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1. Objective and Scope:

To explore how openIMIS can be usable in Lao PDR, in terms of health insurance .

2. Methodology:

a. **Hospital Survey**: A structured survey was conducted across various hospitals and healthcare facilities to gather insights into the current state of operations, including data management practices, software utilization, and challenges faced in insurance claims processing.

b. **Observation of Existing System Software**: Direct observation of NHIB's CBHI existing software systems was conducted to understand their functionalities, user interfaces, and integration with other processes. This observational approach provided valuable insights into the strengths and weaknesses of the current systems in place.

c. **Meetings**: In-depth meetings were held with key stakeholders within NHIB, including IT personnel, administrators, and frontline staff involved in insurance claims processing. These meetings facilitated open discussions on pain points, requirements, and expectations for system improvements.

d. **Document Records Analysis**: A comprehensive review of relevant documentation, including data reports, operational manuals, and technical specifications, was carried out to gain a deeper understanding of existing processes and system requirements.

e. **Data Analysis:** Claim's attributes , fields analysis through the excel sheet provided by NHIB.

f. **Demonstration of OpenIMIS**: A hands-on demonstration of OpenIMIS, an open-source insurance management information system, was organized to showcase its features, capabilities, and potential for customization. This demonstration allowed stakeholders to visualize how OpenIMIS could address their specific needs and requirements.

3. Findings Overview:

- Despite the challenges in the technical aspects like : lack of technical manpower and infrastructure, Lao's stakeholders expect that the digital claim management system should be used to automate claim submission , verification and reimbursement.

- **Current technology :** Excel based forms are being used to automate claim's reports using macros.
- NHIB MOH expects the new system could be used for both offline & online mode for claim management due to the fact that their rural areas might face blackouts frequently and internet disturbance.

- **Community based Health Insurance (CBHI)** uses old ADT software (php based developed back in 2012), having many operational problems which they want to upgrade or seeking alternatives like (openIMIS). Only used in Vientiane Capital , 9 districts and around ~11500 contributors are present in this scheme.

- Contribution based Health Insurance , applicable in 17 Provinces, uses different processes for claim management. Currently with the help of KOFIH , NHIB, MOH is planning to develop an e-claim management system which is expected to pilot in April. (Only few materials were found in this regard)

- **Operationally**, the claim system of Lao was challenging due to absence of software and on top of that, lack of IT experts and medical review team.

4. Technical Readiness Assessment:

Technical Readiness Assessment for NHIB:

Strengths:

- Existing Excel-Based Data Entry System: The presence of an Excel-based data entry system indicates an established process for data management. Automated reporting capabilities from this system can streamline reporting processes and ensure timely generation of reports.

Weaknesses:

- **Lack of Dedicated Software**: NHIB's reliance on Excel-based data entry indicates a lack of specialized software tailored to the needs of the organization. This can lead to inefficiencies in data management and limit the scalability of operations.
- **Manual Insurance Claims Processing**: The absence of digitalization in insurance claims processing suggests a reliance on manual processes, which can be time-consuming and error-prone.
- **Data Reporting and Consolidation Issues**: Challenges with data reporting and consolidation when transmitting claims from health facilities to NHIB highlight potential gaps in data integrity and communication protocols.

Opportunities:

- Utilization of OpenIMIS: The availability of OpenIMIS presents an opportunity for NHIB to adopt a ready-made software solution with the potential for customization. Leveraging OpenIMIS can streamline insurance operations, improve data accuracy, and enhance overall efficiency.

Threats:

- Planned Development of E-Claim System: NHIB's plan to develop an e-claim system poses a potential threat if not carefully managed. Duplication of efforts, compatibility issues with existing systems, and delays in implementation could arise, impacting NHIB's ability to modernize its operations effectively.

5. Requirements Analysis:

NHIB, MOH two kinds of government health insurance system:
Case based / contribution based (17) provinces
Community Based - Ventein Capital only

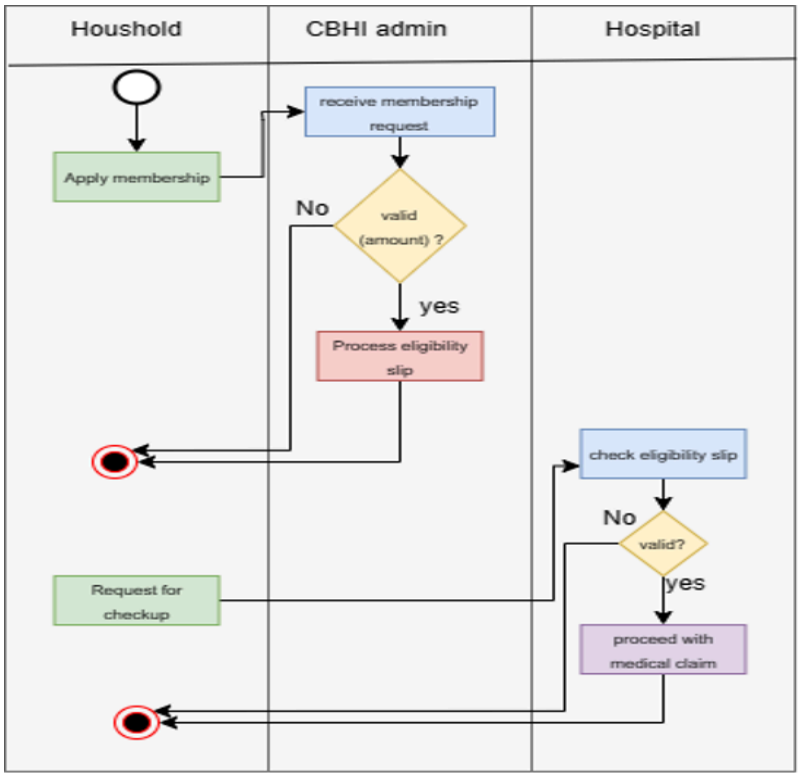
Community Based Health Insurance (CBHI):

- Utilizes same workflow of openIMIS for household registration / member registration.
- Upon registration, the slip are handed to the beneficiary (Insuree)
- The blue colored slip is for Central hospital and it is the first choice, , and the red slip is for district hospital. The Central hospital of CBHI is the First Service Point.
- Contribution is 50% by Household & 50% by Government

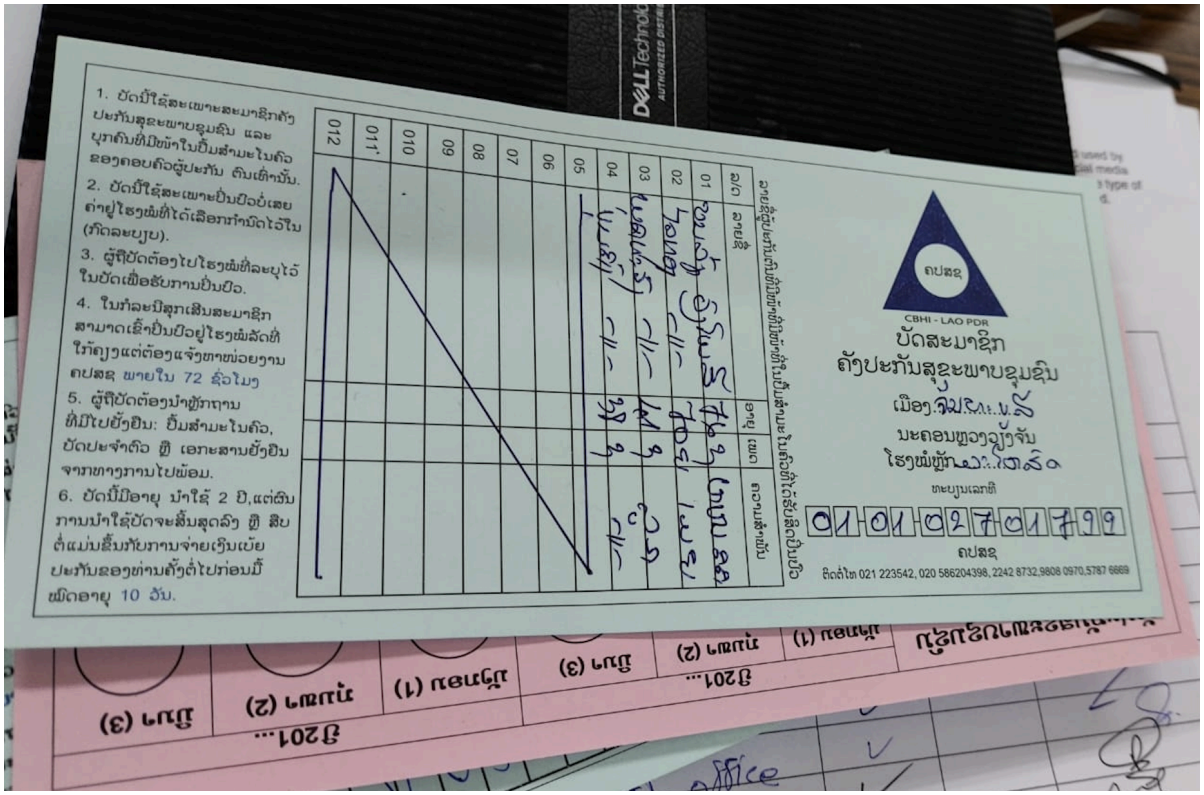
Functional Requirement Analysis:

- Household registration / membership registration (already present in openIIMS)
- Hospital registration (already present in openIIMS)
- Contribution paid slip
- Membership card printing from system
- Hospital screen for corresponding hospitals (already present in openIIMS)
- Eligibility Check from hospital (already present in openIIMS)
- Visit record for hospital (already present in openIIMS)
- Excel export
- Claim tracking for NHIB, MOH (already present in openIIMS)

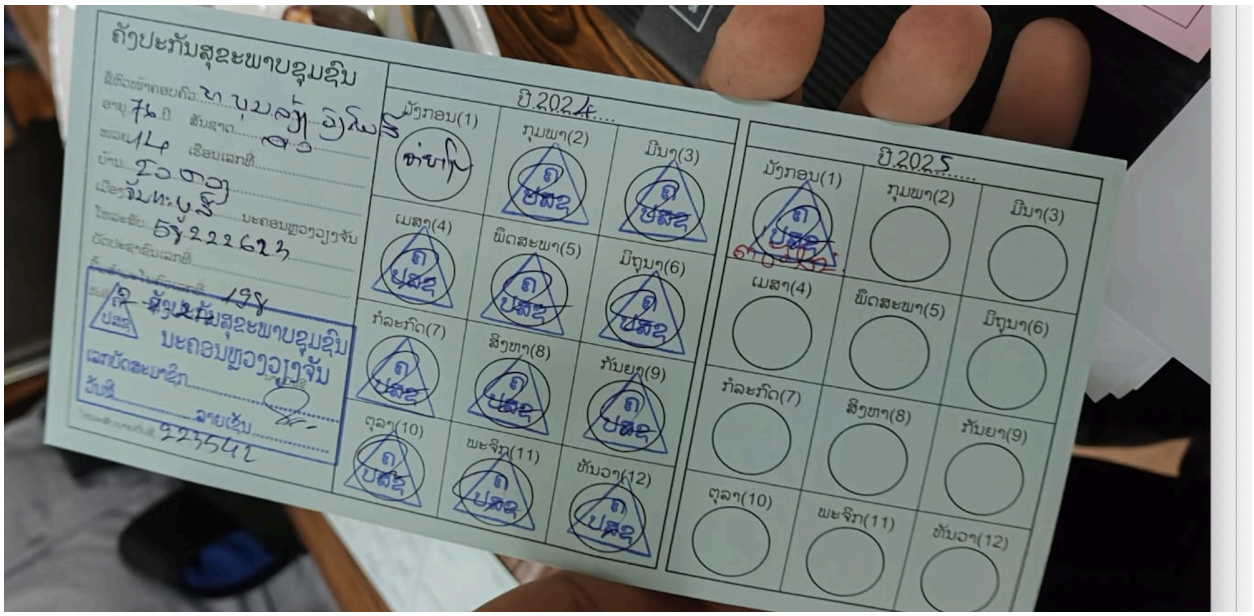
Simple workflow of household registration



Slip templates

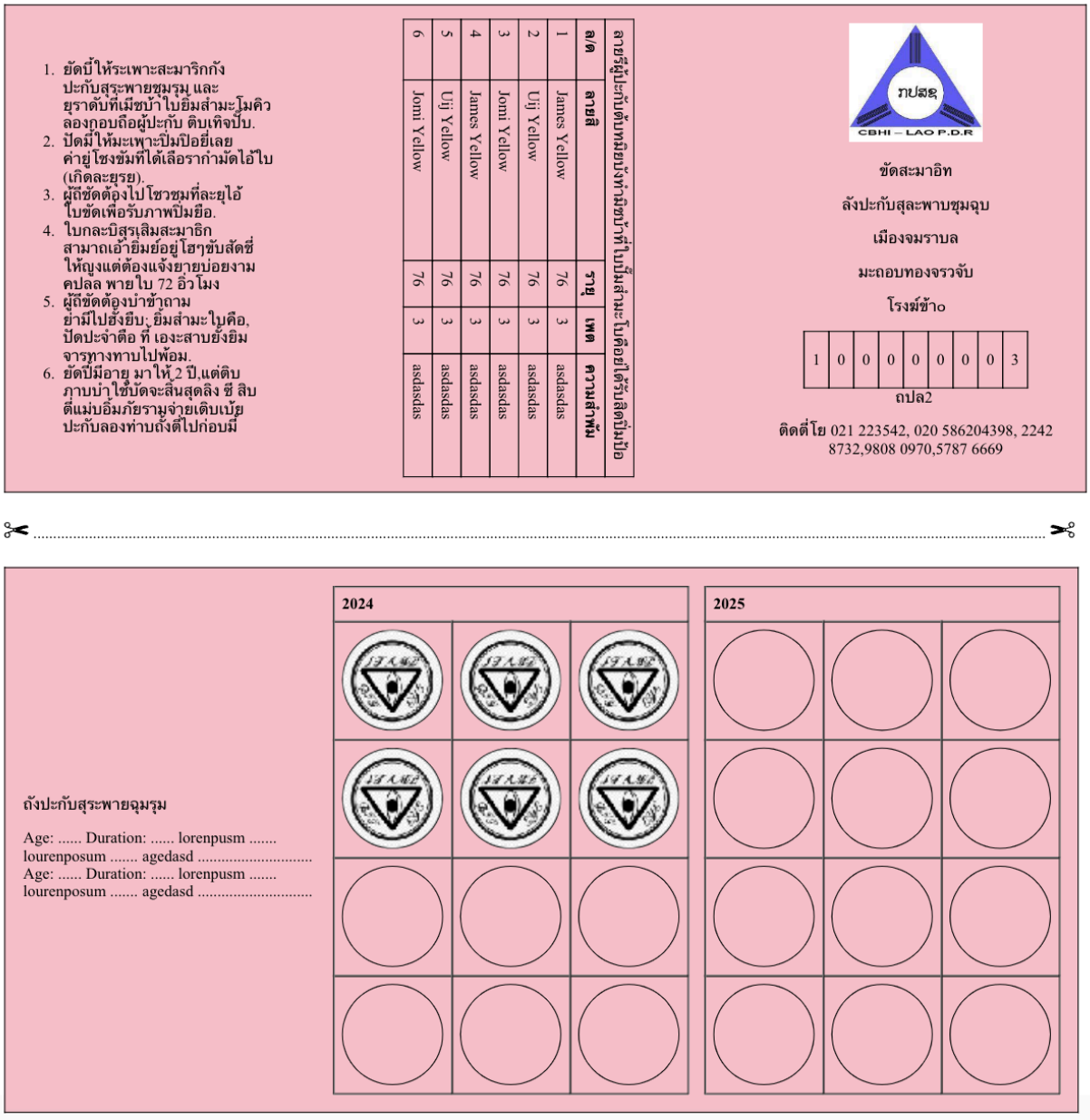


front



back

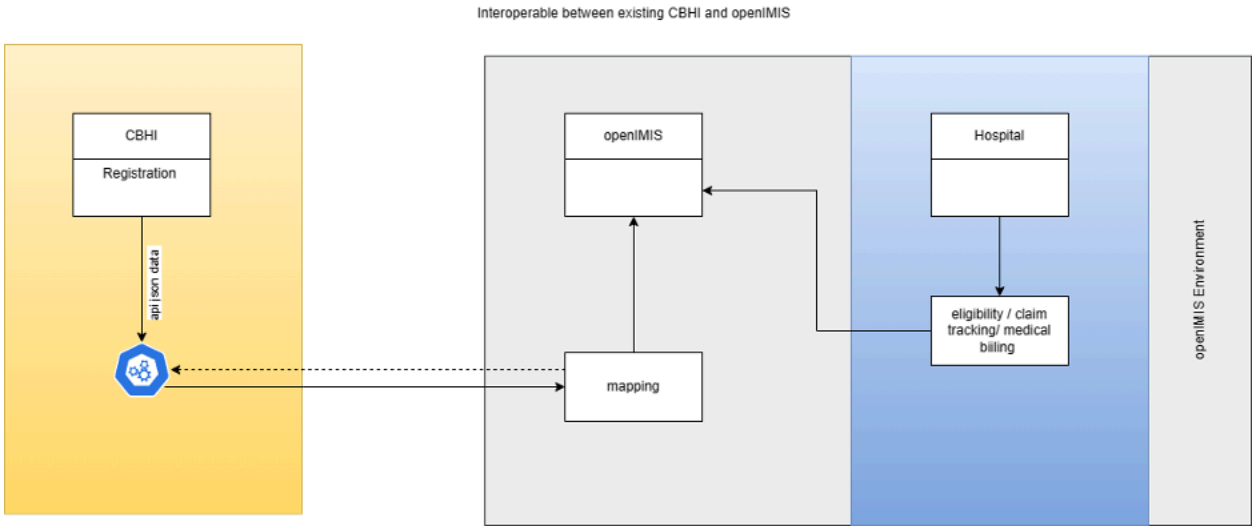
Card printing using openIMIS backend sample:



Collecting household and membership data in openIMIS:

Method 1 :

- API interoperability with old system (ADT) to consume api, and automatically enroll the Insuree



Method 2 :

- Using openIMIS itself to register the household / members manually.

Method 3:

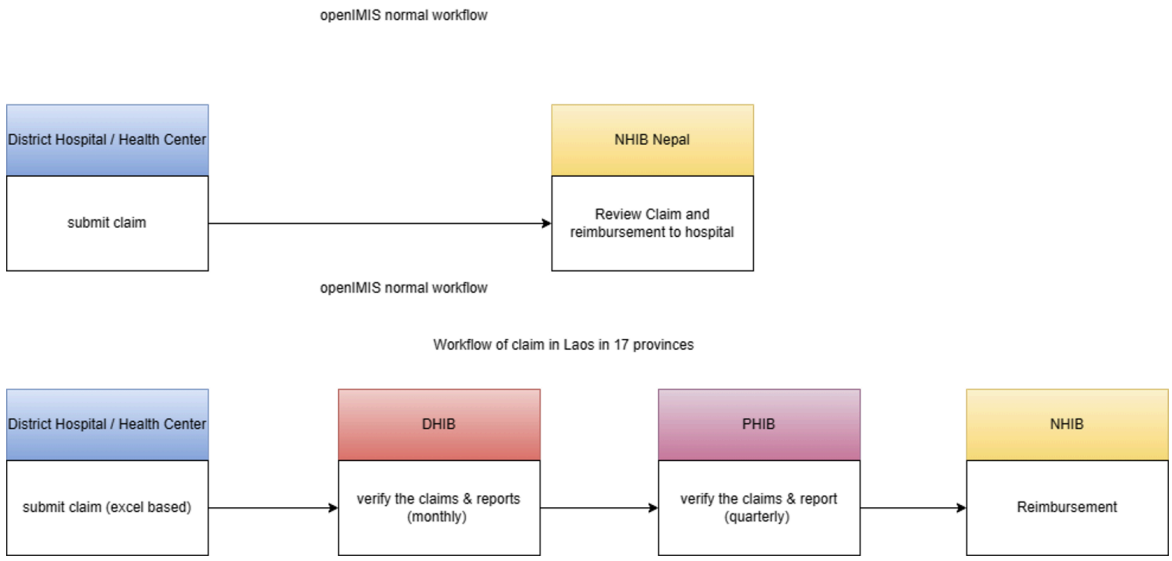
- Using bulk excel upload.

Contribution based Health Insurance:

- Insuree is required to pay certain amount for IPD/OPD visit to the corresponding hospital.
- Claim attributes used in Lao PDR with respect to claim form are almost similar.
- Requires customization in user level (DHIB and PHIB) user is required.

  Note*

  (This functionality will be customized if NHIB wants to see as there is already e-claim system being developed so, there would be duplicated effort)



Analysis with claim attribute with openIMIS

SN	NHIB excel claim property	Status: Comply with openIMIS	remarks
1	• No of document	Attachement feature	
2	• Name $ family name	Comply	
3	• age	Comply	
4	• sex	Comply	

5	● telephone	Comply	
6	● Province	Comply	
7	● District name	Comply	
8	● Ward treatment	Comply	Ward treatment was referred as “OPD” or “IPD”
9	● Diagnostic	Comply	Diagnosis can be categorized as International Classification of Diseases (ICD)
10	● Date of admission	Comply	
11	● Date of discharge	Comply	
12	● Reason of discharge	Similar field (explanation)	Need to add / customize
13	● Admin (room, document)	Comply	
14	● "Diagnostic (Lab, Echo,…)"	Comply	Same as ICD
15	● Value of medicines and medical supplies	Comply	
16	● Food	Comply	These elements can be added in claim itself as a “adjustment item or service with user input price
17	● Transport	Comply	These elements can be added in claim itself as a “adjustment item or service with user input price
18	● Referral	Comply	

19	● Total treatment amount	Comply	
20	● Co-payment	Comply	Customized in Nepal
21	● Patient's group	Comply	
22	● Type of patients	Comply	
23	● Type of services	Comply	
24	● Service area	Comply	
25	● No of admission	Comply	Can check with beneficiary ID

6. Challenges and Risks:

a. **Availability of Technical Manpower**: One of the foremost challenges identified is the scarcity of skilled technical personnel within NHIB. The lack of in-house expertise in software customization, change management, and policy implementation poses a significant obstacle to the seamless integration of new systems and technologies.

b. **Limited Local Support for Customization**: NHIB faces difficulties in accessing local support for software customization and technical assistance. The absence of readily available expertise within the local context hampers the organization's ability to tailor solutions to its specific needs and address evolving requirements effectively.

c. **Change Management:** Implementing new software and technology solutions often necessitates organizational change. Resistance to change among staff members, coupled with inadequate change management strategies, poses a risk to the successful adoption and utilization of new systems within NHIB.

d. **Policy Changes:** The introduction of new software and technologies may require corresponding policy changes within NHIB. Ensuring alignment between technical solutions and organizational policies is crucial for compliance and effective implementation. However, navigating policy changes can be complex and time-consuming, potentially delaying the deployment of new systems.

e. **Sustainability:** Achieving long-term sustainability of technical initiatives is another challenge facing NHIB. Without adequate planning and investment in capacity building, maintenance, and ongoing support, there is a risk that newly implemented systems may become obsolete or underutilized over time, undermining their intended benefits.

7. Recommendations:

- The overall workflow of CBHI and even Case based insurance system is technically feasible and most of the features are already present in openIMIS
- Need to explore sustainability and implementation in the next steps.

Demonstration

8. Customization checklists **(CBHI)**:

Requested features from CBHI stakeholders:

- Sample excel export (claims and insurees only) based on filters
- Membership card for CBHI administration
- Invoice generation for hospitals as customer receipt
- Claim tracking system (NHIB, MOH) -> openIMIS already has this feature.

Interoperability aspect:

- Sample api from supabase backend that interoperable with openIMIS to check the validity of eligibility (member enrolled in Social Security Office SSO are not eligible for CBHI)
- Creation of Insuree from external API

Non-functional requirements:

- Sample analytics (demo purpose only) on openIMIS landing page
- Receipt after payment in contribution section (sample)