

Digging into Data

Quick and Dirty Analysis Tips for mHealth Program Implementers

GLOBAL DIGITAL HEALTH FORUM

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WASHINGTON DC



Welcome!

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Why are we here?

- Encourage program teams to jump into data for decision-making
- Take advantage of existing mobile data sets
- Simplify data analysis
- Free up research space
- Add tools to program team's toolbox

Session Objectives

- Present various approaches to using back end data generated from mobile platforms, including:
 - ✓ Data Cleaning (Text to Column)
 - ✓ Data Analysis (Pivot Tables)
 - ✓ Data Visualization (Pivot bar charts, Sparklines)

Activity

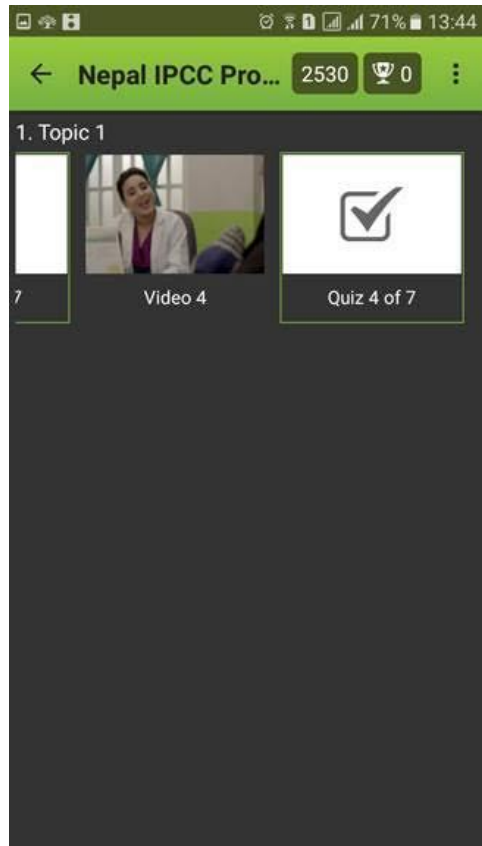
Health Communication Capacity Collaborative (HC3) Nepal

Project Goal:

Increase family planning (modern contraceptive) use among young couples across Nepal

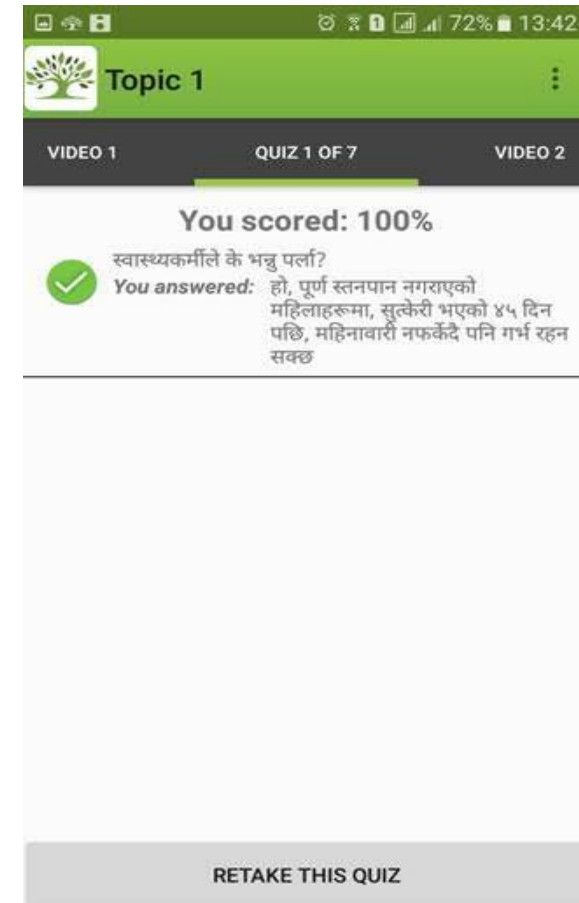


“Smart Paramarsha” (Smart Counseling) App



Est Time: (आवश्यक समय: १०- १५ मिनेट)

सुत्केरी भएको ४५ दिन भित्र, बच्चालाई खोप लगाउन आएकी मा



App Roll Out



Mobile App launched by
Hon. Health Minister Mr. Gagan K.
Thapa on Dec 10, 2016

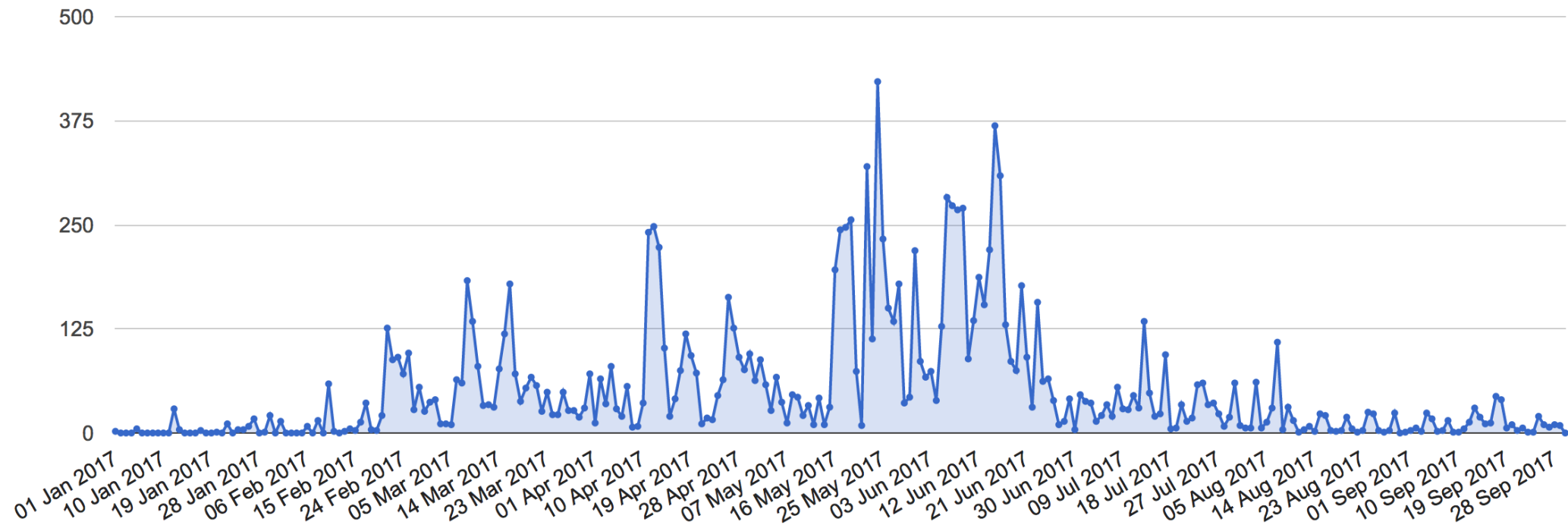


Rollout

- Initially created in Spring 2016
- Released 3 versions over a 18 month period
- Used by 250+ health workers from 145+ health facilities
- Used by 50+ users from partner organizations
- Downloaded from Google Play to personal Android smartphones; we did not provide hardware

Dashboard

Recent Activity



Your turn!

OPEN UP THOSE DATASETS

What do we want to ask our data?

	A	B	C	D	E	F	G
1	Count	Username	App Version	Points (#)	Date / Time Synced	Activity	Action
2	2	3	NULL	100	4/13/2016 18:04	Initial registration	signup
3	3	3	1	50	4/13/2016 18:04	Course downloaded: IPCC Supplementary Modules	coursedownloaded
4	4	3	1	10	4/13/2016 18:05	Activity completed: Scenario 1	activitycompleted
5	5	3	1	10	4/13/2016 18:05	Activity completed: Choose Your Response	activitycompleted
6	6	3	1	10	4/13/2016 18:05	Activity completed: Scenario 1 Resolve	activitycompleted
7	7	3	1	10	4/13/2016 18:05	Activity completed: Additional Questions	activitycompleted
8	8	3	1	10	4/13/2016 18:05	Activity completed: Implants	activitycompleted
9	9	3	1	10	4/13/2016 18:05	Activity completed: Scenario 5	activitycompleted
10	10	3	1	10	4/13/2016 18:07	Activity completed: Choose Your Response	activitycompleted
11	11	3	1	10	4/13/2016 18:07	Activity completed: Scenario 5 Resolve	activitycompleted
12	12	3	1	10	4/13/2016 18:07	Activity completed: Scenario 6	activitycompleted
13	13	3	1	10	4/13/2016 18:07	Activity completed: Choose Your Response	activitycompleted
14	14	3	1	10	4/13/2016 18:07	Activity completed: Scenario 6 Resolve	activitycompleted
15	15	4	NULL	100	4/19/2016 20:35	Initial registration	signup
16	17	6	NULL	100	11/12/2016 0:43	Initial registration	signup
17	18	6	2	50	11/12/2016 0:55	Course downloaded: Nepal IPCC Prototype	coursedownloaded
18	19	6	NULL	10	11/14/2016 5:46	Activity completed: Scenario 1	activitycompleted
19	20	6	2	10	11/14/2016 5:47	Activity completed: Video 1	activitycompleted
20	21	6	2	10	11/14/2016 5:48	Activity completed: Decision 1	activitycompleted
21	22	6	2	10	11/14/2016 5:48	Activity completed: Video 2	activitycompleted
22	23	6	2	20	11/14/2016 5:48	Bonus points for your first attempt at: {\en\":"Decision 1\"}"	firstattempt
23	24	6	2	100	11/14/2016 5:48	Score for first attempt at quiz: {\en\":"Decision 1\"}"	firstattemptscore
24	25	6	2	50	11/14/2016 5:48	Bonus points for getting 100% in first attempt at quiz: {\en\":"Decision 1\"}"	firstattemptbonus
25	26	6	2	20	11/14/2016 6:16	Bonus points for your first attempt at: {\en\":"Decision 2\"}"	firstattempt
26	27	6	2	10	11/14/2016 14:50	Activity completed: Decision 2	activitycompleted

What do we want to ask our data?

- Which version of our app do people use over time?
- When do users sync activities? (Month? Day? Time of day?)
- Which activities are users accessing?
- How often do users get 100% on their first attempt on a quiz?
- How many users have signed up for our app?
- How many people have downloaded a course?

What do we want to ask our data?

- Which version of our app do people use over time?
- **When do users sync activities? (Month? Day? Time of day?)**
- Which activities are users accessing?
- How often do users get 100% on their first attempt?
- How many users have signed up for our app?
- How many people have downloaded a course?

Steps to Decision-Making

- Step 1: Clean your data
 - ✓ Text to Columns for date / time variable
 - ✓ Add new variables
 - ✓ Label variables
- Step 2: Analyze your data
 - ✓ Pivot table
- Step 3: Visualize your data
 - ✓ Column chart to visualize a summary
 - ✓ Sparkline to visualize trends over time
- Step 4: Make a decision! (if applicable)

Step 1: Clean your data

Text to Columns

	B	C	D	E	
1	Username	App Version	Points (#)	Date / Time Synced	
2	3	NULL	100	4/13/2016 18:04	Initial registration
3	3	1	50	4/13/2016 18:04	Course downloaded: IPCC Supplem
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10	3	1	10	4/13/2016 18:07	Activity completed: Choose Your Re
11	3	1	10	4/13/2016 18:07	Activity completed: Scenario 5 Resc

Text to Columns

1. Insert 2 columns to the right of date/time column (E)
2. Highlight date/time column (E)
3. Data -> "Text to Columns"
4. Format date and time in new columns

Add a new variable

What day of the week do people sync data?

1. Insert a column, label it “Day of Week Synced”
2. **Formula: =TEXT(F2,"dddd")**
3. Double click on lower right-hand corner of cell

Step 2: Analyze your data

Pivot Table

What day of the week do people sync data?

1. Select all
2. Insert → “Pivot Table” to **new sheet**
3. Label new sheet
4. Row: “Day of week”
5. Value: “Day of week”

Step 3: Visualize your data

Column chart

What day of the week do people sync data?

1. Highlight pivot table data
2. Insert → Recommended Charts
3. Column chart

What do we want to ask our data?

- **Which version of our app do people use over time?**
- When do users sync activities? (Month? ~~Day?~~ Time of day?)
- Which activities are users accessing?
- How often do users get 100% on their first attempt?
- How many users have signed up for our app?
- How many people have downloaded a course?

Spark Lines: What versions are used over time?

Step 1: Clean your data by creating new variables (month, year)

- ✓ **Month:** =TEXT,(F2,"mmmm")
- ✓ **Year:** =YEAR(F2)
- ✓ Change format of year to "General"

Step 2: Analyze your Data

- ✓ Pivot Table
 - **Row:** "App Version"
 - **Column:** "Year synced" on top of "Month synced"
 - **Values:** Count of "App Version"

Step 3: Visualize your data

- ✓ Highlight pivot table data
- ✓ Insert → Spark Lines → Column Sparklines

Step 4: Make a decision! (if applicable)

Review

- Step 1: Clean your data
 - ✓ Text to Columns for date / time variable
 - ✓ Add new variables
 - ✓ Label variables
- Step 2: Analyze your data
 - ✓ Pivot table
- Step 3: Visualize your data
 - ✓ Column chart to visualize a summary
 - ✓ Sparkline to visualize trends over time
- Step 4: Make a decision! (if applicable)

What do we want to ask our data?

- ~~Which version of our app do people use over time?~~
- When do users access activities? (Month? ~~Day?~~ Time of day?)
- Which activities are users accessing?
- How often do users get 100% on their first attempt?
- How many users have signed up for our app?
- How many people have downloaded a course?

Thank you!

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