Data

03_01_StepandData_ToBe

Updated April 17 (can be updated)

To-Be Journey

Step	Description
Step1	NCD Screening
Step2	Registering of mobile app; Citizens without phone receives QR code to save time for future screens
Step3	Mobile app act as a health book; Data shown on app help HAs monitor risk group during ORC visits
Step4	Wearable health device given to patients with risk groups to track health
Step5	Joining of online group based on health goal to make healthy lifestyle change
Step6	Treatment when condition persists via telemedicine or hospital visits
Step7	Sending of DNA for personalised patient care to find genetic determinants
Step8	Telemedicine follow up for updated meds & progress monitoring
Step9	Data utilised to analyse health trends for policies, budget allocation, etc.

Each step has two sub-columns: **Data input** and **Data output**.

Availability of data	Number in Table list & Data volume (will be used for the DHP connection test in Dec 2024)	Data Category	Data Points	Location (Please note that following "Digital Health App" data source has to be saved in Health Bank)	Note	Data Source	From Who
✓		ID	CID	NDI Wallet	Created newly once register	NDI Wallet	Citizen
	1	ID	DHP ID	DHP	Created newly once register	Health Bank	Citizen
✓	15	ID	HB ID	Health Bank	Created newly once register	Health Bank	Citizen
✓		ID	UHID	Medical Bank	ePIS ID	Medical Bank	Citizen
✓		ID	HHID	Household Bank	Household bank ID or CID (To be checked later)	Health Bank	Citizen
		ID	BRID (Out of scope)	Biobank	Biobank ID; Out of scope	N/A	
	2	App Information	Consent Management	DHP	Opt-in (Primary), Opt-in (secondary) or Modified Opt-out (Secondary); To App vendor: Percentage of target population agree to the secondary use of data should be reported to Accenture.	DHP (from Digital Health App)	Citizen
		App Information	Number of registered app users	Digital Health App	Number of users enrolled (Citizens/Professionals/Healthcare provider)); To App vendor: Number of users enrolled should be calculated and reported to Accenture.	Digital Health App DB	App
		App Information	Daily Active Users (DAU)	Digital Health App	To App vendor: DAU and percentage of users access to the health App on a regular basis should bereported and reported to Accenture.	Digital Health App DB	App
✓		Personal Information	Full Name	NDI Wallet		NDI Wallet	Citizen
		Personal Information	Sex/Gender	NDI Wallet		NDI Wallet	Citizen
✓		Personal Information	Date of Birth	NDI Wallet	App function: Age calculation	NDI Wallet	Citizen
		Personal Information	Mobile Phone number	Digital Health App	App function: Phone number registration	Digital Health App	Citizen
✓		Personal Information	Address (Permanent)	NDI Wallet	App function: Resident adress registration	NDI Wallet	Citizen
✓		Personal Information	Address (Resident/Current)	Digital Health App	App function: Resident adress registration	Digital Health App	Citizen
		Personal Information	Consent Management	DHP	Opt-in (Primary), Opt-in (secondary) or Modified Opt-out (Secondary)	DHP (from Digital Health App)	Citizen
✓		Health Information	Current Disease (Diagnosis)	Medical Bank	Whether the citizen is a hypertensive patient; To App vendor: number of hypertensive patient among users should be reported. (shown on "03_02_Step and Function list")	Medical Bank	Healthcare Providers
✓		Health Information	Current Disease (Diagnosis)	Medical Bank	Whether the citizen has any cardiovascular events(such as stroke); To App vendor: number of hypertensive patient among users should be reported. (shown on "03_02_Step and Function list")	Medical Bank	Healthcare Providers
✓		Health Information	Medication / Prescription	Medical Bank	1. hypertention medication or not (minimum); 2. name of medication (including western and traditional medicine); To App vendor: number of hypertensive patient among users should be reported. (shown on "03_02_Step and Function list")	Medical Bank	Healthcare Providers
		Health Information	Family History	Medical Bank	Whether there is a family member with hypertension or any cardiovascular events(such as stroke)	Medical Bank	Healthcare Providers
✓		Health Information	Weight (Static)	Medical Bank	data is coming from ePIS	Medical Bank	Healthcare Providers
✓		Health Information	Weight (Static)	Household Bank	data is coming from Annual Health Survey	Household Bank (Annual Health Survey, MoH)	Healthcare Providers
	4	Health Information	Weight (Dynamic)	Health Bank	App function: Weight (Dynamic) registration	Health Bank (from Digital Health App)	Citizens/Healthcare Providers
✓		Health Information	Height (Static)	Medical Bank	data is come from ePIS	Medical Bank	Healthcare Providers
✓		Health Information	Height (Static)	Household Bank	data is coming from Annual Health Survey	Household Bank (Annual Health Survey, MoH)	Healthcare Providers
		Health Information	Height (Dynamic)	Health Bank	App function: Height registration	Health Bank (from Digital Health App)	Citizen
✓		Health Information	BMI (Static)	Medical Bank	data is coming from ePIS	Medical Bank	Healthcare Providers
✓		Health Information	BMI (Static)	Household Bank	data is coming from Annual Health Survey	Household Bank (Annual Health Survey, MoH)	Healthcare Providers
		Health Information	BMI (Dynamic)	Health Bank	App function: BMI calculaton	Health Bank (from Digital Health App)	App
✓		Health Information	Blood Pressure (Systolic(mmHg)) (Static)	Household Bank		Household Bank (Annual Health Survey, MoH)	Healthcare Providers
	5	Health Information	Blood Pressure (Systolic(mmHg)) (Dynamic)	Health Bank	measure by healthworkers; Data captured through pilot activities by BP monitor	Health Bank (from BP monitor via Digital Health App)	Healthcare Providers
✓		Health Information	Blood Pressure (Systolic(mmHg))(Static)	Medical Bank	measure by healthworkers; Data captured through pilot activities by BP monitor	Medical Bank	Healthcare Providers
	5	Health Information	Blood Pressure (Diastolic(mmHg)) (Dynamic)	Health Bank	measure by healthworkers; Data captured through pilot activities by BP monitor	Health Bank (from BP monitor via Digital Health App)	Healthcare Providers
✓		Health Information	Blood Pressure (Diastolic(mmHg))(Static)	Medical Bank	measure by healthworkers; Data captured through pilot activities by BP monitor	Medical Bank	Healthcare Providers
	6	Health Information	Heart Rate (Dynamic)	Health Bank	measure by healthworkers on two readings Pulse(BPM)	Health Bank (from Wearable device)	Healthcare Providers
✓		Health Information	Blood test result (LDL Cholesterol)	Medical Bank	LDL Cholesterol; LDL= Low-density lipoprotein (mg/dL); This measurement is priority compare with other Cholesterol); Would like to verify if the data is coming from ePIS or Annual Health Survey (need to check how about in Bhutan)	Medical Bank	Healthcare Providers
✓		Health Information	Blood test result (Cholesterol = 5 mmol/L or >= 190 mg/dl (%))	Medical Bank	Nice to have and not must.; Would be getting data as number; Cholesterol = 5 mmol/L or >= 190 mg/dl (%)); data is coming from ePIS	Medical Bank	Healthcare Providers
Under Discussion		Health Information	Blood test result (Cholesterol = 5 mmol/L or >= 190 mg/dl (%))	Household Bank	Nice to have and not must.; Would be getting data as number; Cholesterol = 5 mmol/L or >= 190 mg/dl (%)); We data is coming from Annual Health Survey	Household Bank (Annual Health Survey, MoH)	Healthcare Providers
✓		Health Information	Blood test result (hemoglobin A1C -HbA1c)	Medical Bank	measure by doctors; 1)hemoglobin A1C	Medical Bank	Healthcare Providers
✓		Health Information	Blood test result (Blood Sugar Fasting & Control Rate)	Medical Bank	measure by healthworkers on blood glucose; 1)mmol/L or HbA1c; 2)check time of last meal	Medical Bank	Healthcare Providers
Under Discussion		Health Information	Blood test result (Blood Sugar Fasting & Control Rate)	Household Bank	measure by healthworkers on blood glucose; 1)mmol/L or HbA1c; 2)check time of last meal	Household Bank (Annual Health Survey, MoH)	Healthcare Providers
✓		Health Information	Blood test result (Blood Glucose rate)	Medical Bank	measure by healthworkers on blood glucose; 1)mmol/L; 2)check time of last meal	Medical Bank	Healthcare Providers
✓		Health Information	Blood test result (e-GTP)	Medical Bank	Blood test result (e-GTP)	Medical Bank	Healthcare Providers
✓		Health Information	Blood test result (Creatinine)	Medical Bank	Blood Test result (Creatinine)	Medical Bank	Healthcare Providers
Under Discussion		Health Information	CVD Risk Level (Static)	Household Bank	To be verified with the MoH if we can get it	Household Bank (Annual Health Survey, MoH)	Healthcare Providers
		Health Information	CVD Risk Level (Dynamic)	Health Bank	To App vendor: Highly appreciated if CVD risk is calculated same with the MOH's annually health survey from age, sex, SBP, current smoking status, and BMI	Digital Health App DB	App
	12	Health Assessment (Wearable)	Step Count	Health Bank	steps calculated	Health Bank (from Wearable device)	Citizen
	13	Health Assessment (Wearable)	Physical activity (Calorie)	Health Bank	Calorie calculated	Health Bank (from Wearable device)	Citizen
	14	Health Assessment (Wearable)	Sleeping hours (Option)	Health Bank	sleeping hours recorded	Health Bank (from Wearable device)	Citizen
	7	Health Assessment (Push notice QA)	Physical activity self-assessment (Physical Activeness Assessment)	Health Bank	Data on Survey QA style same as National Health Survey: Do you do any sports, fitness orrecreational activities that cause an increase in breathing or heart rate for at least 10 minutes continuously?	Health Bank (from push notice QA of Digital Health App)	Citizen
	8	Health Assessment (Push notice QA)	Alcohol self-assessment (Alcohol Assessment)	Health Bank	Data on Survey QA style same as National Health Survey: During the past 30 days, how many occasions did you have at least one standard alcoholic drink?	Health Bank (from push notice QA of Digital Health App)	Citizen
	9	Health Assessment (Push notice QA)	Cigarettes self-assessment (Tobacco)	Health Bank	Data on Survey QA style same as National Health Survey: On average, how many sticks of cigarettes (do/did) you smoke per day?	Health Bank (from push notice QA of Digital Health App)	Citizen
	10	Health Assessment (Push notice QA)	Nutritional self-assessment (salt intake, vegetable intake, and Doma Pani consumption) (Nutrition Asessment) (Doma)	Health Bank	Data on Survey QA style: On average, how many pack (do/did) you use Betel per day?	Health Bank (from push notice QA of Digital Health App)	Citizen
	10	Health Assessment (Push notice QA)	Nutritional self-assessment (salt intake, vegetable intake, and Doma Pani consumption) (Nutrition Asessment) (Salt)	Health Bank	Is there any data on Survey National Health Survey? (we could not find relevant ones) if not from STEP survey Bhutan; (1)do you often add salt or salty sauce to their food before eating or as they are eating? (2) Do you often (at least few times a day), eat tradition food include butter tea (suja), esay, pickles, cheese poached in butter and oil with salt, rice broth with meat or cheese, chili with cheese? We will be confirming with RGoB if what question for Salt intake is best	Health Bank (from push notice QA of Digital Health App)	Citizen
	10	Health Assessment (Push notice QA)	Nutritional self-assessment (salt intake, vegetable intake, and Doma Pani consumption) (Nutrition Asessment) (Vegetable)	Health Bank	Data on Survey QA style as National Health Survey: In a normal week, on how manydays do you eat vegetables(excluding chilies and tubers such as potatoes)?	Health Bank (from push notice QA of Digital Health App)	Citizen
	11	Household (Dynamic) (Push notice QA)	Dynamic Household Bank assessment (GNH-1: Health Barriers)	Health Bank	Data on Survey QA style similar as GNH Survey: Q.63"64c": Health Barriers Section: How long would it take you to check your health conditions by Digital Health App?	Health Bank (from push notice QA of Digital Health App)	Citizen
	11	Household (Dynamic) (Push notice QA)	Dynamic Household Bank assessment (GNH-2: Community Vitality)	Health Bank	Data on Survey QA style similar as GNH Survey: Q30o" - Social Support Section - How many people that you can get support, guidance or couragement if you are sick?; Q93 - Community Vitality - How would you describe your sense of belonging to your local community?	Health Bank (from push notice QA of Digital Health App)	Citizen
	11	Household (Dynamic) (Push notice QA)	Dynamic Household Bank assessment (GNH-3: Psychological Wellbeing)	Health Bank	Data on Survey QA style same as GNH Survey: Psychological Wellbeing Section (Sleeping Time); Q29f. How satisfied are you with your sleep?; Q33. Have you 'Lost sleep over worry' ?; Last night, did you sleep:	Health Bank (from push notice QA of Digital Health App)	Citizen
	11	Household (Dynamic) (Push notice QA)	Dynamic Household Bank assessment (GNH-4: Healthy Days)	Health Bank	Data on Survey QA style same as GNH Survey: Q56. Healthy day (Physical Activities) During the past 30 days, about how many days did poor physical or mental health keep you from doing your usual activities,such as self-care, work or recreation?	Health Bank (from push notice QA of Digital Health App)	Citizen
	11	Household (Dynamic) (Push notice QA)	Dynamic Household Bank assessment (GNH-5: Health Assessment)	Health Bank	Data on Survey QA style same as GNH Survey: Q50. In general, would you say your health is: Excellent/Very good/Good/Fair/Poor	Health Bank (from push notice QA of Digital Health App)	Citizen
Under Discussion		Household (Static)	Static Household Data (GNH-1: Health Barriers))	Household Bank	Scoring for Q. 63 GNH survey 2022 in Thimphu.; Q. 63 - Health Barriers Section: How long would it usually take you to reach to the nearest health care centre?; Q. 64c.Waiting time to see doctor or health care provider?	Household Bank (GNH survey)	Healthcare Providers
Under Discussion		Household (Static)	Static Household Data (GNH-2: Community Vitality)	Household Bank	Scoring for question Q30a, Q93 in Thimphu.; Q30a - Social Support - How many people are very close to you that you can count on them if you are sick?; Q93 - Community Vitality - How would you describe your sense of belonging to your local community?	Household Bank (GNH survey)	Healthcare Providers
Under Discussion		Household (Static)	Static Household Data (GNH-3: Psychological Wellbeing)	Household Bank	Scoring for question 29f,33 Psychological Wellbeing in Thimphu.; Q29f. How satisfied are you with your sleep?; Q33. Have you 'Lost sleep over worry' ?; Last night, did you sleep:	Household Bank (GNH survey)	Healthcare Providers
Under Discussion		Household (Static)	Static Household Data (GNH-4: Healthy Days)	Household Bank	Scoring for question 56 Healthy Days in Thimphu.; Q56. During the past 30 days, about how many days did poor physical or mental health keep you from doing your usual activities,such as self-care, work or recreation?	Household Bank (GNH survey)	Healthcare Providers
Under Discussion		Household (Static)	Static Household Data (GNH-5 Health Assessment)	Household Bank	Scoring for question Q50 - Health in Thimphu.; Q50. In general, would you say your health is: Excellent/Very good/Good/Fair/Poor	Household Bank (GNH survey)	Healthcare Providers
	11	Household (Dynamic) (Push notice QA)	Housing Conditions	Health Bank	Data on Survey from healthbank; What is your avirage house/room tempurature at home?; Sping(March - May):; Summer(June- August):; Fall(Sept- Nov):; Winter(Dec- Feb):	Original: Household bank; Modify: Health Bank (Survey for Household bank)	Citizen
Under Discussion		Household (Dynamic)	Living environement	Household Bank	Data on Survey; materials used in building external walls, roof, floor, and windows; https://documents1.worldbank.org/curated/en/628171596185674486/pdf/Bhutan-Living-Standards-Survey-Report-2017.pdf	Original: Household bank; Modify: Health Bank (Survey for Household bank)	Citizen
		Household (Dynamic) (Push notice QA)	Family Number	Health Bank	Data on Survey QA style; How many family members do you have in your house that you live in?	Original: Household bank; Modify: Health Bank (Survey for Household bank)	Citizen
✓		Household (Static)	Family Number	Household Bank	QA number should be fulfilled	Household Bank (Population & Housing Survey, NSB)	Citizen
✓		Household (Static)	Distance to medical facilities	Household Bank	BLSS Survey 2022: Table A6.22 (Average in Thimphu); Distribution of Households by Time Taken to reach the nearest Service Center and Area /Hospital / PHC / Satellite Clinic / Subpost)	Household Bank (Living Standard Survey)	Citizen
		Household (Dynamic) (Push notice)	Household income and expenditures	Household Bank	Data on Survey QA style as same as BLSS Survey 2022: Table 7.18 Annual Household Income by Source of Income and Area	Original: Household bank; Modify: Health Bank (Survey for Household bank)	Citizen
		Household (Dynamic) (Push notice)	Stress level	Health Bank	Stress level questions	Health Bank (from push notice QA of Digital Health App)	Citizen

Static = means taken once
Dynamic = means taken several times a year

Symbol	Meaning
●	MUST (Primary)
○	Secondary
	N/A

Image sample

Steps	Journey	Function	Description	Column1	Use-case Application	Fit or Gap compare (YES =O, No= x)	Fit or Gap compare Details (If it's a Gap, please check how you plan to develop)	Fit scrren image if applicablex (If existing app already has the feature)
Step2	APP REGISTRATION (BY HEALTHCARE STAFF)	Registration	User takes photo of citizen's ID Card and enter registration attributes on behalf of the citizen. The OCR Reader prefills information to the registration, and system verifies if the information matches to the National Digital ID Platform.	CID HB ID Full Name Sex/Gender Date of Birth Mobile Phone number Address (Resident/Current)	Usecase A			
Step2	APP REGISTRATION (BY HEALTHCARE STAFF)	Identity Verification	For security purposes, user will have to take photo of the citizen to verify the citizen's identity; If they have the facial recognition matches the current photo with the photo in the National Digital ID Platform.	Input Verification: ID Card (Front & Back) User's Photo	Usecase A			
Step2	APP REGISTRATION (BY HEALTHCARE STAFF)	T&C (Opt-in Consent)	Upon registration, user reads through Terms & Condition for the citizen, and applies for opt-in consent for different purposes based on citizen's choices. **Its an Opt-in Consent for "Primary usage (required)" and "secondary usage (optional), and check the "Terms & Conditions consent "** **Primary so that its for medical professionals and secondary is agripated and masked but used for future reseah.**	Consent Management	Usecase A			
Step2	APP REGISTRATION (BY HEALTHCARE STAFF)	Menu	Users can help citizens without an app enter basic **profile (weight, height), and do initial surveys to assess behaviors and health risks.** This will be later on useful for other medical staff to assess in the initial health screenings.	Current Disease (Diagnosis) Current Disease (Diagnosis) Medication / Prescription Height (Static) Weight (Dynamic) Height (Static) Height (Dynamic) BMI (Static) BMI (Dynamic)	Usecase A			
Step2	APP REGISTRATION (BY HEALTHCARE STAFF)	Registration Completion	Once everything is completed, a Bar code will be generated. User can save, share, or print out Bar code to be given to the citizen. Citizen can show this bar code for future screenings, which acts as a digital health book. (Bar code useing in ePIS will be there instead of QR code)	Output - Number of registered app users (to health workers)	Usecase A			
Step2	APP REGISTRATION FLOW (SELF-REGISTRATION)	Registration	User takes photo of ID Card and enter registration attributes. The OCR Reader prefills information to the registration, and system verifies if the information matches to the National Digital ID Platform. If it is correct, user can go through the next flow.	CID HB ID Full Name Sex/Gender Date of Birth Mobile Phone number Address (Resident/Current)	Usecase A			
Step2	APP REGISTRATION FLOW (SELF-REGISTRATION)	Identity Verification	For security purposes, user will have to take photo to verify their identity; The AI facial recognition matches the current photo with the photo in the National Digital ID Platform.	Input Verification: ID Card (Front & Back) User's Photo	Usecase A			
Step2	APP REGISTRATION FLOW (SELF-REGISTRATION)	T&C(Opt-in Consent)	Upon registration, user reads through Terms & Condition, and applies for opt-in consent for different purposes. Users will be able to click register once the required fields are checked. **Its an Opt-in Consent for "Primary usage (required)" and "secondary usage (optional), and check the "Terms & Conditions consent "**	Consent Management	Usecase A			
Step2	APP REGISTRATION FLOW (SELF-REGISTRATION)	Registration completion	After registration process is completed, user will be redirected to first-time log-in screen.	output - Number of registered app users (to health workers)	Usecase A			
Step2	APP REGISTRATION FLOW (SELF-REGISTRATION)	Login (first time)	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.	Input Login Attributes Phone Number OTP via SMS Password / PIN	Usecase A			
Step2	APP REGISTRATION FLOW (SELF-REGISTRATION)	Menu	First time users will be asked to enter their basic health profile as an initial data.		Usecase A			
Step2	APP REGISTRATION FLOW (SELF-REGISTRATION)	Health information input	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.	Current Disease (Diagnosis) Current Disease (Diagnosis) Medication / Prescription Family History Weight (Static) Weight (Static) Weight (Dynamic) Height (Static) Height (Static) Height (Dynamic) BMI (Static) BMI (Dynamic)	Usecase A		Need development	
Step 3	INITIAL SCREENING	Patient finder	User enters one of the attributes to find the patient info within the database. If the patient is not registered, user adds new patient. The information which needs to be input will be the same as the Input Registration Attributes (except for PIN where citizens will input it themselves in the app).	CID HB ID Consent Management Full Name Sex/Gender Date of Birth Mobile Phone number Address (Permanent) Address (Resident/Current)	Usecase A, C			
Step 3	INITIAL SCREENING	Patient health record	User clicks on the patient info. The patient's health data retrieved from the Health Bank will be shown. Unverified data are self-assessed data that were input by the patient themselves which may need further verification from the user via Manage Info Feature	Output Health Bank data CVD Risk (Dynamic)	Usecase A			
Step 3	INITIAL SCREENING	Manage Patient's info	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 National Digital ID, name, age, Date of Birth, Sex. User can also add vitals of the patient through syncing of IoT health device such as Blood Pressure monitor, heart rate variability (HRV) sensors	Consent Management Family History	Usecase A, C			
Step 3	INITIAL SCREENING	Sync Vitals Data	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.	Weight (Static) Weight (Static) Weight (Dynamic) Height (Static) Height (Static) Height (Dynamic) BMI (Static) BMI (Dynamic) Blood Pressure (Systolic)(mmHg) (Static) Blood Pressure (Systolic)(mmHg) (Dynamic) Blood Pressure (Diastolic)(mmHg) (Dynamic) Heart Rate (Dynamic)	Usecase A, C			
Step 3	INITIAL SCREENING	Risk Info	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.	Output - CVD Risk Level (Dynamic) Daily Active users (visible to the health workers) Current Disease (Diagnosis) Current Disease (Diagnosis) Blood test result (LDL Cholesterol) Blood test result (Cholesterol > 5 mmol/L or >= 190 mg/dl (%)) Blood test result (hemoglobin A1C - HbA1c) Blood test result (Blood Sugar Fasting & Control Rate) Blood test result (Blood Glucose rate) Blood test result (g GTP) Blood test result (Creatinine)	Usecase A,C			
Step 4	WEARABLE IOT HEALTH DEVICE	Main Menu	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 from IoT.)		Usecase A, C			
Step 4	WEARABLE IOT HEALTH DEVICE	Settings	In the settings menu, user can click on sync data from wearable to sync data.		Usecase A,C			
Step 4	WEARABLE IOT HEALTH DEVICE	Manage Linked Device	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.	Full Name Sex/Gender Date of Birth Weight (Static) Weight (Static) Weight (Dynamic) Height (Static) Height (Static) Height (Dynamic) BMI (Static) BMI (Static) BMI (Dynamic) Step Count Physical Activity (Calorie) Sleeping Hours (Option)	Usecase A,C			
Step 4	WEARABLE IOT HEALTH DEVICE	Check Synced Data	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.	(Output - Heart Rate (Dynamic), Step Count, Physical Activity (Calorie), Sleeping hours (Option).	Usecase A , C			
Step 4	WEARABLE IOT HEALTH DEVICE	Add Data Manually	For users without IoT Device, th**ey can still participate by logging the health status manually in the app.**	Input - Step Count, Physical Activity	Use case A, C			
Step 4	WEARABLE IOT HEALTH DEVICE	Achieve goals	**User will receive notifications that will remind the user based on the health goals set.**	Output - Heart Rate (Dynamic), Step Count, Sleeping Hours, Physical Activity	Use case C			
Step 5	SUPPORT FROM ONLINE COMMUNITIES	Main Menu	Within the main menu, user can select a feature where they can interact with other **online community members** within the health application		Use case B			
Step 5	SUPPORT FROM ONLINE COMMUNITIES	Create user profile	**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. Each group of health data goal could be max of 5 people and if they dont update their progress for 5days they automatically are log-off from the group. User can also create their own group.	Full Name (Anonymous) Physical activity (Calorie) Sleeping hours (Option) Physical activity self-assessment (Physical Activeness Assessment) Cigarette self-assessment (Tobacco) Nutritional self-assessment (salt intake, vegetable intake, and Doma Pani consumption) (Nutrition Assessment) (Doma)	Use case B			
Step 5	SUPPORT FROM ONLINE COMMUNITIES	Join community group	After choosing health goals, user will be recommended / related groups, and chat with people who have the same health goals anonymously		Usecase B			
Step 5	SUPPORT FROM ONLINE COMMUNITIES	Share health data	User can click to share health data and progress within the group chat, which allows community to gain recognition and		Usecase B,C			
Step 5	SUPPORT FROM ONLINE COMMUNITIES	Government news & Survey	Government can also share health-related news within the community group chat. Also, if there are survey that needs to be take for govenmmnet realted to health.		Usecase B, C			
Step 6	CONVENIENCE OF HOSPITAL VISITS	Patient finder	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.	CID HB ID Full Name Sex/Gender Date of Birth Mobile Phone number Address (Permanent)	Usecase C,D			
Step 6	CONVENIENCE OF HOSPITAL VISITS	Patient Health Records	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 (this will be connected through DHP).		Use case A,C,D			
Step 6	CONVENIENCE OF HOSPITAL VISITS	Behaviour and lifestyle records	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 manag	Consent Management Current Disease (Diagnosis) Current Disease (Diagnosis) Medication / Prescription Family History Weight (Static) Weight (Static) Weight (Dynamic) Height (Static) Height (Dynamic) BMI (Static) BMI (Dynamic) Blood Pressure (Systolic)(mmHg) (Static) Blood Pressure (Systolic)(mmHg) (Dynamic) Blood Pressure (Diastolic)(mmHg) (Dynamic)	Usecase A,C,D			
Step 6	CONVENIENCE OF HOSPITAL VISITS	Family and household history records	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.	Physical activity self-assessment (Physical Activeness Assessment) Alcohol self-assessment (Alcohol Assessment) Cigarette self-assessment (Tobacco) Nutritional self-assessment (salt intake, vegetable intake, and Doma Pani consumption) (Nutrition Assessment) (Doma) Nutritional self-assessment (salt intake, vegetable intake, and Doma Pani consumption) (Nutrition Assessment) (Salt) Nutritional self-assessment (salt intake, vegetable intake, and Doma Pani consumption) (Nutrition Assessment) (Vegetable) Dynamic Household Bank assessment (DNH-1: Health Barriers) Dynamic Household Bank assessment (DNH-2: Community Vitality) Dynamic Household Bank assessment (DNH-3: Psychological Wellbeing) Dynamic Household Bank assessment (DNH-4: Healthy Days) Dynamic Household Bank assessment (DNH-5: Health Assessment) Housing Conditions Family Number Household Income and expenditures Stress level	Usecase A,C,D			

Step	Section	Subsection	Description	Data/Output	Usecase			
Step 6	CONVENIENCE OF HOSPITAL VISITS	Data links to apps	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)	Output: CID HB ID Consent Management Daily Active Users (DAU) Full Name Sex/Gender Date of Birth Mobile Phone number Address (Permanent) Consent Management Current Disease (Diagnosis) Medication / Prescription Family History Weight (Static) Weight (Dynamic) Height (Static) Height (Dynamic) BMI (Static) BMI (Dynamic) Blood Pressure (Systolic(mmHg)) (Static) Blood Pressure (Diastolic(mmHg)) (Dynamic)	Usecase C			
Step 7	DNA TO BIOBANK	Patient finder	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.	CID HB ID Consent Management Full Name Sex/Gender Date of Birth Mobile Phone number Consent Management Current Disease (Diagnosis) Medication/Prescription Family History Weight (Static) Weight (Dynamic) Height (Static) Height (Dynamic) BMI (Static) BMI (Dynamic) Blood Pressure (Systolic(mmHg)) (Static) Blood Pressure (Systolic(mmHg)) (Dynamic) Blood Pressure (Diastolic(mmHg))(Static) Blood Pressure (Diastolic(mmHg)) (Dynamic) Blood Pressure (Diastolic(mmHg)) (Dynamic) Blood test result (LDL Cholesterol) Blood test result (Cholesterol < 5 mmol/L or >= 190 mg/dl (%)) Blood test result (Hemoglobin A1C - HbA1c) Blood test result (Blood Sugar Fasting & Control Rate)	Usecase C			
Step 7	DNA TO BIOBANK	Patient Health Records	User clicks on the patient info. The patient's genetic-related data is retrieved from BioBank to be displayed here.	HLA Genotype Leukocyte Components Familial Cholest	Usecase C			
Step 7	DNA TO BIOBANK	Patient Health Records	User can check genetic-related data, along with other health data and risk assessments to give personalized treatment that is targeted towards the patient.	Output – Family History Blood Pressure (Systolic(mmHg)) (Dynamic) Blood Pressure (Diastolic(mmHg)) (Dynamic) Nutritional self-assessment (salt intake, vegetable intake, and Doma Part consumption) (Nutrition Assessment) (Doma) Nutritional self-assessment (salt intake, vegetable intake, and Doma Part consumption) (Nutrition Assessment) (Salt) Nutritional self-assessment (salt intake, vegetable intake, and Doma Part consumption) (Nutrition Assessment) (Vegetable) Housing Conditions Living environment Distance to medical facilities Stress level	Usecase C			
Step8	TELEMEDICINE FOLLOW UP		This one, ePIS is planning to cover the telemedice so function will be follow up	CID HB ID Full Name Sex/Gender Date of Birth Mobile Phone number Address (Resident/Current) Consent Management Current Disease (Diagnosis) Medication / Prescription Family History Weight (Static) Height (Static) BMI (Static) Blood Pressure (Systolic(mmHg)) (Static) Blood Pressure (Systolic(mmHg)) (Static)	Usecase D			
Step8	TELEMEDICINE FOLLOW UP	Schedule Telemedicine Appointment	Within the telemedicine feature, user can contact hospitals directly and vice versa for non-emergency consultations. User can schedule an appointment with doctor.	Out of scope	Usecase D		(N/A)	
Step8	TELEMEDICINE FOLLOW UP	Input Telemedicine Data	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.	Out of scope	Usecase D		(N/A)	
Step8	TELEMEDICINE FOLLOW UP	Tele-consultation with Doctor	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.	Out of scope	Usecase D		(N/A)	
Step8	TELEMEDICINE FOLLOW UP	Receive Diagnosis & Prescription	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.	Out of scope	Usecase D		(N/A)	
Step8	TELEMEDICINE FOLLOW UP	Updated Prescription	Within "My Prescription", user can check the prescribed medicine and can go to the local PHC to obtain the medication. **Reminder to take the medication and pickup medication is necessary** **It will be good to be able to follow up on "who is**	Out of scope	Usecase D		(N/A)	
Step 9	CENTRALIZED DATA FOR EBPM	Healthcare analytics dashboard	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.	CID Consent Management Number of registered app users Daily Active Users (DAU) Sex/Gender Date of Birth Address (Permanent) Address (Resident/Current) Consent Management Current Disease (Diagnosis) Current Disease (Diagnosis) Medication / Prescription BMI (Static) BMI (Dynamic) Blood Pressure (Systolic(mmHg)) (Static) Blood Pressure (Systolic(mmHg)) (Dynamic) CVD Risk Level (Static) CVD Risk Level (Dynamic) Cigarette self assessment (Tobacco) Nutritional self-assessment (salt intake, vegetable intake, and Doma Part consumption) (Nutrition Assessment) (Doma) Static Household Data (QRH-1 Health Barriers) Static Household Data (QRH-2 Community Vitality) Static Household Data (QRH-3 Psychological Wellbeing) Static Household Data (QRH-4 Healthy Days) Static Household Data (QRH-5 Health Assessment) Housing Conditions Living environment Family Number Distance to medical facilities Household income and expenditures Stress level	Usecase C			
Step 9	CENTRALIZED DATA FOR EBPM	Survey	**Government can ask for quick survey to the citizen (very simple form)**	Questions on "Household (Dynamic) (Push notice QA)" such as... Dynamic Household Bank assessment (QRH-1: Health Barriers) Dynamic Household Bank assessment (QRH-2: Community Vitality) Dynamic Household Bank assessment (QRH-3: Psychological Wellbeing) Dynamic Household Bank assessment (QRH-4: Healthy Days) Dynamic Household Bank assessment (QRH-5: Health Assessment)	Usecase C			
Step 9	CENTRALIZED DATA FOR EBPM	Manual report is fine	1. Percentage of target population agree to the secondary use of data should be reported. 2. Number of users enrolled should be calculated and reported. 3. DAU and percentage of users access to the health App on a regular basis should bereported and reported. 4. Highly appreciated if CVD risk is calculated same with the MOH's annually Health survey from age, sex, SBP, current smoking status, and BMI.	Consent Management Number of registered app users Daily Active Users (DAU) CVD Risk Level (Dynamic)	Usecase C			