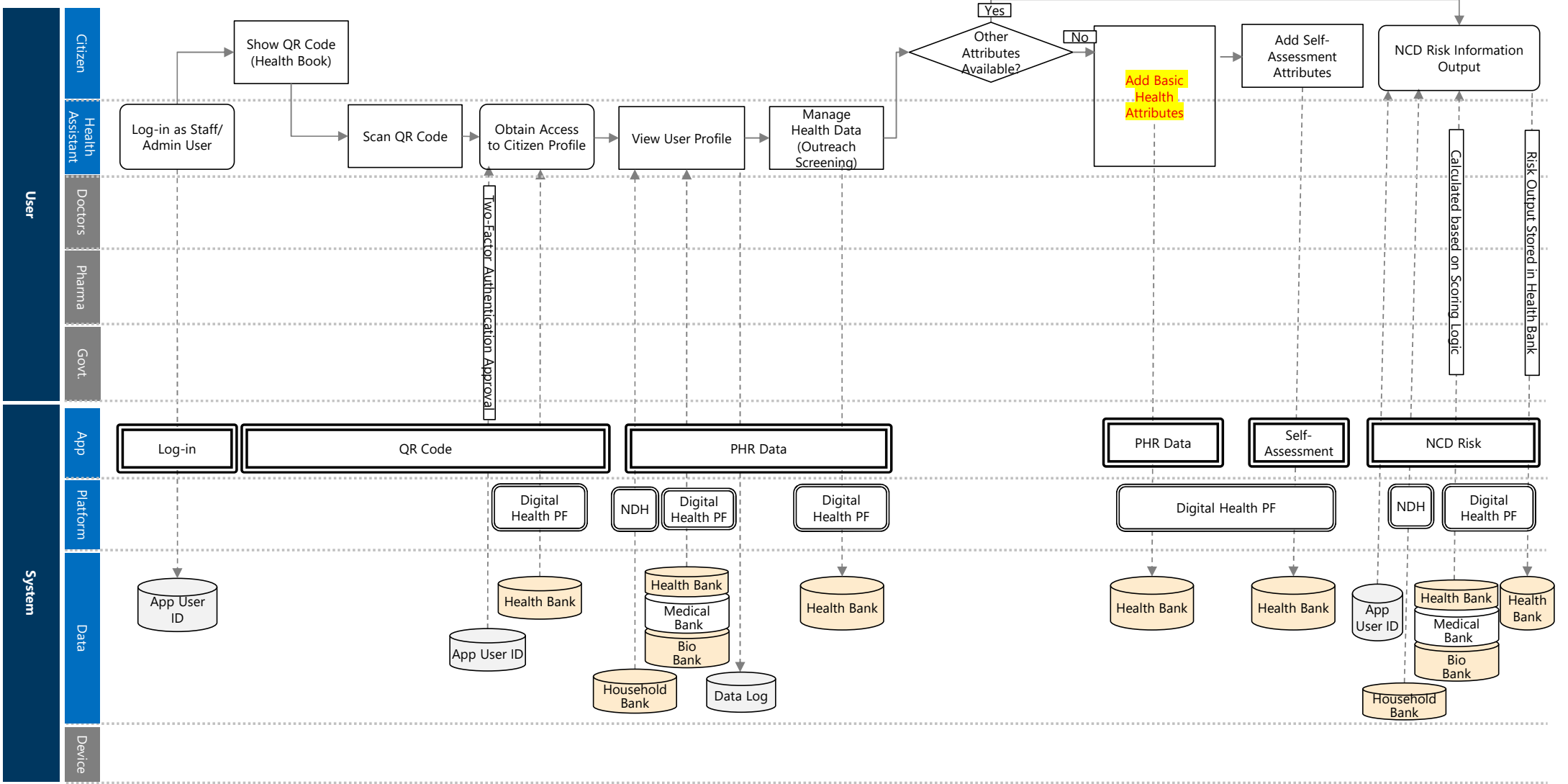
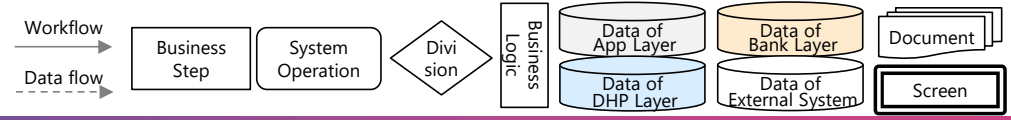
Allow data sharing for following health data:

- Medical Data
- Health Data
- Biobank Data
- Household Data

Allow data sharing for following purposes:

- Research
- Third-Party

STEP 3: INITIAL SCREENING



STEP 3: INITIAL SCREENING

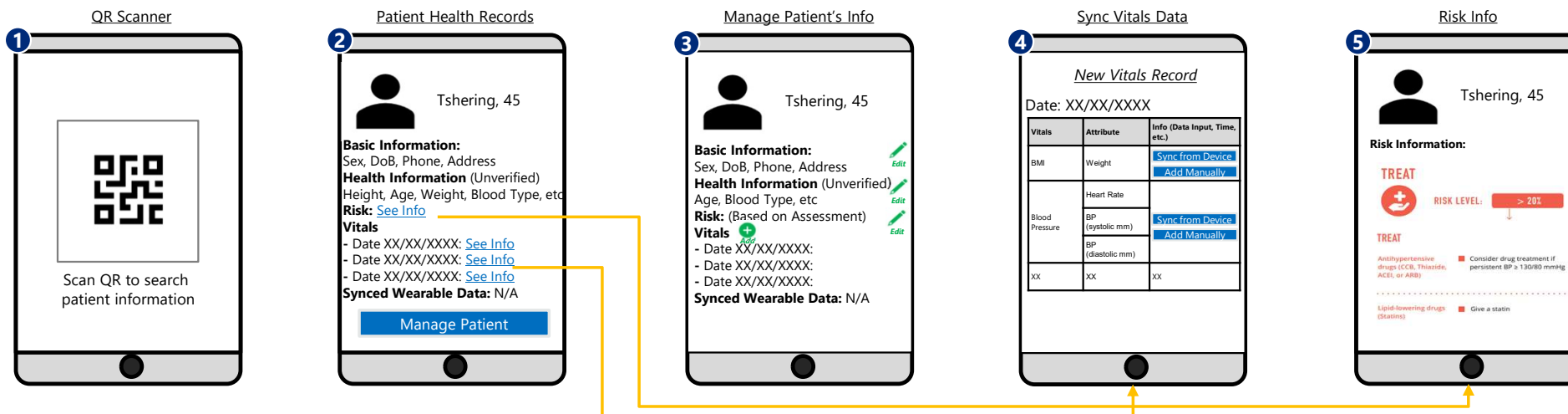
USER: HEALTHCARE STAFF (HEALTH ASSISTANTS DURING ORC VISITS)

Initial Assumption Only

Wireframe

Description

Sample Data



1 User can scan QR Code or search patient attributes to find the patient info. If the patient is not registered, user can add new patient.

2 User clicks on the patient info. The patient's health data retrieved will be shown. Unverified data are self-assessed data that were input by the patient themselves which may need further verification

3 User can add or edit health info and also verify patient's self-assessed info in this feature. User will not be able to edit fixed fields such as Digital National ID, name, age, DoB, Sex.

4 User can input vital records from the medical health device synced via Bluetooth / network or manually add the vital records when there are no available signals.

5 If there is enough information inputs, the system can analyze patient's risk based on system's pre-programmed WHO PEN Protocols. Users (Healthcare Staff) can use this findings to give initial screenings, referral recommendations, and lifestyle changes to the patient.

Input Patient Attributes:

- Patient Name
- Phone Number

Output Health Data:

- Patient's Health Data (from all Four Banks)

Input Health Data:

- Patient's Health Data

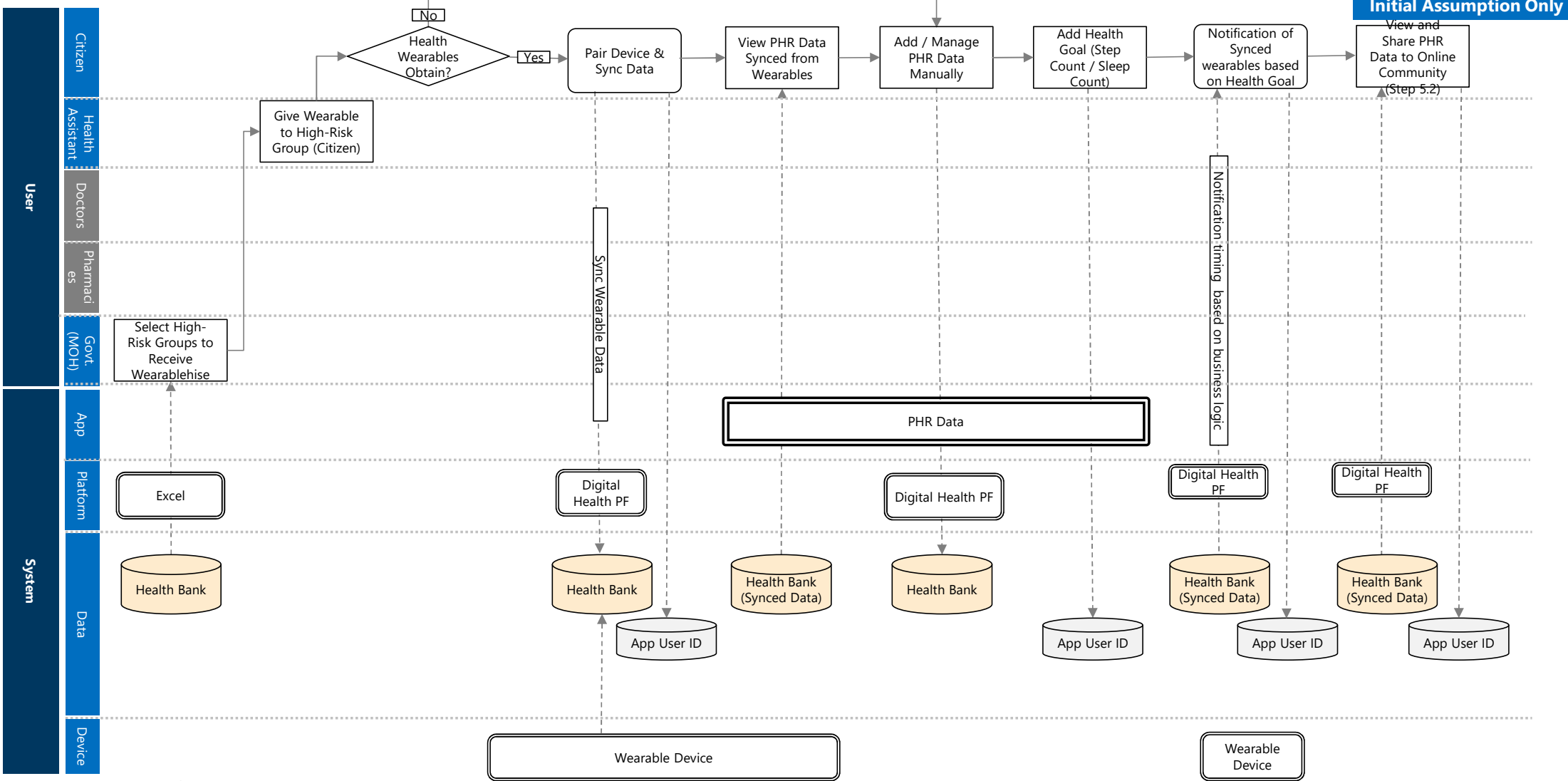
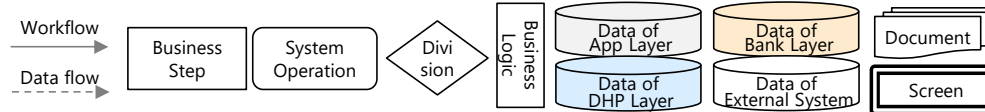
Input Health Data:

- Basic Health Information (Dynamic)

Output Risk Info:

- CVD Risk Assessment (Based on different data variables such as patient's lifestyle self-assessments, various vital signs, household information, etc.)

STEP 4: WEARABLE IOT HEALTH DEVICE

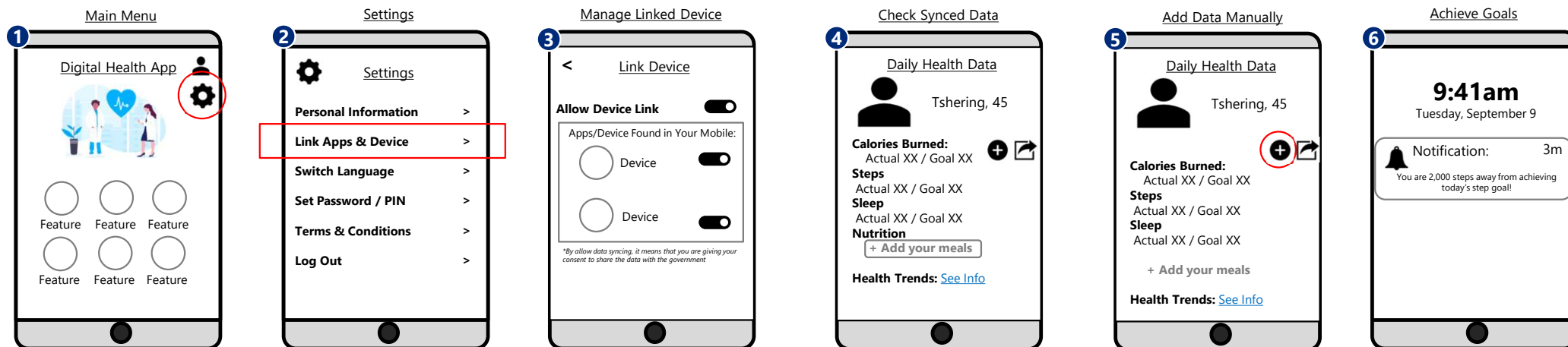


STEP 4: WEARABLE IOT HEALTH DEVICE

USER: CITIZEN

Initial Assumption Only

Wireframe



Description

- 1 User can sync data from IoT Wearables (e.g. Smartwatch) to the application through feature in Settings (*Assumption: IoT Device will be managed by third-party; Health App will only sync the data. User will have to sync wearables and download third-party applications prior to syncing data*)
- 2 In the settings menu, user can click on sync data from wearable to sync data.
- 3 User can add applications or device found to sync health data to the mobile application. Once user toggles on the button, the wearable device data will be synced to the app, which will also be synced to Health Bank.
- 4 User can check synced data within the application. They can also set health goals and add their daily nutrition. User can share the progress with the social community, as well as share it to social channels such as WeChat.
- 4 For users without IoT Device, they can still participate by logging the health status manually in the app.
- 5 User will receive notifications that will remind the user based on the health goals set.

Sample Data

N/A

N/A

Input Wearable Data to the App & Health Bank:

- Data within the wearable such as step count, sleep count, activity levels, etc.

Output Wearable Data Shown:

- Data within the wearable such as step count, sleep count, activity levels, etc.

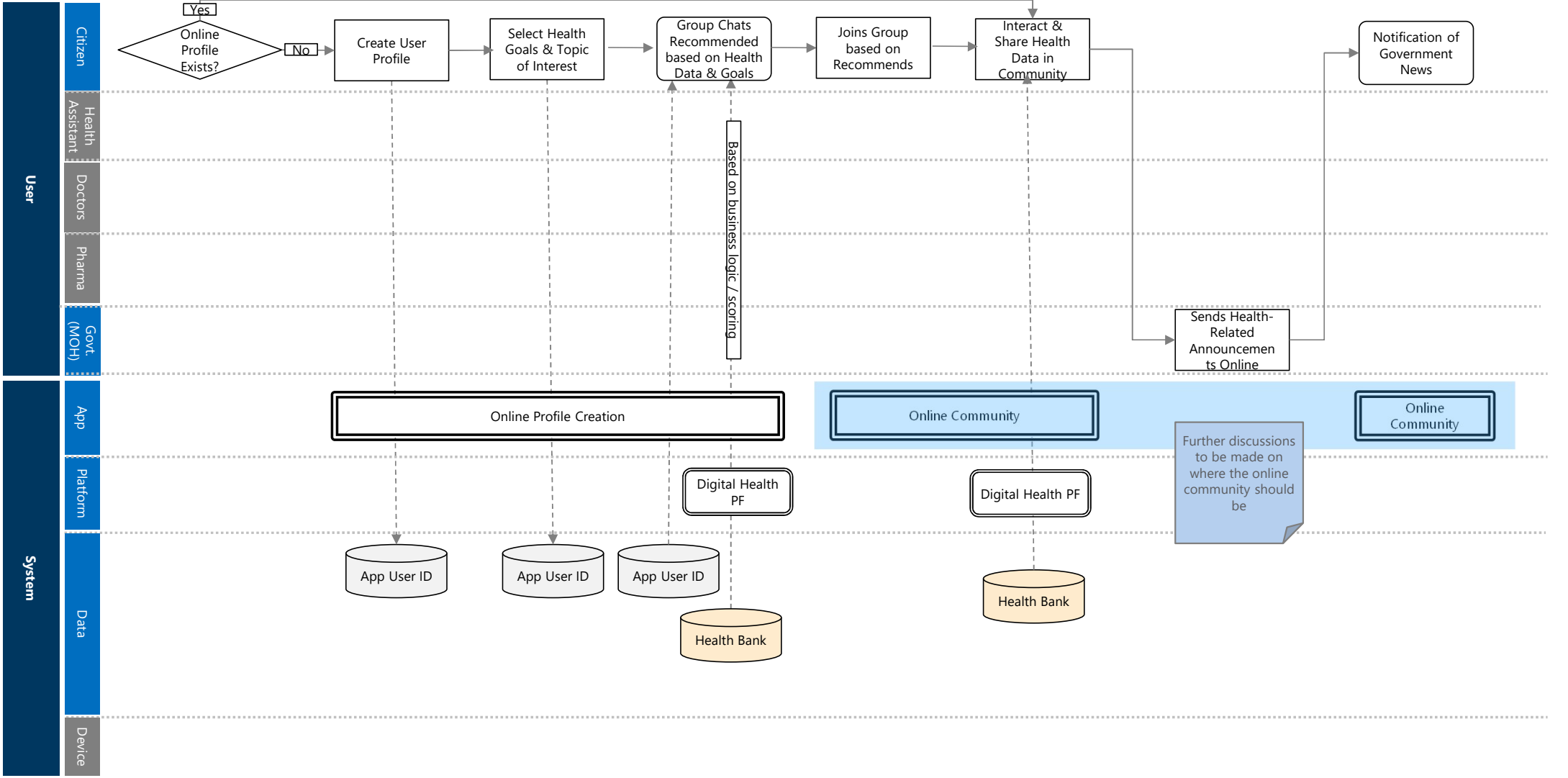
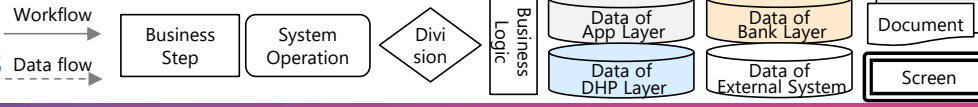
Input Health Data:

- Daily health data such as step count, sleep count, activity levels, etc.

Output Wearable Data Shown:

- Data within the wearable such as step count, sleep count, activity levels, etc.

STEP 5: SUPPORT FROM ONLINE COMMUNITIES



STEP 5: SUPPORT FROM ONLINE COMMUNITIES

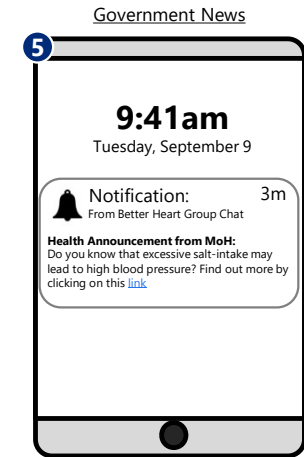
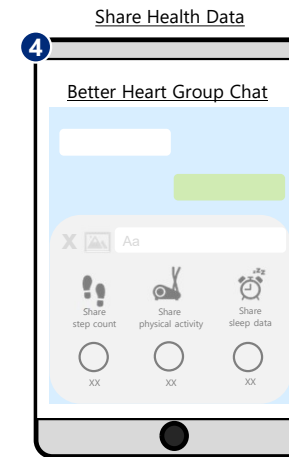
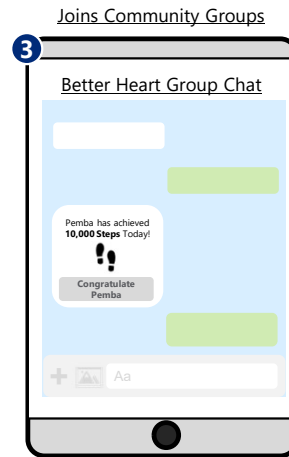
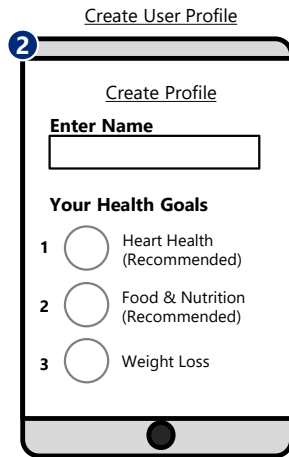
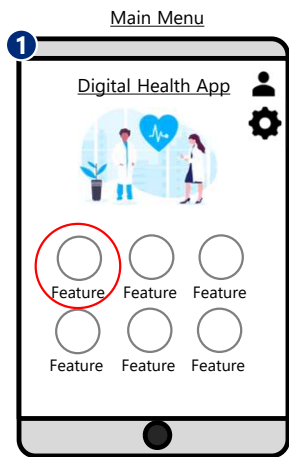
USER: CITIZEN

Initial Assumption Only

Wireframe

Description

Sample Data



1 Within the main menu, user can select a feature where they can interact with other online community members within the mobile application

2 For anonymity, user can create their own user profile, and select health goals that they want to achieve. They will also be recommended the goals based on their health data and health risk.

3 After choosing health goals, user will be recommended / related groups, and chat with people who have the same health goals anonymously

4 User can click to share health data and progress within the group chat, which allows community to gain recognition and motivation

5 Government can also share health-related news within the community group chat

N/A

Input Profile Name
- Name of user (anonymous)

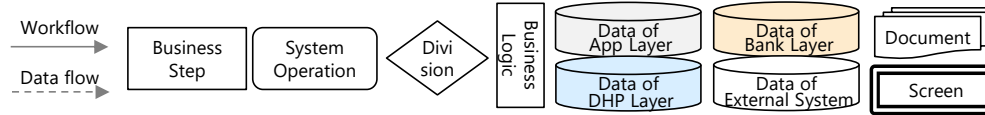
Input Health Goals Attributes:
- Health Goals (Select from health goal list)

Output Wearable Data Shown:
- Data within the wearable such as step count, sleep count, activity levels, etc.

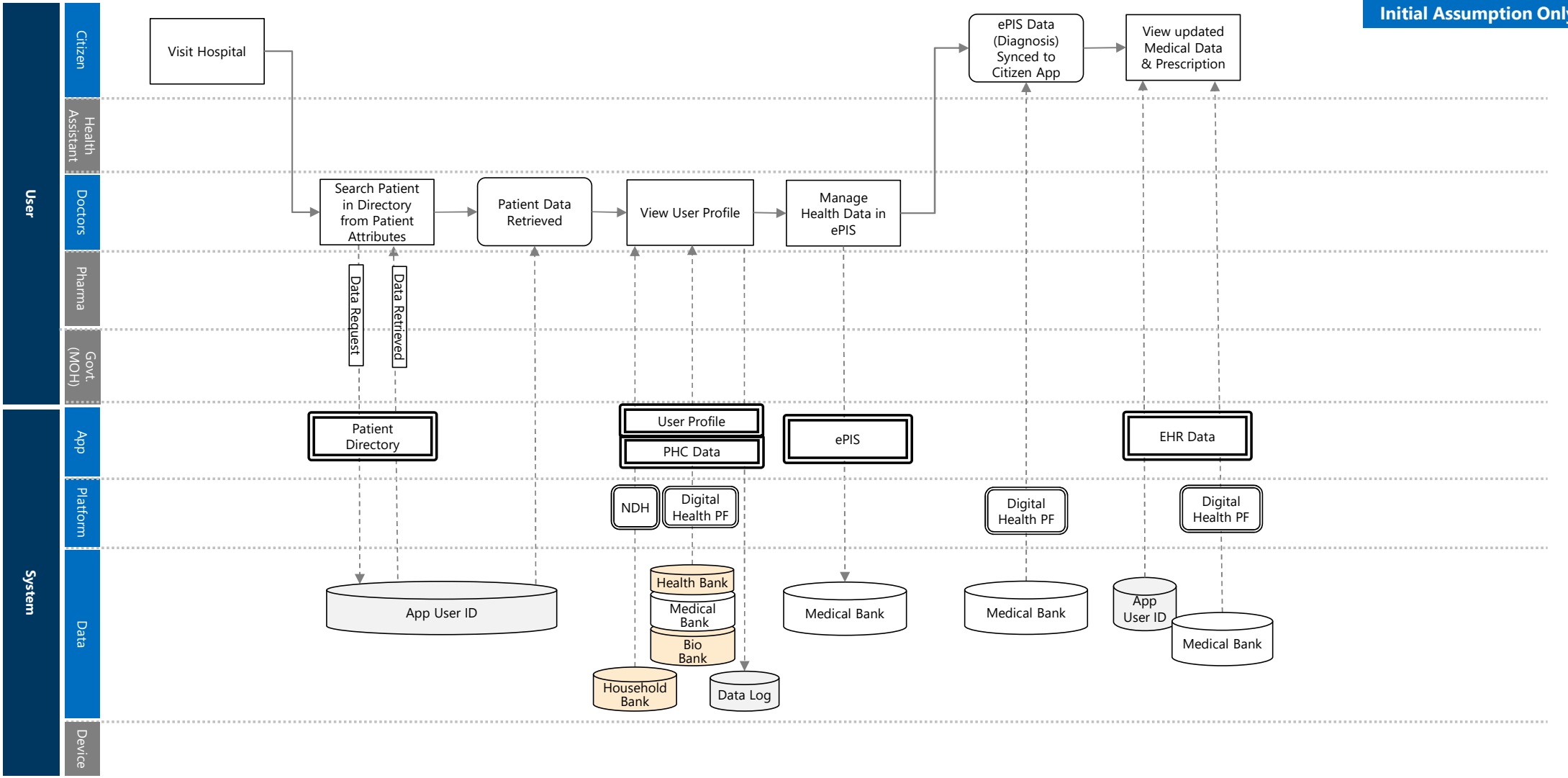
Output Wearable Data Shown:
- Data within the wearable such as step count, sleep count, activity levels, etc.

N/A

STEP 6: CONVENIENCE OF HOSPITAL VISITS



Initial Assumption Only




STEP 6: CONVENIENCE OF HOSPITAL VISITS

USER: HEALTHCARE STAFF IN HOSPITAL

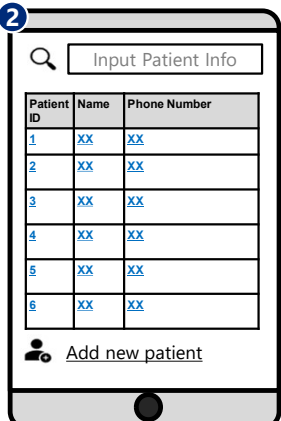
Initial Assumption Only

Wireframe

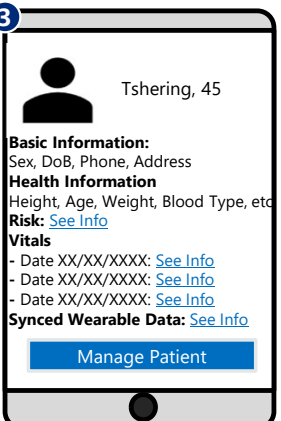
Physical Touchpoint



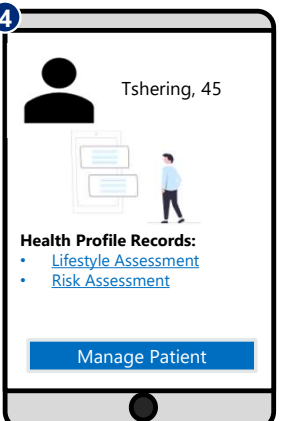
Patient Finder



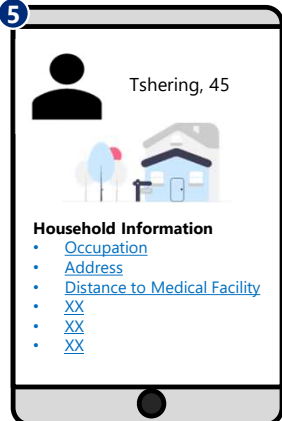
Patient Health Records



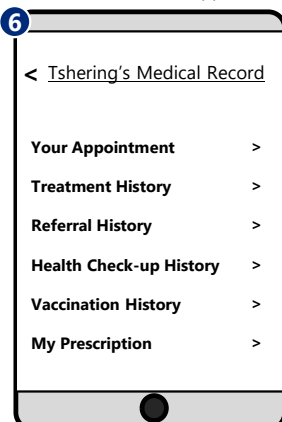
Behavior & Lifestyle Records



Family and Household History Records



Data Links to App



Description

- 1 Patients make a visit to the hospital based on their health issues.
- 2 When patients visit hospital for diagnosis, user (health care staff) can gain extensive data by searching patient data in the database. User enters one of the patient attributes to find the patient info within the database.
- 3 User clicks on the patient info. The patient's health data retrieved from the Health Bank will be shown. User can check patient health data as a supplementary data for diagnosis along with information in ePIS.
- 4 User can also use data such as behavior and lifestyle (e.g. tobacco, alcohol, diet) both input by IoT device and manually by patient, to see whether the patient's lifestyle correlates with the illness / NCD risk they might have
- 5 User can also dig down further to see family and household history records that was input during previous NCD screenings, government initiatives, or manually input by patient. This is to assess their background as well as proximity to high-risk environment / areas.
- 6 After user updates diagnosis within ePIS, ePIS data will also be reflected on user's profile within the mobile application in real-time (*No data flowing back to ePIS*). Here, both citizens and health workers can also see summarized treatment information (Not the actual medical record)

Sample Data

Input Patient Attributes:

- Patient Name
- Phone Number

Output Health Data:

- Patient's Health Data

Output Health Data:

- Patient's Health Data
- Patient's Household Data
- Self-Health Assessments

Output Health Data:

- Patient's Health Data
- Household Bank data

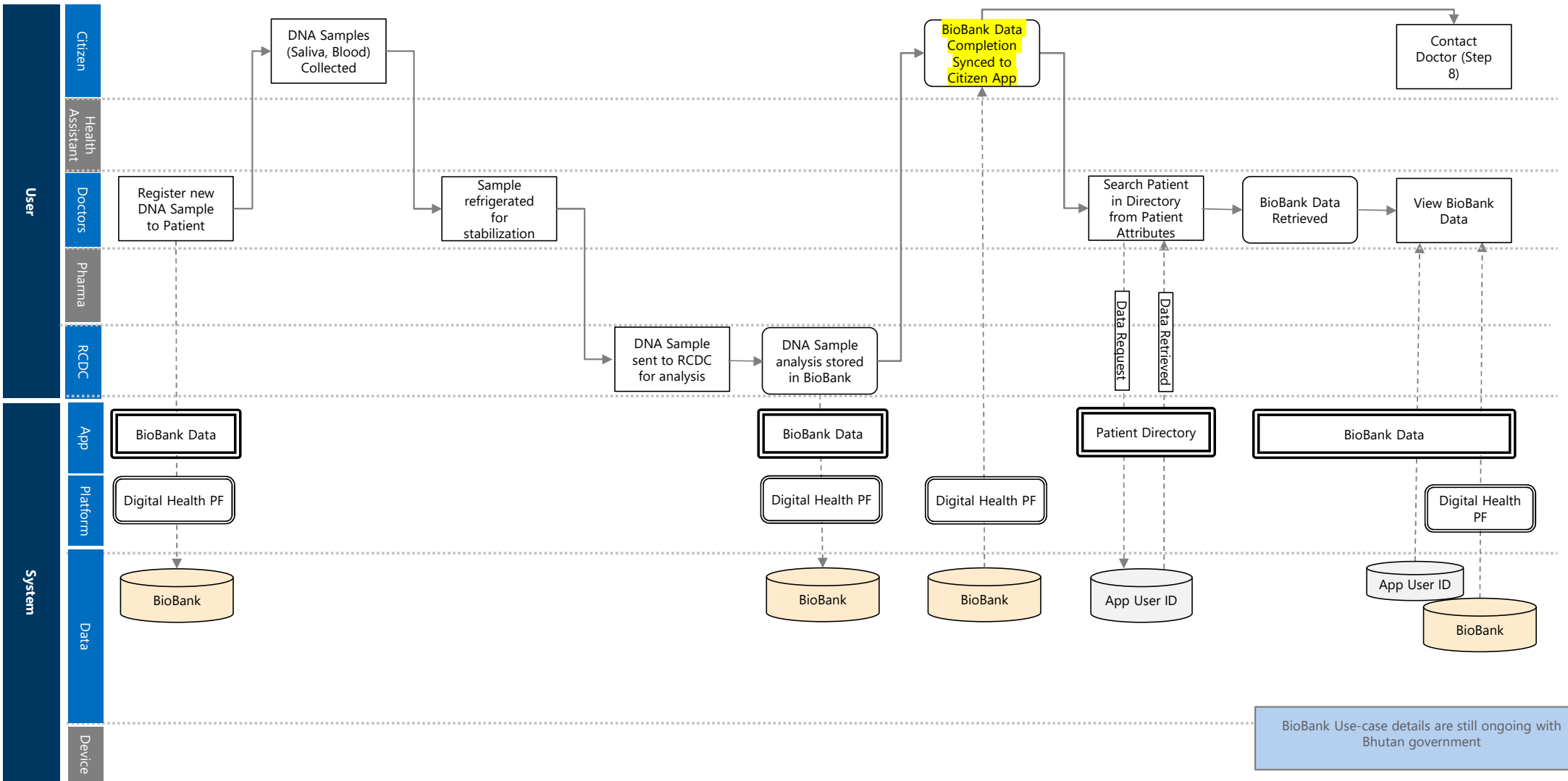
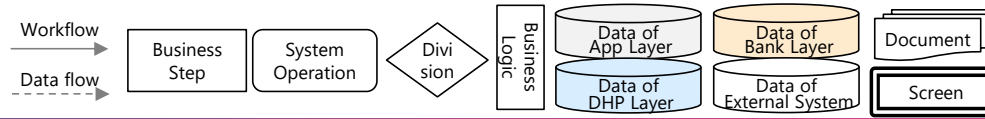
Output Health Data:

- Patient's Health Data

Output Medical Data:

- Patient's Medical Records Data

STEP 7: DNA TO BIOBANK



BioBank Use-case details are still ongoing with Bhutan government

STEP 7: DNA TO BIOBANK

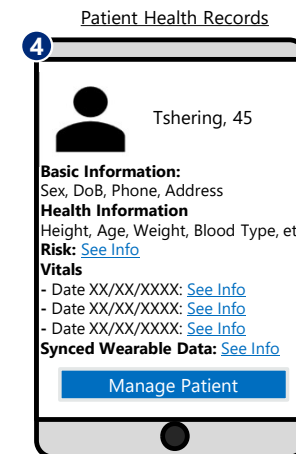
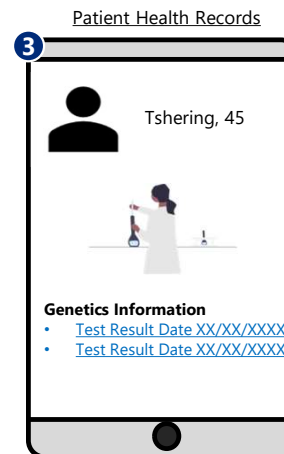
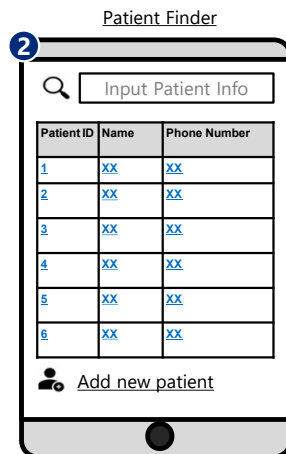
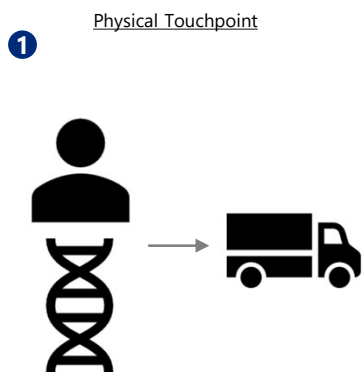
USER: HEALTHCARE STAFF IN HOSPITAL

Initial Assumption Only

Wireframe

Description

Sample Data



1 In cases where patient's condition persists, their Blood samples can be sent to RCDC for further diagnosis. The DNA will be extracted from blood samples through a Gene sequencer machine, and later discarded.

2 In cases where patient's data will have to be sent to BioBank for further diagnosis, the data will also be updated to the health application. User enters one of the patient attributes to find the patient info within the database.

3 User clicks on the patient info. The patient's genetic-related data is retrieved from BioBank to be displayed here.

4 User can check genetic-related data, along with other health data and risk assessments to give personalized treatment that is targeted towards the patient.

Input:
- Blood Samples

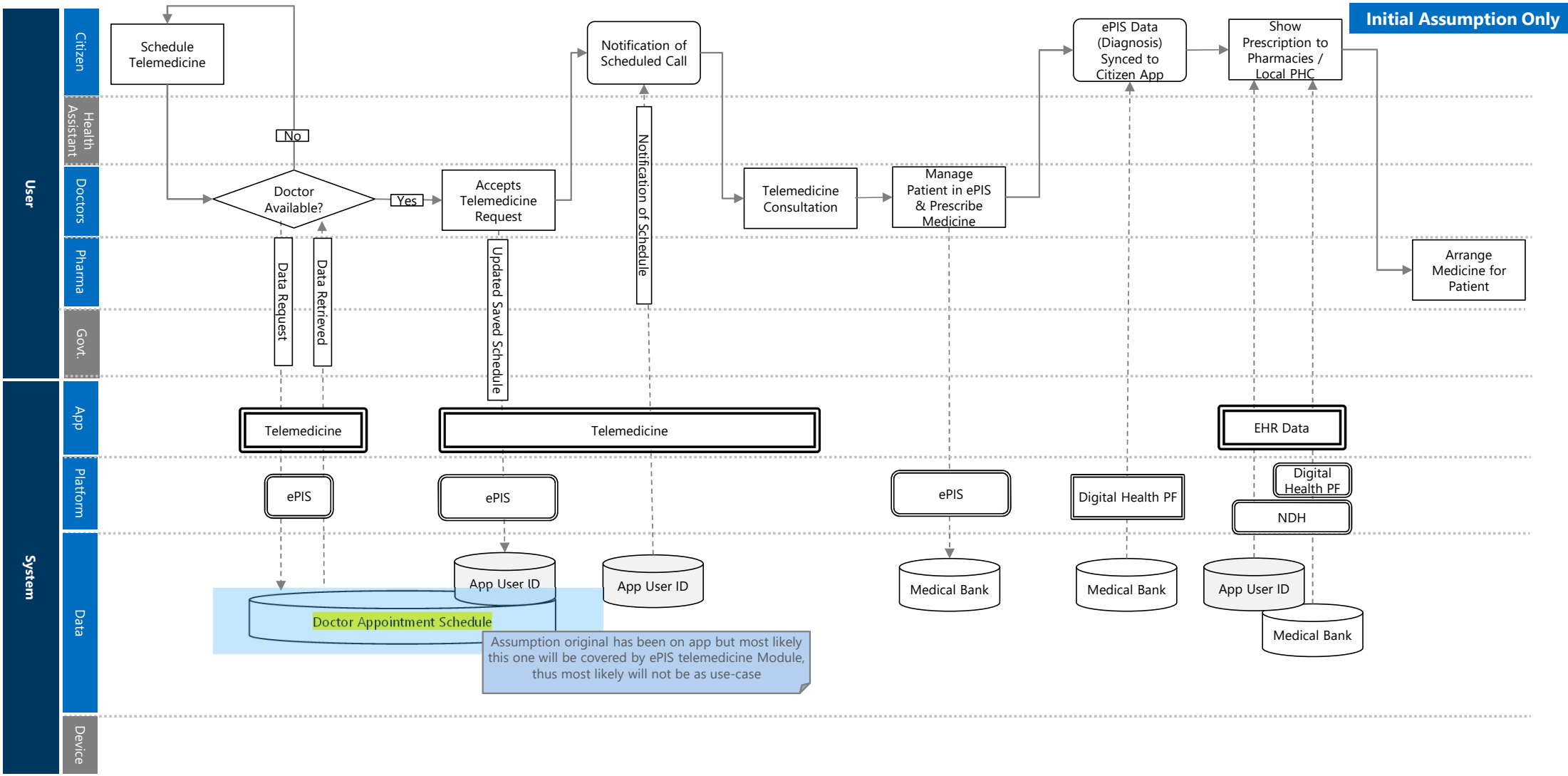
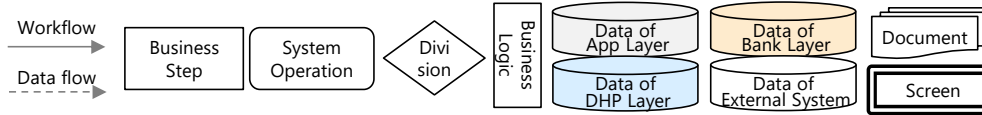
Input Patient Attributes:
- Patient Name
- Phone Number
- Address

Output Health Data:
- Patient's Bio Bank (Genetics Testing Result) Data

Output Health Data:
- Health Bank
- Household Bank
- Medical Bank
- Bio Bank (Genetics Testing Result) Data

BioBank Use-case details are still ongoing with Bhutan government

STEP 8: TELEMEDICINE FOLLOW UP



Initial Assumption Only

Assumption original has been on app but most likely this one will be covered by ePIS telemedicine Module, thus most likely will not be as use-case

STEP 8: TELEMEDICINE FOLLOW UP

USER: CITIZEN

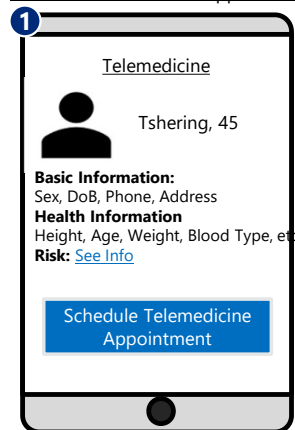
Initial Assumption Only

Wireframe

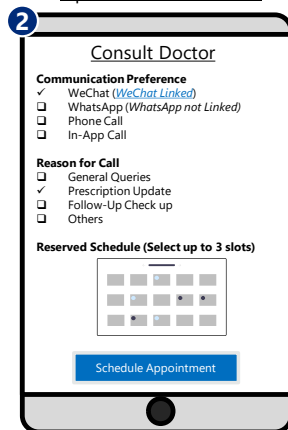
Description

Sample Data

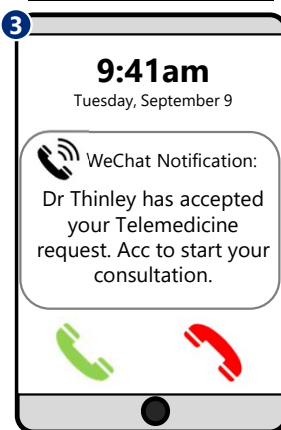
Schedule Telemedicine Appointment



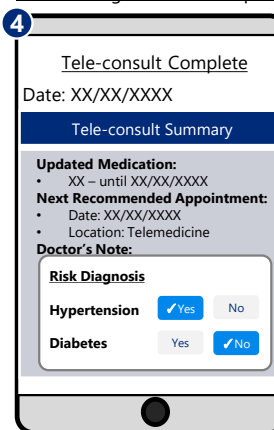
Input Telemedicine Data



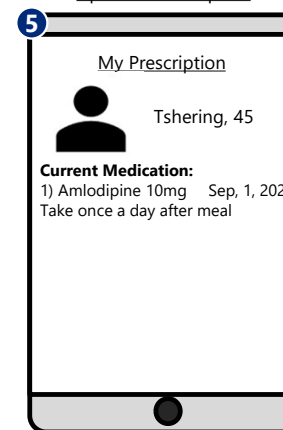
Tele-consultation with Doctor



Receive Diagnosis & Prescription



Updated Prescription



Physical Touchpoint



1 Within the telemedicine feature, user can contact hospitals directly and vice versa for non-emergency consultations. User can schedule an appointment with doctor.

2 User can schedule a call by inputting the information. The availability of the doctor is calculated based on location proximity, and user's treatment history. User can also select communication preference with the Social Media Account that is linked to the device.

3 The request information will be sent to the doctor. Notification will be sent to the user once the doctor accept the tele-consult appointment. Once appointment is accepted, user can consult with the doctor on the scheduled date.

4 After completing the telemedicine consultation, user receives diagnosis from the doctor. Doctor can recommend user to come in for further extensive health checks. Or if it is a follow-up case, doctor can update the prescribed medicine to the user that they can receive at the nearest PHC.

5 Within "My Prescription", user can check the prescribed medicine and can go to the local PHC to obtain the medication.

6 User can show Prescription to the local PHC to receive the medicine from Has
- At App, later on Could set medication reminder

N/A

Output Consultation Attributes
- Doctor's availability
Input Consultation Attributes
- Reservation Details

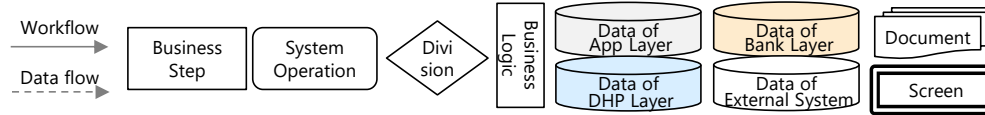
N/A

Output Teleconsultation Outcomes (Based on Doctor's Inputs)
- Patient Health Information (Updated medication, Diagnosis & Notes, Etc.)

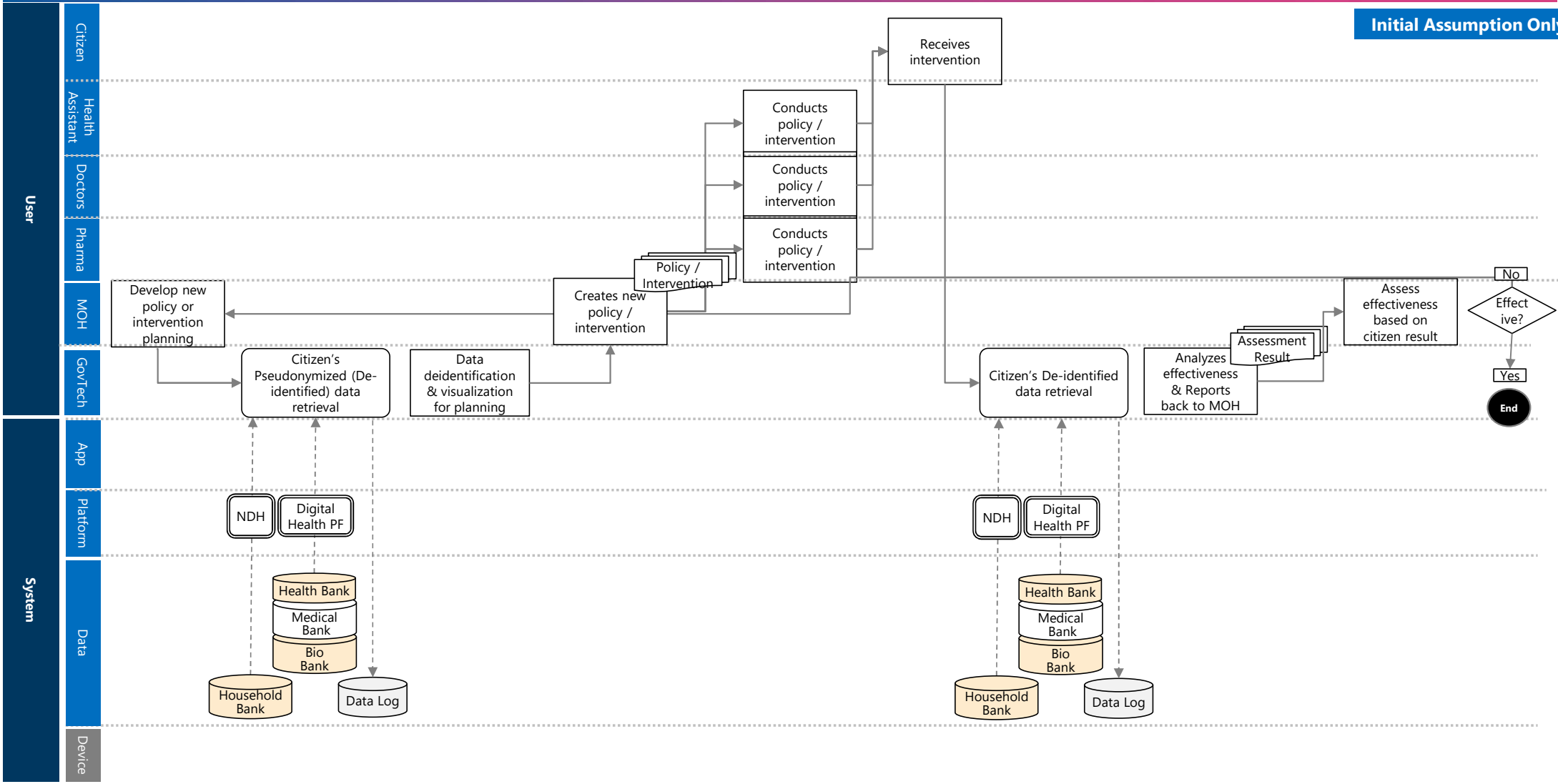
Output Prescription Info:
- Based on data updated within health bank

Assumption original has been on app but most likely this one will be covered by ePIS telemedicine Module, thus most likely will not be as use-case

STEP 9: Centralized Data for EBPM



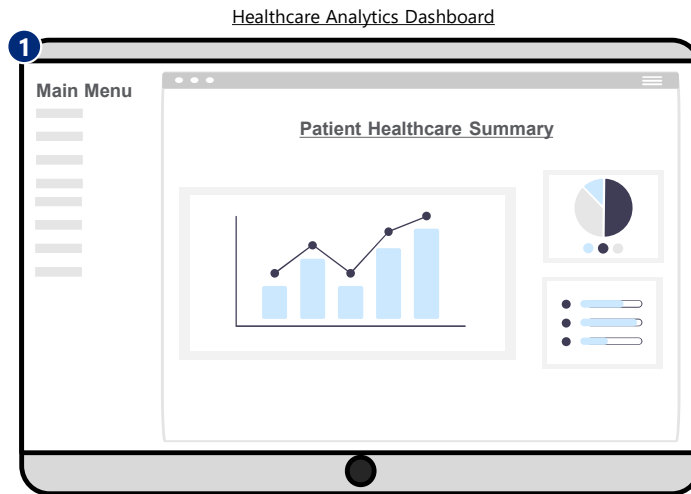
Initial Assumption Only



STEP 9: Centralized Data for EBPM

USER: GOVERNMENT

Initial Assumption Only



1 Pseudonymized data (de-identified personal data) from all sources (Health Bank, Medical Bank, Household Bank, BioBank) will be consolidated into the National Data Hub which is a centralized data stored for government to analyze health trends. Through use of **enterprise data platform**, users can manage data, analyze, and share across different departments.

Output Health Data:

- Health Bank
- Household Bank
- Medical Bank
- Bio Bank (Genetics Testing Result) Data

1. Healthcare Policy Development

- Developing a model for rational consumption of treatment options based on income
- Appropriately allocating budgets for various diseases, ensuring funds are directed towards disease with highest prevalence and impact on public health
- Properly allocating budgets for hospital infrastructure
- Formulating new healthcare integration policies across departments to improve coordination and delivery of healthcare
- Developing new policies to regulate and widespread use of traditional medicine to ensure safe and effective use that meets health needs of the citizen

2. Medical Research and Evaluation

- Allocate Conducting research on targeted medicine development and effectiveness evaluation.
- Studying the impact of self-monitoring and lifestyle changes on health outcomes.

3. Public Health Data Analysis & Intervention Planning

- Analyzing NCD patterns to identify high-risk groups and sources of outbreaks, developing targeted prevention strategies
- Identifying disparities in health outcomes among different populations (e.g. by income, or geography) developing interventions to address those disparities
- Tracking vaccination rates to identify low coverage areas and implementing targeted outreach efforts to improve coverage
- Analyzing data on lifestyle behaviors such as tobacco, diet, and physical activity to identify effective behavior change programs
- Using predictive analytics to forecast health trends and identify areas where intervention is likely to be most effective

TO-BE JOURNEY (1/3)

“State-led Healthcare DX Approach” can enhance health awareness on personal and community level, prioritize the accessibility of medical care, and evaluate the individual health situation on personal and holistic view.

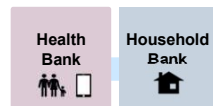


Legend:

- A** Community Health Guidance
- B** Social Well-being
- C** Medical Care Triage
- D** UHC

1 Community Health Guidance (First Touchpoint) A

Input for risk group



Use data to identify targeted users who will be prioritized for health apps through
 (1) Identification of Risk Groups
 (2) Initial Screenings from MoH

- Health Bank: Vitals to find risks
- Household Bank: Family history, distance to medical facilities, Housing as targeted priority (its updated in the National annual survey done by government)

Each PHC health screening and identifies individuals who are at risk. **Health Assistants (HAs) promote health mobile app benefits to villagers**, to bridge the gap with the health system

Tshering who lives in a rural village in, Thimphu, was diagnosed with a risk for CVD during NCD screening by MoH. He learned about the health app from the HAs and wants help registering. As his village is far from the nearest Sub-Post, he wants to save time by connecting to health facilities online



2 Community Health Guidance (APP Registration) A

With guidance of HAs, citizens register the app using their National Digital ID. **Citizens fill in the basic health in the app** integrated to Health Bank. The app also acts as a **digital health book**. For citizens without smartphones, HAs can also register on behalf of the citizens and puts QR code on the back of their manual health book. **This is to improve health awareness, aiming to reduce medical needs and minimize data loss.**

With the help of the HAs, Tshering registers himself using the National Digital ID. He fills in the basic information and leaves out information that he does not know, which can be monitored later when he visits the monthly ORC

3 Medical Care Triage (Initial Screening) C

During monthly outreach services, data could be shown of update of health app to monitor the risk group. Health Staff follow protocol, do screenings, to **improve gaps and triage, eliminating of unnecessary medical care. This can save time and support capacity of existing medical resources**

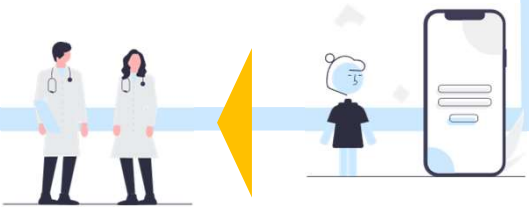
During monthly outreach services citizens can use health app as their health book. Health Assistants, on top of the MoH's annual health screening, follow up by WHO Pen protocols, do NCD screenings and assess vital signs. They diagnose citizens and record their health data in the app, saving time and resources for future visits

Input for Initial Screening



Viewing & Managing patients' health data for initial screening purposes

- Health Bank: Patient's Vitals, Lifestyle, etc.
- Medical Bank: Clinical Records, Medical Results, Treatment History, etc.
- Household Bank: Family history, distance to medical facilities



Output for Registration



Collecting data from citizens via registration of mobile app

- Health Bank: Basic Health Info

TO-BE JOURNEY (2/3)

- Legend:**
- A** Community Health Guidance
 - B** Social Well-being
 - C** Medical Care Triage
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5 Social Well-being (Support from Online Communities) B

The health app **allows citizens to join online social communities to support each other in making healthy lifestyle changes**. Members can share progress and encouragement, potentially reducing the workload for health staff in spreading awareness and **improve their health themselves to reduce medical needs**

Tshering joined an online health community within the mobile app, connecting with other villagers with similar health concerns. He utilized his health wearable device to track his progress and share it with the community for motivation and encouragement towards healthier lifestyle habits



Input Update the health condition



Health Bank: Collecting daily data from Wearables such as heart rate, sleep, step count, physical activity

4 Medical Care Triage (Wearable IoT Health Device) C

The government lends **wearable IoT devices to patients at risk**, which track daily vital signs like heart rate, activity levels, and sleep patterns. The device data is stored in the mobile app, allowing **patients to monitor their health status**

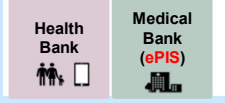
After being diagnosed, Tshering was given a health wearable device to monitor his vitals. The device connects to his mobile phone via Bluetooth and tracks daily metrics like heart rate, step count, and sleep count. The data is stored in the app, allowing Tshering to make lifestyle changes to reduce his risk of CVD

6 Medical Care Triage & UHC (Convenience of Hospital Visits) C D

Patients who have seen no health improvements can be referred to hospitals. It can be **either Telemedicine or Hospital visits**. Patients with high risk and complex medical needs can visit the hospital for more attentive care, while those with mild risk can receive medication from their local PHC by obtaining a prescription via **Telemedicine**. This efficient data management can **reduce the time and resources needed for health screenings & medical triage** for secondary care

Tshering's high blood pressure persisted, so he decided to visit a secondary care. The doctor access his medical records easily since it was integrated, making the health check process more convenient. This also saves time and resources for additional screenings. With the consistent health records, the doctor made an accurate diagnosis.

Output for Health Data Retrieving



Viewing, Managing, and Retrieving data for convenient patient care

- Health Bank: Vitals, Lifestyle, Nutrition, etc.
- Medical Bank: Clinical Records, Medication, etc.

7 Medical Care Triage (DNA to BioBank) C

For difficult or genetic-related cases, doctors register in the Bio Bank to analyze and recognize new treatment plans to patients. Through a very **personalized patient care, doctors can find specific genetic determinations** with patients' drug response to find the best medication possible

The doctor sent Tshering's DNA samples to BioBank to analyze his genetic associations with drug response, which would allow for a more personalized and effective treatment plan. This decision was made after current blood pressure medications and lifestyle modifications failed to improve Tshering's condition

Output for New Treatment Plans

Medical Bank (ePIS)	Health Bank	Bio Bank	Household Bank
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Understanding overall situation for holistic treatment:

- Medical Bank: Current treatments & medications & family history
- Health Bank: Overall vitals
- Bio Bank: Specific DNA and response to drugs
- Household Bank: Current living conditions

8 UHC (Telemedicine Follow-ups) D

Telemedicine allows patients and doctors to have remote consultations within the app, saving time and money to travel. Health workers can also streamline workflow and attend to more patients by reducing in-person visits to **increase capacity of existing resources**

Tshering in a rural village uses a mobile app for telemedicine services to receive updated medication and follow up with the hospital, saving him the inconvenience of travel. The doctor monitors Tshering's progress through the app, ensuring appropriate care despite the distance

Output for Health Data Retrieving

Health Bank	Medical Bank (ePIS)
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Viewing, Managing, and Retrieving data for remote patient care

- Health Bank: Vitals, Lifestyle, Nutrition, etc.
- Medical Bank: Clinical Records, Medication, etc.

9 Medical Care Triage (Centralized Data for EBPM) C

With **centralized data to the national data hub**, government can analyze public health trends and allocate appropriate budgets for various diseases, **enabling EBPM**. Data such as BioBanks along with other health data plays a crucial role in development of targeted medicines. This also create new **policies to improve healthcare delivery and drive innovation** in digital health products and services

Government can use the data (including Tshering's de-identified data) to create evidence-based policies on hypertension. For instance: rational consumption model for income-based options of treatment options, development of targeted medicine and evaluating its effectiveness, determining the impact of self-monitoring and lifestyle modifications, identifying root causes of hypertension within each communities, and generating heat maps for targeted interventions

Output for Overall Data Analysis

Medical Bank (ePIS)	Health Bank	Bio Bank	Household Bank
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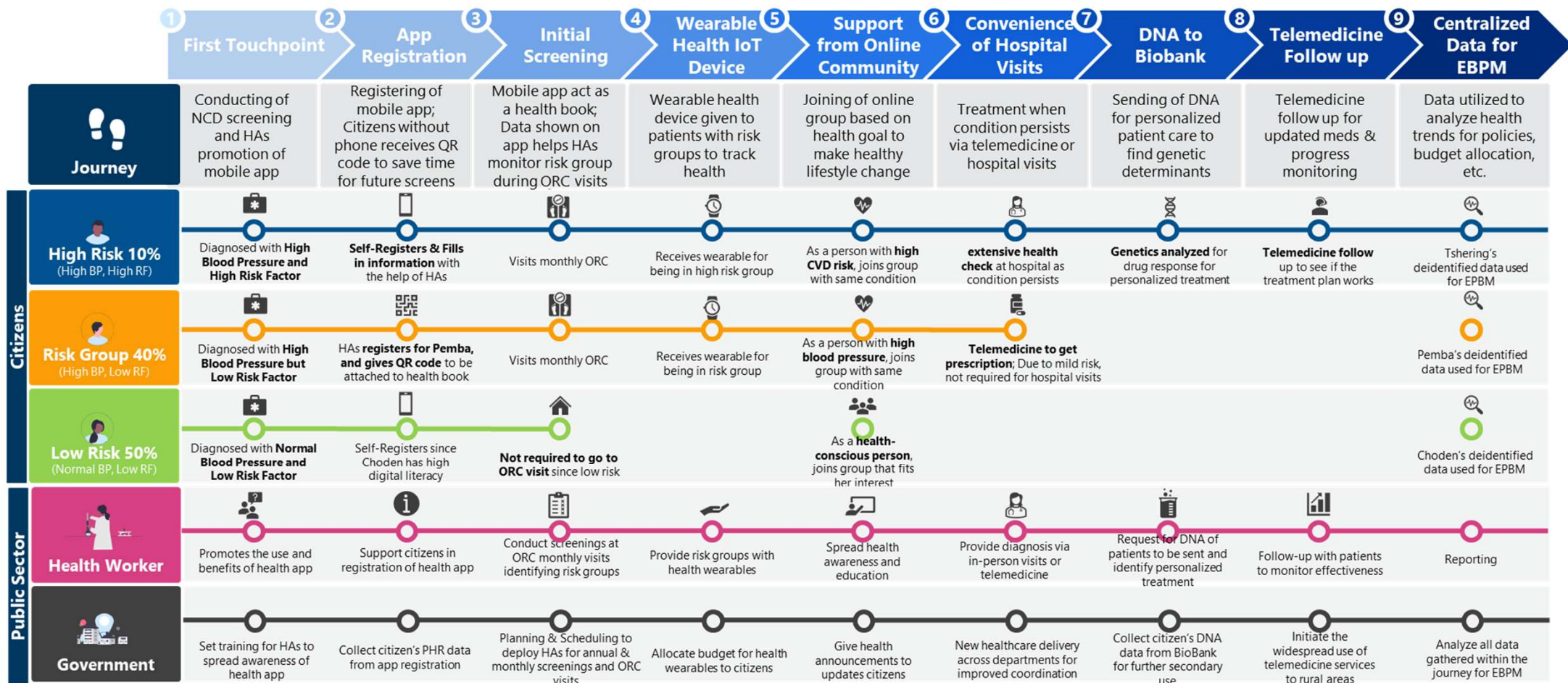
Analyzing overall data from the National Data Hub to create EBPM and drive digital health innovations

Legend:

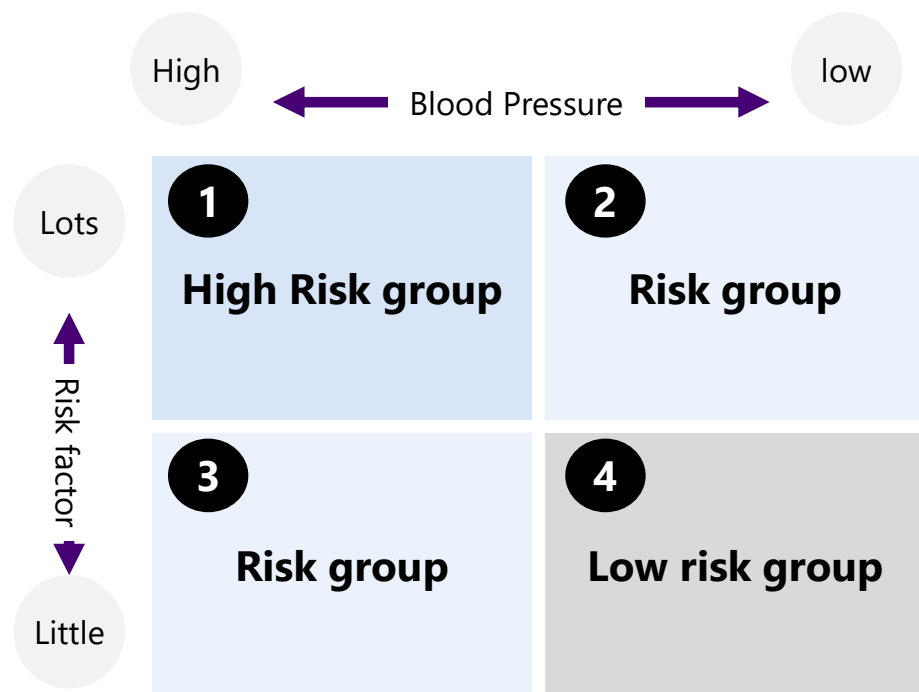
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STAKEHOLDER'S TO-BE JOURNEY

The To-be journey can cover all types, as well as public health sector. We assume the citizen high risk(10%) cases to go through the whole journey but rest of the risk groups within Citizen will stop after the step 6.



The Digital Health will provide and monitor services to the vast range of groups. However, for the use-case, there are priority “High Risk Groups” within Hypertension and identifying them is important.



※Risk Factors includes: overweigh, bad diet, lack of exercise, alcohol, stress, drugs, chronic conditions, over 40 years old, genetic

High Risk Groups

There are prioritized “High Risk group” of hypertension. However, we will monitor vast range of groups

Blood pressure	<ul style="list-style-type: none"> Blood pressure Mid o High is Hypertension and those are high risk
Risk Factors	<ul style="list-style-type: none"> Has more than 2 risk factors such as, over 40 years old, overweigh, bad diet, lack of exercise, alcohol, stress, drugs, chronic conditions, genetic

Priority Use-case environment

We would like to prioritized following three aspects for use-case group

Location	<ul style="list-style-type: none"> Lives relatively far from hospitals. More than 10 km away from hospitals (Urban and Rural areas)
Frequency	<ul style="list-style-type: none"> High frequent visitation group to the hospitals
Tech Saviness	<ul style="list-style-type: none"> Use mobile day-to-day but only at basic level

Digital Health Platform / App Authorization Access

The following are the digital health platform granted access for the medical personal and government officials.

Roles	Identification / Credentials Check
Government (MoH, GovTech, etc.)	Credentials check will be done through BMHC number that is integrated / onboarded with NDI Wallet
Doctors / Physicians	
Nurses	
Health Assistants	
Pharmacists	
Village Health Workers	No digital identification (No Access granted)