



From paper to progress: A stepwise transition to digital dental data management

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GLOBAL HEALTH
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Problem Statement

Rural healthcare workers and program coordinators in Jagna struggle to maintain consistent and accessible dental health records due to limited connectivity, fragmented data systems, and time constraints, leading to delayed treatment and missed follow-ups among school children.

User Persona

Name: Liza Dela Cruz

Age: 42

Barangay Health Volunteer

Pain Points:

- Paper records lost or damaged
- Internet unreliable
- Data submission takes hours

Goals:

- Record visits quickly
- Ensure follow up cases are not missed

About:

- Travels between villages weekly for follow ups & Works mostly offline using paper logs



"If only I could tick a few boxes after each visit and it saves automatically."

Nurse Liza's current workflow

Stage	Current Experience	Pain points
Preparation	Review last visit's paper logbooks before leaving	Time-consuming; some pages missing.
On-site screening	Notes each child's condition on paper.	Slow writing, illegible notes, risk of mix-ups.
Monthly reporting	Manually counts treatments & re-types into spreadsheet at town center.	Tedious, error-prone, takes hours.
Follow up visits	Unsure which kids need review.	Lack of reminders & tracking.

Results in: Children who need urgent treatment are often missed out or treated late due to fragmented records and slow follow-up tracking.

Key Design Opportunity



Previous attempts at digitalization **failed**, not because **technology was UNAVAILABLE**, but because the workflows **could not match the realities of rural healthcare**, including:

- Limited connectivity
- Limited time
- Low digital familiarity

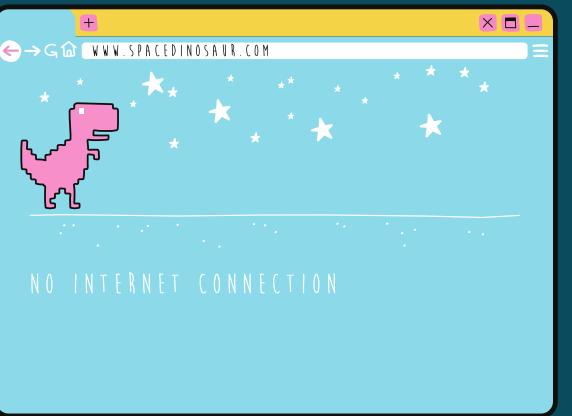
Therefore, our solution aims to strengthen the existing offline workflow, to make it simple, fast, and consistent, and then gradually transition into a digital system when the community is ready.

Prototypes

2-pronged approach

Offline stage

1. Improved paper forms
2. Colour-based ranking system
3. Offline tracking logbook
4. Offline motivation system



Bridging stage

1. Digitalizing summary sheets or logbooks
2. Community-Assisted Data Entry Rotation
3. Incentive-based participation

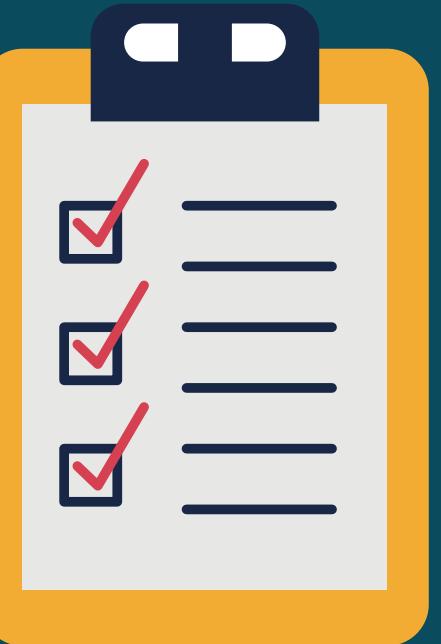


Offline Stage



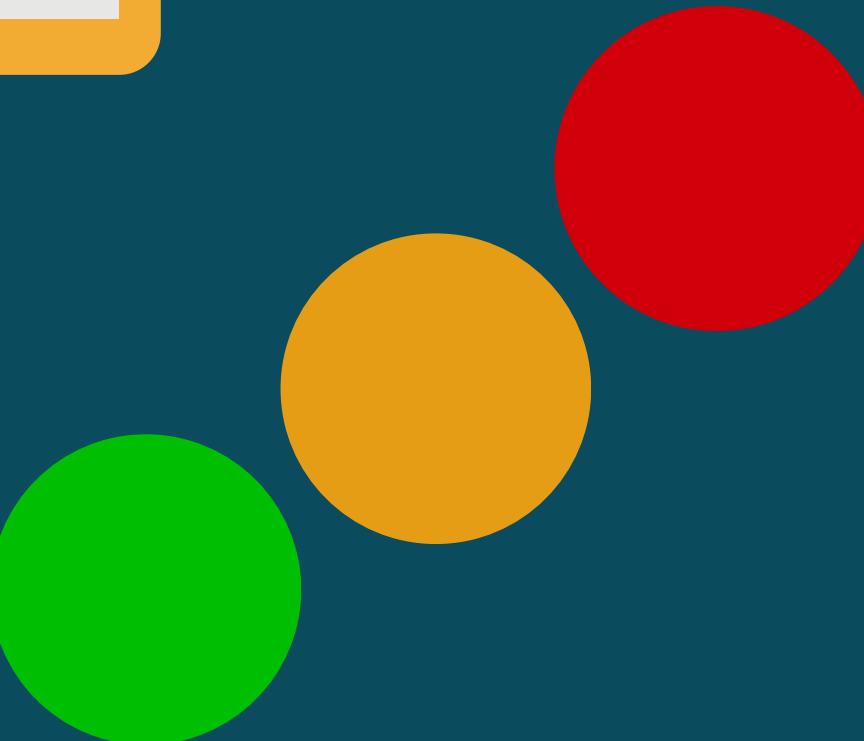
Improve paper forms

1. Single paged form
2. Must include child's information
3. Main indicators only



Colour-based ranking system

1. Priority sorted by colour indicator
2. Green for healthy status, yellow for follow-up within a month, red for treatment required within a week



Information Sheet

A) Basic Information

Name: _____

Age: _____

Gender: M F

Grade: _____

ID number: _____

School name: _____



B) Screening

Date of screening:

Examined By:

Cavity present?: Yes No

If yes, how many?: _____

Pain/ Swelling?: Yes No

Pain meter:



Treatment given: Cleaning Filling Extraction None

Next visit needed?: Yes No

Comments/ Notes: _____

C) Habits

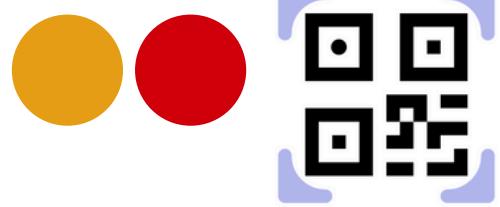
How often do you brush your teeth (/day)?: Once Twice None

Do you use toothpaste?: Yes No

Do you eat sugary snacks often? Yes No

Grading: Normal Mild Serious Severity score: _____

Name: _____



Age: _____

School: _____

Student ID: _____

Last Dental Checkup: _____

Dental Urgency metrics

Metrics	Yes/No	Weight
Number of cavities		
Pain or infection		
Missed follow ups		
Brushing frequency < 2/ day		
Access to toothpaste		

Severity score: _____



Offline Stage

Offline tracking logbook

After collating data in single pages, all the data can be collated and stored in a logbook

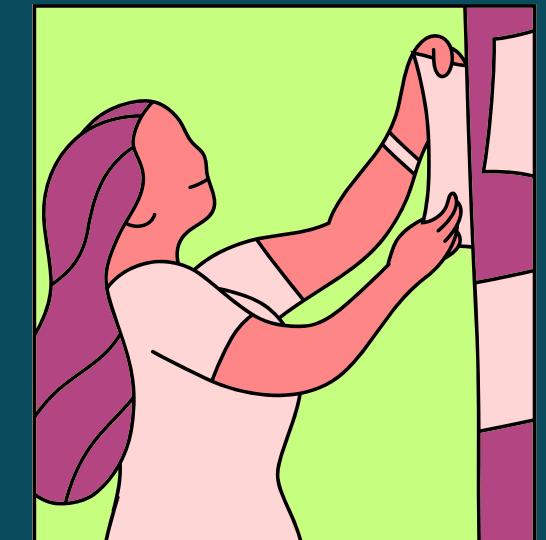
The single pages can be printed for a start and binded to make a copy. This reduces risk of lost of data.



Visualize impact

Early efforts would not see results, leading to demotivation or lack of encouragement.

Visualizing impact from simple data collection would best tackle this as it intrinsically motivates the community.



Centralized and safely-kept data

The image shows a red logbook with two white pages. The left page is titled 'Information Sheet' and contains fields for Name, Age, Gender, Grade, ID number, School name, and a QR code. It also has sections for 'A) Basic Information', 'B) Screening' (with a pain meter scale), 'Habits', and a 'Grading' section. The right page is titled 'Dental Urgency metrics' and features a table with columns for Metrics, Yes/No, and Weight. The table rows include 'Number of cavities', 'Pain or infection', 'Missed follow ups', 'Brushing frequency < 2/day', and 'Access to toothpaste'. A 'Severity score:' field is at the bottom.

Consolidated! Copies can be made easily and rebinded, information can be easily shifted around.

Logbook.

Dental health Awareness

Facts we gathered from data our community collected!



Around 20% of our children have cavities

Most of these problems are not realized until it is too late.



Approximately one in five children



Most children do not have a proper hygiene routine.

This could be the #1 factor leading to oral issues.



Toothache SHOULD NOT affect our children's standard of living.

We can fight to keep our children's smiles strong!

Visualized impact.

Bridging Stage



Digitalizing paper forms

1. Transfer information from binder online through centralized computer
2. Can be stored on excel sheets so colours can be sorted quickly by priority



Community-assisted data entry rotation

Data entry position could start out as volunteer work first, with a roster for duty.

There should be a list of tasks placed next to the computer with clear instructions for the person on duty to understand and pick up.

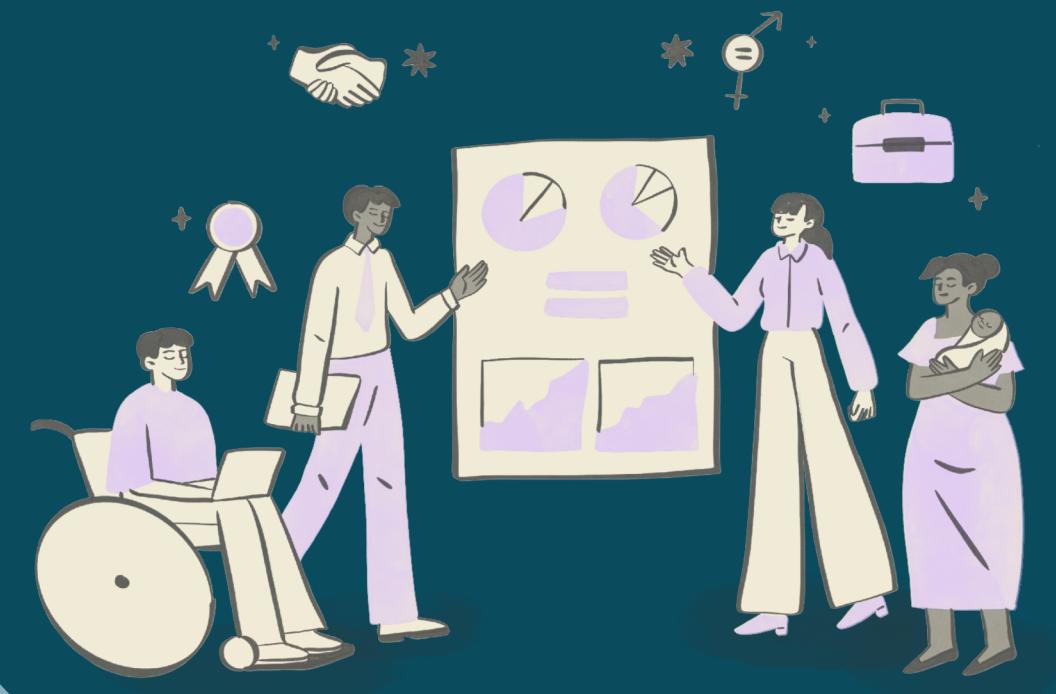


Bridging Stage



Incentive-based participation

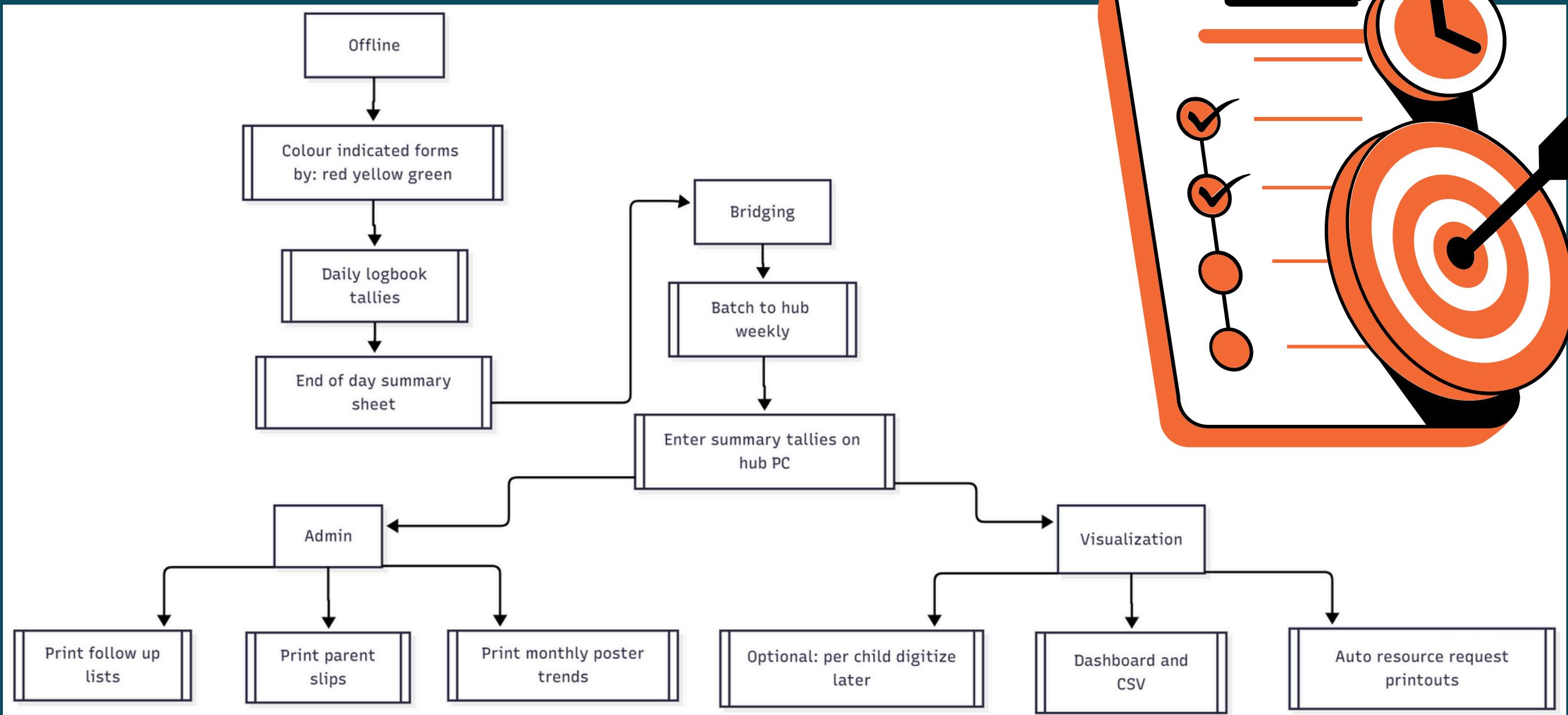
Short term rewards as motivation
(Extrinsic): can be offered as food and beverages or even as time off



Long term motivations would be the sense of achievement through improved oral healthcare amongst the children.



Workflow



Impact

Awareness

Motivation fuelled by community

Sustainable workflow

Better documentations and streamlined procedures

Improvements in priority and treatment

Data recorded offline and online

Visualizations





Thank You for Your Attention

