Evaluating the Effective Use of RapidPro for the MR Campaign in Indonesia
Study Design [Final for Submission]

Developed by HealthEnabled & Reconstra for Consideration by UNICEF & GAVI
June 2018

Background

The Measles-Rubella (MR) campaign in Indonesia aims to increase the coverage of immunization to 95%, to eliminate measles and rubella in the country by 2020. There are two phases of the MR catch-up campaign:

Phase 1: Completed in 2017, in August (school based) and September in (health centre & outreach). The MR Campaign was conducted in 6 provinces and 119 districts. The unofficial estimates from Phase 1 are positive, suggesting that over 95% coverage was achieved in all 6 provinces and in 112 of the 119 districts.

Phase 2: The second phase will happen a year later in August and September 2018. The campaign will be conducted in 28 provinces and 395 districts.

RapidPro has been chosen as a tool that can facilitate real-time coverage estimates during the immunization campaign – with the aim of quickly identifying problem areas and better targeting corrective action, outreach, advocacy and social mobilization resources.

In preparation for implementation and evaluation of RapidPro in the MR Campaign Phase 2 in Indonesia, a qualitative evaluation and review of the use of Rapid Pro in Phase 1 was conducted and updates to the system and the implementation approach have been made. In addition, a review of the global landscape in the use of mHealth for immunization programs was conducted, highlighting the need for more rigorous quantitative and qualitative assessments of the use of such systems to improve immunization coverage, data completeness, and efficiency. The following proposed research design aims to address the research questions and considerations raised during the Phase 1 assessment (as listed in Appendix A) and has been informed by the Theory of Change (as included in Appendix B).

Based on the Theory of Change, it will be important to assess the incremental contribution of RapidPro to achieving the overall coverage of the MR Campaign at the national level as well as at the district level. To align with other immunization studies identified in the global landscape, this study will focus on immunization coverage as the prioritized outcome of interest.

The primary objective of this study is to assess the impact of the effective use of RapidPro as part of the national Measles-Rubella Immunization Campaign in Indonesia by comparing the changes in immunization coverage and efficiency in reaching targets through the effective use of data from health facilities and/or districts and provinces alongside the standard MR Campaign Reporting.

The study design has been developed in collaboration with Reconstra, the Indonesian Research Group which conducted the Phase 1 qualitative assessment, and which will lead the field research and analysis for the Phase 2 evaluation.

Implementation of RapidPro in MR Campaign Phase 2

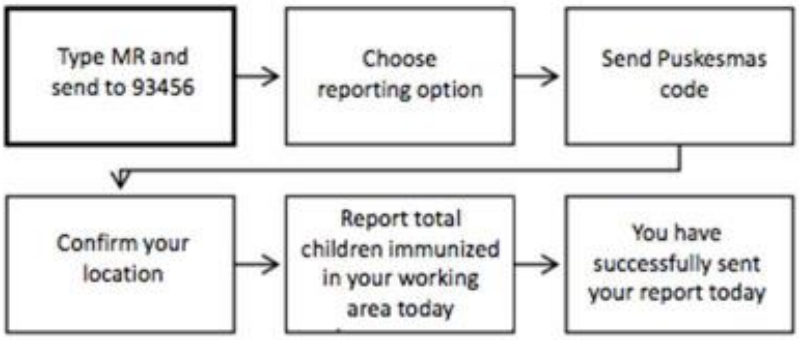
As part of the MR Campaign Phase 2 implementation, RapidPro has been more formally integrated into the overall campaign process than it was in Phase 1. This includes, inclusion of RapidPro relevant questions in the Pre-Campaign Readiness Assessments as well as in the overall campaign training and reporting activities. It is hypothesized that this improved integration and streamlining of RapidPro within the MR Campaign will improve its effective use in Phase 2. The "intended use" of RapidPro for the MR Campaign Phase 2 is described as follows.

Overview of the Use as Intended of RapidPro

Data Input & Feedback

An Immunization Coordinator at each facility registers into RapidPro using the facility code that is provided. Immunization coordinator tallies total # of children vaccinated from that puskesmas (i.e. adjacent schools, etc.) reported through RapidPro daily. With each report, they receive a confirmation from RapidPro of the number they reported as well as the % of the target reached (there is an opportunity to revise or correct mistakes).

Effective use by facility-based staff is defined as: *Facility reporting at least one time per 'immunization-day', every day during the MR Campaign until it reaches its target*



Data Use at district, provincial, and national level

At the district, provincial, and national level, over 400 people are in charge of monitoring the MR Campaign performance. They receive daily SMS feedback and have access to the RapidPro dashboard. They may also use the dashboard data to monitor immunization coverage within a particular district relative to other districts.

Effective use of RapidPro by district, provincial, and national level staff is defined as:
District, provincial, and national immunization campaign focal people receiving SMS once per "immunization day" every day during the MR Campaign until the district reaches its target and using the data to engage facilities to reach targets faster and/or identify problems and address them.

Key considerations related to the effective use of RapidPro as part of the MR Campaign include the overall Readiness Level of the relevant puskesmas, district, and province as well as RapidPro specific inputs, such as training and support provided as well as system functionality/reliability- including SMS delivery failure rates.

Study aim and objectives

The overall aim of the study is to measure the impact of the effective use of RapidPro and RapidPro data on the overall MR Campaign. Specifically, we will look at the impact of RapidPro by different levels of users on:

1) Reaching daily targets
2) Early identification of problems, response to problems, and tracking of course correction activities and their impact on reaching targets
3) Time to reaching 80% target and 95% target

During phase 2, we aim to leverage differences in MR Campaign Readiness Assessment Profiles (low, medium, and high risk) across 400+ districts and gradients in Rapid Pro implementation to conduct a natural experiment that will assess the incremental benefits (and cost) of the RapidPro platform by comparing user activity levels (active, moderate, and passive) at the province, district, and puskesmas levels.

Study Objectives

The main objectives of the study include:

1) To assess the overall implementation of RapidPro as part of the MR Campaign Phase 2
2) To assess the "use as intended" of RapidPro by puskesmas, district, provincial, and national level MR campaign stakeholders
3) To assess user satisfaction of RapidPro by puskesmas, district, provincial, and national level MR campaign stakeholders
4) To document lessons learned in the implementation of RapidPro to inform its use in Indonesia and elsewhere to support other immunization campaigns
5) To contribute to the evidence base related to the use of mobile technologies for immunization campaigns

Expected outcomes of the study

Through this study, we expect to see a statistically significant difference on effective utilization of RapidPro to identify and respond to problem areas as they arise with higher effective use of RapidPro in comparison with moderate and/or poor use as well as in comparison with sites that do not use RapidPro at all. As a secondary outcome, we will track levels of MR immunization coverage, data completeness, and efficiency in reaching MR Campaign targets in facilities, districts, and provinces. The study will set out to detect a difference at 80% power and 95% confidence. If a significant difference is detected, this study will provide important insight into the potential efficacy of mobile health interventions for immunization campaigns. The study will also include a robust qualitative component to contextualize the results observed in the quantitative component and will be used to inform policy and practice.

Methods

A mixed methods approach that employs both quantitative and qualitative methods will be used for this study, harnessing as much existing data as possible from the RapidPro platform as well as provincial and district level MR campaign readiness assessments conducted at 8 weeks and 4 weeks prior to the MR Campaign and other MR Campaign reporting. Evaluation activities will include systematic collection of the following data before, during, and after the MR Campaign Phase 2. In addition, the mHealth Assessment and Planning for Scale (The MAPS Toolkit) will be used to inform the design and implementation of a robust qualitative study component to contextualize the quantitative data captured through existing sources and SMS-based surveys. This will include a mix of a self-assessment tool along with a series of 50-75 key informant interviews with users at all levels and from a representative set of environments.

Quantitative data

To the extent possible, all facilities, districts, and provinces that are included in the MR Campaign Phase 2 will be included in the RapidPro quantitative research. Quantitative data for this study can be classified into three main categories:

General MR Campaign Data

The general MR campaign data includes current MR immunization coverage rates, which can be used to set the baseline for each facility, district, and province. It also will be used to classify districts and provinces as high, medium and low risk sites and can be used to inform the quantitative analysis and qualitative sampling process. It also includes the following RapidPro specific considerations:

- Previous experience using SMS-based reporting systems
- Strongest network
- % time with reliable network connectivity

RapidPro System Generated Data

Throughout the MR Campaign, the RapidPro system will be capturing and providing data related to the following by facility, district, and province as well as at the national level to enable the generation of daily targets and tracking of when targets have been reached:

- Daily targets by district and province
- % of facilities reaching daily targets by district and province
- Date starting and ending the MR campaign
- Date reaching 80% of overall target
- Date reaching 95% of target
- Overall percent of target reached at the end of the campaign

The overall utility of RapidPro will be driven by the data that is provided by facilities and it is hypothesized that districts and provinces with more facilities reporting in daily during campaign days will see a greater benefit than those who do not actively report into the system. As such data will be captured from RapidPro and a scale will be applied that categorizes districts as:

- Highly effective users (facilities reporting more than 75% of expected time)
- Moderately effective users (facilities reporting 26-75% of expected time)

- Passive users (facilities reporting less than 25% of expected time)
- Non-users (facilities never reporting into the system during the expected time)

These classifications will create a dose response and a comparison group. It is hypothesized that the more facility-based data that there is in RapidPro the more effectively it can be used at the district and higher levels to improve the overall immunization campaign outcomes. All facilities registered within RapidPro during the MR Campaign will be included in the study, and data will be used to assign one of the profiles listed above to the relevant district.

In addition, where possible- data related to platform performance, including SMS delivery success and failure rates will also be captured and reviewed to inform the system's ability to be "used as intended."

UReport Surveys

Using the UNICEF UReport polling system, a series of quantitative surveys will be conducted among all users of RapidPro to assess the following:

- Overall user satisfaction across a 6 to 11-point scale
- Use of the data provided by RapidPro to identify problems
- Use of data to inform corrective action
- Use of data to monitor corrective action

Efforts will be made through the surveys as well as through complementary qualitative data collection to assess interactions by district-level managers with facility-level MR Campaign focal people stimulated through the use of data from the dashboard lack of reporting by facilities and/or delays in reaching targets. Similarly, interactions by provincial level MR Campaign focal people stimulated through the use of data from the dashboard lack of reporting by districts and/or delays in reaching targets will be assessed. *An approach and scale will be developed to categorize districts as:*

- Highly active users (report using data to accelerate reaching targets and/or identifying a problem & addressing it – more than Z times during campaign)
- Moderately active users (report using data to accelerate reaching targets and/or identifying a problem & addressing it – between Y and Z times during campaign)
- Passive users (report using data to accelerate reaching targets and/or identifying a problem & addressing it – less than Y times during campaign)
- Non-users (report never using the data during the expected time)

These classifications will create a dose response as well as a comparison group.

Overview of Quantitative Data to be Captured During MR Campaign

Effective use of RapidPro data to monitor and track coverage -> Improved coverage of MR Immunization as demonstrated through:

1. ***Reaching daily targets*** - % of districts reaching daily targets per relevant immunization-day calculated as total number of districts per relevant immunization day reporting that targets have been reached into RapidPro over the total number of facilities that are engaged in immunization campaign activities per relevant immunization day
   Source*: RapidPro system data*

2. ***Completeness of reporting*** - % of eligible facilities reporting on-time per relevant immunization-day calculated as total number of facilities per relevant immunization day reporting into RapidPro over the total number of facilities that are engaged in immunization campaign activities per relevant immunization day
   Source*: RapidPro system data*

3. ***Perceived satisfaction/helpfulness of real-time intra-campaign daily feedback***- % of facility, district-level, provincial-level, and national-level staff who receive feedback SMS who report being satisfied on a 6-11 point scale with receiving daily reports from RapidPro during the campaign calculated as total number of respondents who report satisfaction over the total number who respond to U-Report Survey Question
   Source*: U-Report Survey Question sent at the end of first week and end of campaign*

4. ***Problem identification:*** % of facility, district-level, provincial-level, and national-level staff who receive feedback SMS who report identifying a problem through the daily reports from RapidPro during the campaign calculated as total number of respondents who report identifying a problem over the total number who respond to U-Report Survey Question
   Source*: U-Report Survey Question sent at the end of first week and end of campaign*

5. ***Corrective action:*** % of facility, district-level, provincial-level, and national-level staff who receive feedback SMS who report taking corrective action based on the data they received through RapidPro during the campaign calculated as total number of respondents who reported identifying a problem over the total number who respond to U-Report Survey Question
   Source*: U-Report Survey Question sent at the end of first week and end of campaign*

In addition to the U-Report Surveys a post-campaign quantitative and qualitative survey instrument will be developed to specifically track user experiences in accessing and using RapidPro data with a prioritized focus on the use of RapidPro to identify problems and initiate corrective action. As such it will be important to identify the types of problems encountered during the campaign identified through RapidPro vs. problems encountered in the campaign that were not identified through the system. Mapping out relevant corrective action and how it is reported and/or captured will be an important follow on to problem identification, including:

- Time between problem identification and corrective action
- Corrective action linked to RapidPro
- Use of RapidPro to monitor effects of corrective action

Quantitative Research Process Summary and Flow

Using data from the risk assessment and the pre-campaign assessment, a baseline will be set for all facilities, districts, and provinces and stratified by risk profile. Quantitative baseline and on-going data collection from the RapidPro system and UReport surveys and Excel sheets used for the standard MR Campaign Reporting will track prioritized indicators and targets prior to the MR Campaign, throughout the Campaign, and at the end of the Campaign. Where possible comparisons will be made between the MR Campaign data collected through the standard reporting system and RapidPro. This will be complemented with quantitative U-Report Surveys that are linked to a sub-sample of facilities, districts, and provinces and a qualitative assessment to contextualize the quantitative data, in

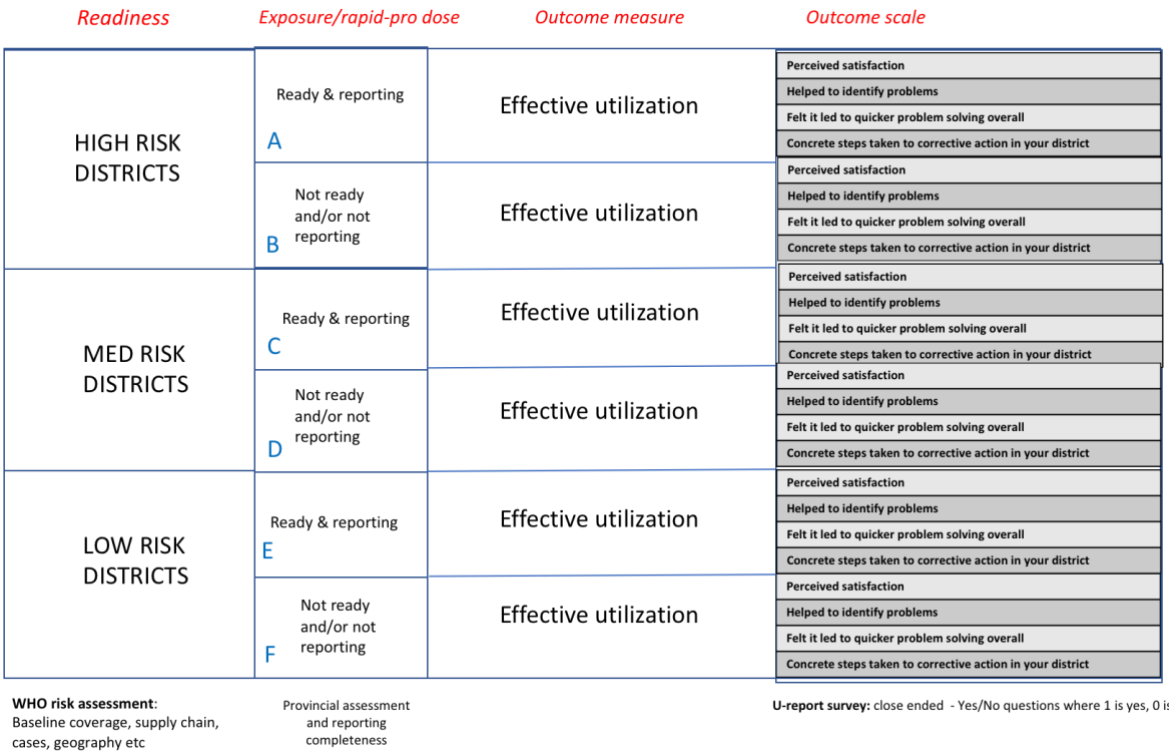
particular when assessing completeness of data (and accuracy of denominators) and efficiency/ use of RapidPro data for planning & course correction.

The quantitative research process can be broken down into the following three steps with the unit of focus as the 400+ districts and 28 provinces engaged in Phase 2 MR Campaign.

Step One: Stratification of sites (see below) & setting baseline for each of the districts

Step Two: Pulling data from RapidPro to assess highly vs. moderate vs. passive users; daily target achievement data; time to achieve 80% and 95% of target; completeness of reporting with a focus on dose response and outcomes (coverage, data completeness, and efficiency)

Step Three: U Report Surveys to assess perceived satisfaction, problem identification, and corrective action with a focus on experience of users and the outcomes (problem identification & corrective action & time to reach targets)



Data management and analysis for quantitative component

All data from RapidPro and U-Report Survey will be downloaded as Excel sheet, which then will be managed and processed by Tableau. We will create an interactive dashboard in Tableau that shows following information in graph, text and map at national, province and district level:

- % districts reaching daily targets
- Time to reaching targets by district (# days planned, # days actually used to reach targets)
- % facilities by district reporting into RapidPro
- # dashboard logins by district

- U-Report survey responses by district: satisfaction, problem identification, and corrective action

District stratification will be based on: Risk Assessment Data, Pre-campaign Assessment Data, Immunization Coverage Target and MR Immunization Coverage Reached.

A composite score to reflect effectiveness of use will be developed which will include data access, data use, and actions taken both individually as well as complementary/ interdependent outcomes that link back to overall MR Campaign data related to coverage and time to target/efficiency.

Powering the study

There are 395 districts in 2018 MR campaign and we assumed two third of them are higher effective users of RapidPro and others are lower or non RapidPro users. We will consider the minimal difference of MR immunization coverage between the two groups is 10%. By using significant level of 5%, the power of this study is 89%, as calculated using Stata/15 Sample Size and Power Calculation.

Tables for baseline

Table 1. Measles immunization coverage based on routine report

Indicator	Number of districts	%
Measles immunization coverage		
<60%		
61-70%		
71-80%		
81-90%		
91-100%		

Table 2. Experiences in using SMS based reporting system and reliability of cell phone connection

Indicator	Number of Puskesmas	%
Has previous experience using SMS-based reporting systems		
Strongest cell phone network		
Telkomsel		
Indosat		
XL		
Others		
Strength of network		
Good		
Ordinary		
Poor		

Analysis approach

Descriptive tabulation and mapping will be done for baseline and on-going data. Excel data from general MR campaign and RapidPro will be loaded to pre-defined Tableau dashboard. By the end of MR Campaign, statistical analysis to test the hypothesis will be done using Stata/15.

The team for quantitative study will be led by Iwan Ariawan with support from a data analysist and statisticians as needed.

Qualitative Research Component

To achieve the overall aim and objectives of the study, a robust and highly systematic qualitative research component is needed to understand how RapidPro and RapidPro data is being used to achieve and measure the achievement of the MR Campaign target of 95% MR immunization coverage. As the RapidPro system will be deployed at national scale an important component of the research will be to assess how well it works at scale. A key tool that will be used to inform this component of the study is the MAPS Toolkit developed by the UN Foundation in collaboration with the Johns Hopkins University Global mHealth Initiative, and the World Health Organization Human Reproduction Program.

> The mHealth Assessment and Planning for Scale (MAPS) Toolkit is a comprehensive self-assessment and planning guide designed to improve the capacity of projects to pursue strategies that increase their potential for scaling up and achieving long-term sustainability. MAPS is designed specifically for project managers and project teams who are already deploying an mHealth product, and who are aiming to increase the scale of impact. External parties seeking to understand the maturity and value of mHealth projects may also find value in using the Toolkit jointly with projects.

The toolkit will be used to systematically assess the progress and impact of RapidPro across the following domains and will primarily be used to engage national-level stakeholders, including the MoH, UNICEF, WHO, CDC, and Gavi as well as to inform the semi-structured in-depth interviews that will be conducted with provincial, district, and facility-based users of RapidPro.

Figure 1. Conceptual model for the MAPS Toolkit

In addition, an in-depth qualitative assessment of users at all levels will be conducted to document the experience of users and whether RapidPro is used as intended and if the optimal support has been provided to maximize its benefit. The qualitative research will be approached in the following way.

Sampling of Immunization Campaign Stakeholders at Sub-National Level (N=54): using the stratification of sites from the quantitative baseline and on-going data collection, 2 provinces will be prioritized in each of the categories (high risk, med risk, low risk). In each of the 6 provinces, 3 districts will be prioritized in each of the categories. In each of the 3 districts, 3 facilities (connected, moderately connected, and disconnected) will be included in the sample.

Key qualitative considerations to be assessed at the provincial and district levels include:

- Experience in accessing data from RapidPro (just SMS or SMS + dashboard)
- Data access experience –challenges and/or overall satisfaction
- Use of data- what data is most useful for problem identification
- Types of problems identified through RapidPro
- Time between problem identification and solution – what effect did RapidPro have on time to problem identification and/or corrective action
- Types of solutions and/or monitoring of corrective action through RapidPro
- Feedback/interactions with facility and/or provincial/district level staff for problem identification and course correction

Key qualitative aspects of RapidPro to be assessed at the facility level include:

- Experience in submitting data to RapidPro
- Use of the feedback provided by RapidPro

- Interactions with District Level MR Campaign Focal People stimulated through feedback SMSes, the use of data from the dashboard, lack of reporting by facilities, and/or identification of problems leading to delays in reaching targets

Data collection

The following questions been developed by the research team and will be tested and adapted for use with the appropriate-level respondent. A more detailed interview guide can be found in Appendix C.

Overall Impressions of RapidPro

1. What is the intended use of RapidPro in relation to the MR Campaign?
2. What are the main benefits that you have gotten from using RapidPro?
3. What challenge or need is RapidPro intended to address?
4. How does RapidPro fit into the overall MR Campaign activities and reporting processes?
5. What individuals or groups have you worked with in relation to using RapidPro?
6. What did RapidPro contribute to the MR Campaign that would not have happened without it?
7. In what ways did RapidPro save time? Save money?
8. To what extent do you think RapidPro improved overall MR Campaign data completeness?
9. To what extent do you think RapidPro improved overall MR Campaign data quality?

Data Use

1. To what extent did RapidPro help you reach the daily targets?
2. To what extent did RapidPro help you reach the overall campaign targets?
3. How did you use RapidPro alongside the standard MR Campaign reporting?
4. How was RapidPro daily messages used to engage with facility/ district/ province/ national level stakeholders? What feedback did you receive based on the data that was sent or accessed through RapidPro? How was the feedback incorporated into MR Campaign activities?
5. How was RapidPro dashboard used to engage with facility/ district/ province/ national level stakeholders? How frequently did you access the dashboard? How did you use the dashboard? What did you find most useful? What recommendations would you have to improve the dashboard?

Problem Identification & Resolution

1. How have you used RapidPro to identify a problem?
2. What problem did you identify?
3. How did you resolve the problem/ what corrective action was taken?
4. Who did you involve in addressing the problem? How did you use RapidPro to track the problem resolution?
5. How much time passed between the problem being identified and it being resolved?
6. What problems did you encounter that you did not identify using RapidPro?

Technology Ease of Use

1. How well did the RapidPro system work?
2. What challenges did you encounter with using RapidPro?

3. How easy was it to submit data via RapidPro?
4. How easy was it to receive daily targets and reports? Did you experience any delays in receiving feedback messages?
5. How easy was it to access and use the dashboard?
6. What problems did you encounter in the use of RapidPro? How did you address them?
7. What did you do when RapidPro was not working?
8. What is your overall satisfaction in using RapidPro (use 6-10 point scale and compare with UReport data)?

Training and Support

1. What training did you receive to support your use of RapidPro? Who provided the training? To what extent was this training sufficient? What additional training would have been helpful?
2. What support have you needed in using RapidPro? What support have you requested in using RapidPro? From whom did you request this support? What was your experience in getting the support that you needed?

Lessons Learned

1. What would you do differently the next time that RapidPro is used for an immunization campaign?
2. How might RapidPro be used for routine immunization tracking in addition to a national campaign?

Analysis approach

Data collection at the central level using the MAPS Toolkit will be presented using the scoring sheet and methodology of the assessment tool and supplemented with descriptive information captured during the administration process and through the in-depth interviews. Data collected through the in-depth interviews will be collected by Reconstra in the language most comfortable for the respondent, recorded, transcribed, and translated into English. It will then be coded and analyzed in NVivo using Grounded Theory.

Research Timeline & Considerations

The overall timeline and considerations for the study are bound by the implementation approach and schedule for the national MR Campaign.

Timeline (July 2018-January 2019)

	July	August	September	October	November	December	January
IRB Submission							
Baseline							
MR Campaign & On-going Data Collection & Bi-weekly data review							
UReport Surveys							
Qualitative Assessment & Analysis							
Final Report							
Peer-review publication submission							

Ethical considerations

Both the UReport Survey as well as the qualitative component of the study are considered human subjects research. As such, the research protocol will be submitted by Reconstra for IRB approval through the University of Indonesia.

Research Team

This study will be led by an Indonesia-based research agency, Reconstra, with guidance and support from HealthEnabled & UNICEF.

Dissemination of Results

This study will evaluate the incremental impact of a nationally scaled mHealth intervention on a national immunization campaign and area for which there is little to no evidence in the peer-reviewed literature to inform policy or practice. The results of this study will be shared first and foremost with the central Ministry of Health of Indonesia as well as Provincial and District Health Offices. The research results will also be shared with GAVI and UNICEF in Indonesia and globally to inform the future use of RapidPro in immunization campaigns. In addition, the researchers will work to share the findings of this study with the scientific community through publication in a peer-reviewed journal through at least one paper. The specific target journal will be selected upon completion of the study.

Appendix A: Key Research Questions & Considerations

Key research questions and priorities that emerged in Phase 1 Assessment:

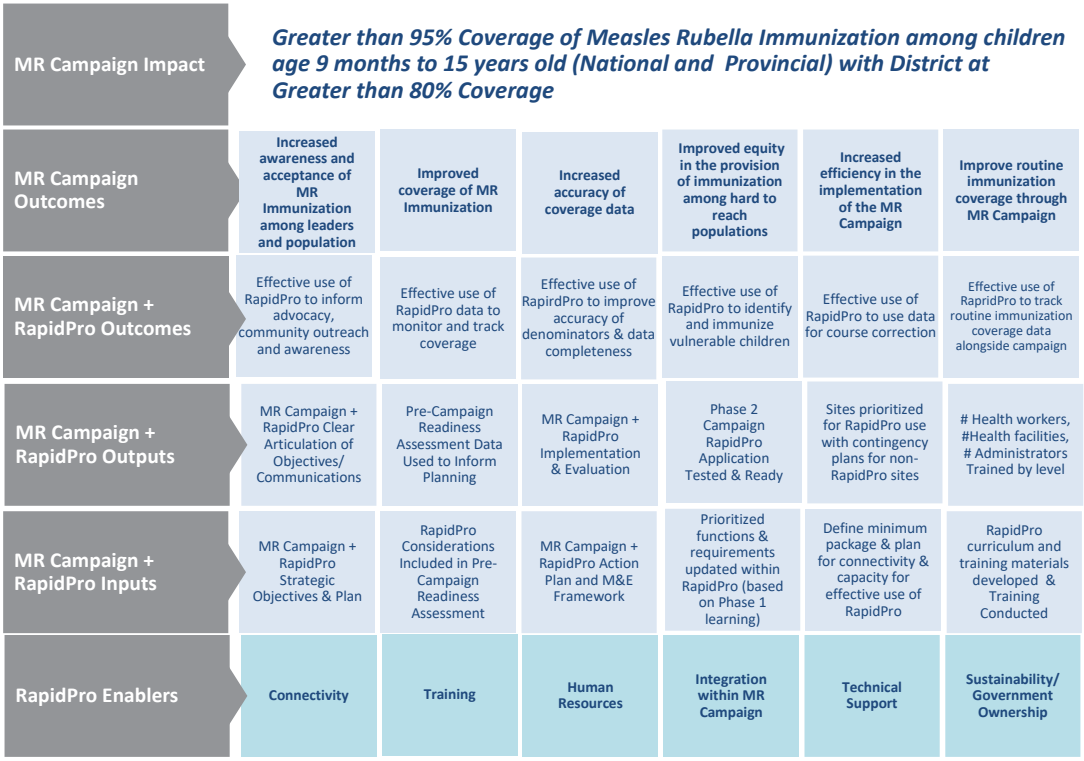
- Effective use (at various levels- puskesmas, district, provincial, national, etc.) – of various combinations of campaign monitoring tools SMS, paper, and dashboard
- What is the attributable or correlated contribution of RapidPro to the MR Campaign? What did it do that would not have happened without it?
- To what extent does RapidPro lend itself to campaign monitoring vs. routine monitoring?
- Did using RCA lead to more high risk/hard to reach vs convenient areas- will it lead to more areas getting covered in Phase 2 that might not otherwise have been reached? Use throughout campaign not at the end.
- Design case control studies to assess comparative impact on disadvantaged children vs. population coverage.
- Does RapidPro help to identify problem areas early and address them- early detection and response?
- Does RapidPro lead to time savings in improving coverage among hard to reach populations?
- Does RapidPro lead to the effective use of data at district, provincial, and national level?
- Conduct cost-utility study and assess efficiencies related to the use of RapidPro (incremental cost-effectiveness ratio)

Some key research considerations also include:

- The use of RapidPro and DHIS2 data or other electronic data sources to minimize primary data collection
- Work through who has access to data and how that data is meant to be used
- The potential use of UReport to support evaluation activities- polling of EPI providers and administrators
- Look at use of local population estimates with MoH data- trying to get more accurate denominators alongside data quality and use for “true coverage”
- What does the enabling environment for scale and sustainability of digital health in Indonesia look like? How might RapidPro be transitioned or integrated into existing systems and processes?
- Look at overall reporting burden- what does RapidPro add, take away
- In Phase 2, use the evaluation to develop a clear path from Campaign to Routine Immunization (look at current links between the two and opportunities to bridge)
- Look at absolute numbers and accuracy of denominators
- In costing, review – SMS, WhatsApp, and social use cost

Appendix B: RapidPro MR Campaign Theory of Change

RapidRro MR Campaign Indonesia Theory of Change



Appendix C: In-depth Interview Guide

Interview Guide

Assessing Real-time Monitoring Platforms for Indonesia's MR Campaign: a qualitative exploration of implementation experience prepared by Reconstra

Study aim: to review implementation of the Rapidpro in the second phase by specifically track user experiences in accessing and using RapidPro data with a prioritized focus on the use of RapidPro to identify problems and initiate corrective action

Axis 1. Groundwork (central level informants)

1. What was the original thinking around using Rapidpro for the 2nd phase of MR campaign?
    - What bottlenecks was it designed to address?
2. How was it adapted/refined over time (especially compared to the 1st phase of MR campaign?
3. How can Rapidpro integrate into the existing reporting scheme?
4. Is Rapidpro aligned with the existing immunisation reporting scheme? How is the alignment?
5. Does the information submitted to and produced by Rapidpro align with information produced by the existing immunisation reporting scheme?
6. What method is applied to guarantee the quality of RapidPro implementation?
    - Control management
    - Outcome indicator
    - Officer of the control function
    - Frequency and duration of control function implementation

Axis 2. Financial health (central level informants)

7. Were there any cost (in terms of financial/human/other resources) issues/concerns?
8. In your opinion, can RapidPro be financed by APBN / APBD? Please explain

Axis 3. Partnership (all)

9. Who was responsible for managing campaign activities at your office?
10. Is there any agreement made with related stakeholders in implementing Rapidpro? What kind of agreement?

Axis 4. Technology and architecture (all)

11. What are physical infrastructure needed by Rapidpro? Are they available in all MR campaign locations?
    - If not, could you explain why?
12. Were there any data security concerns?
13. Please describe the data security precautions in Rapidpro: i.e. risk of missing data, virus or being hacked
14. Did you experience technical difficulties in sending/receiving/viewing RapidPro messages? How were they resolved? Was it complicated or easy to resolve?
    - How user friendly/flexible was the system, in your opinion?

Axis 5. Monitoring (all)

15. Who received the immediate update on campaign progress? Was it clear to understand? Was it helpful? **(they for reporter informants, do for receiver informants)**
    - What did they (or you) do with the information?
    - Did they (or you) ever use the web-based dashboard?
    - If yes, was it helpful?
    - how could it be improved
    - If no, why?
16. Is there any feedback mechanism in the current Rapidpro system? Please explain
    - Feedback from the user (immunization coordinator) and to the program manager (district / city, provincial health office, health ministry)

Axis 6. Operations (all)

17. How did you learn about the RapidPro and Dashboard real-time monitoring system?
    - Was there a formal training event? Where? When (i.e. how far in advance of the campaign)?
    - Who conducted the event
    - Who was the target population/participants?
    - What information was delivered (i.e. about the technology, reporting system, etc.? Were Rapidpro advantages discussed?)
    - How useful was the training? Why?
18. What support/type of training did you require to start using the system?
    - Was your need met?
        - How could it be improved? (i.e. scheduling of the training, format/length of, venue and instructor)?
        - In your opinion, what other training is still needed? Why?
19. **(ONLY receiver informants)** What was the overall experience of implementing this system at scale (i.e. training, support and logistics)?
    - Was it organized/Easy? Disorganized/Difficult?
    - How well did it align with other planning/logistical preparations of the campaign?
        - Frequency and approximate time of reporting (please note whether informant describes the ideal or the actual frequency)
        - Who responsible to send the text?
        - Who monitor the campaign in each juridical level (in Puskesmas level, district health office, provincial health office, Ministry of Health)
        - Who has the authority to change or edit the data?
        - Reporting discrepancies – why might there have been differences vs the manual system?
20. Do you feel confident to use RapidPro? Why?
21. What were the main challenges in using RapidPro during the MR campaign?
22. In your opinion, what are factors that support and/or hamper RapidPro implementation?
    - Individual factors, social economy, access, and environment
23. What recommendations do you have to improve the system?