iPIER (Improving Programme Implementation through Embedded Research)

Title Integration of Malaria Surveillance system in Sindh

PART I: Reporting on the study outcomes

Section 1: Background on the context in which you are working

 Globally, an estimated 3.2 billion people are at risk of being infected with malaria and developing disease. Malaria is endemic in Pakistan and the country is classified as moderate malaria endemic country with the national Annual Parasite Incidence (API) averaging 1.66, it is among the four countries in the world which account for more than 80% of estimated cases of Plasmodium vivax.

Province of Sindh which is second most populated province of Pakistan with population of 42 millions contributed 30% of total malaria cases in 2013.Malaria is endemic throughout the year in Sindh

Surveillance is an important public health tool. A strong surveillance is critical for prevention and control of malaria in any setting. Malaria surveillance in Sindh is fragmented. Currently there are four different surveillance systems operating simultaneously in the province including EVA 4, MIS(Malaria Information System), DHIS(District Health Information system) & DEWS (Disease early Warning System). All these systems have different case definitions and are managed by different organizations such as Malaria Control Program, Director General Health office, Global fund to fight AIDS,TB and Malaria GFATM & world health organisation WHO.

Quality data has always been playing a cardinal role in malaria control response and epidemic preparedness. Without correct and current information, the true representative data on prevalence and incidence will not be known, real issue will be misunderstood, targets will go unrealized, resources will go waste, and planning will not be possible. For this very reason, a robust malaria surveillance system is critical to the success of the malaria response initiative.

Section 2: What was the implementation challenge that you were trying to address with this research

What is the implementation barrier you were facing?

Major challenges include poor planning, lack of coordination, missed opportunities by donors & political Commitment for malaria control program in Sindh. Different organizations conducting malaria surveillance in the province have little coordination among themselves, running parallel reporting systems.

What was your theory about the systems failure that caused the barrier?

System failure is due to lack of political commitment and ownership of the malaria control program; this includes lack of coordination, missed opportunities by donors & political Commitment for malaria control program in Sindh. No serious efforts have been made to properly plan, implement and evaluate malaria control program including malaria surveillance.

Political ownership for malaria control program could be improved through advocacy with policy makers, community leaders, media and cooperation from the stakeholders of implementation of program.

This can be achieved through involvement & close coordination with higher authorities of health department including,   Secretary Health, Minister of Health and engagements of the donors from very beginning of the planning of program.

Planning of the Malaria Control Program in coordination with all stakeholders with ownership of the Government of Sindh and donors only can fill the gaps.

What was the research question and how did it relate to your theory about the system failure?

The research question was:

What are mechanisms to understand the reasons for lack of coordination / alignment among different actors/ stakeholders for malaria control program & reasons for particular preferences of donors?

Our theory relates to lack of political commitment and coordination among stake holders

Section 3: _What was the study design and what methods did you use to answer your research question?_

What methods were used in the study?

Qualitative research was done to answer the study question .in order to To explore views of policy makers at different levels related to political   commitment to malaria control program also To describe perspective of donors/ sponsors related to malaria surveillance and To identify processes needed for coordination between stake holders for uniform surveillance system.

What data were collected and analysed?

Focus Group Discussions (FGDs): Semi structured questionnaire and probing questions for FGDs

Data Collection.

In depth Interviews (IDIs)

In-depth Interviews was done using Semi Structured questionnaire (Open ended questions)

These IDI were done by trained co investigators from 15 policy makers at different levels s according to field guidelines that include open-ended questions. The purpose was to deeply explore the respondents' point of view, feelings and perspectives concerning processes and operation, coordination and outcomes from the key policy makers in Sindh.

IDIs were conducted in one-to-one setting for confidential and secure conversation between the interviewer and respondent. The respondent were briefed about the nature of study, its aims and objectives, potential benefits accrued from it, and finally

informed consent was obtained from the respondent before start of the formal interview. His responses were kept confidential

The responses were recorded with audiotapes and written notes (i.e. Field notes) for which separate consent was obtained. Interview continued till the point of "saturation". Later immediately, these will be transcribed, and translated. Afterwards all collected material will be deposited to the data manager.

Focus Group Discussions (FGDs)

Two of the co-investigators conducted the FDGs. Of which, one co-investigator acted as a "Moderator" while other as "Note Taker" who noted down the salient notes of the discussion. The discussion revolved on the processes and operations, coordination, and outcomes of the malaria surveillance.

The participants were the personnel who are engaged in the implementation of the program.

There were two FGDs. Each group comprised of 6-10 participants. All the participants who participated in the FGDs were provide informed consent. No names were called in the discussion. Instead each respondent was assigned a unique code Every respondent was encouraged to participate actively in discussion. All discussion were audiotape recorded throughout entire process

Data   analyses

All the recordings were translated into English and transcription were done. The transcripts were reviewed several times to transforming the unstructured data into structured. Responses were assigned codes, and then were organized into categories and sub-categories. Themes were extracted under each question data was analyzed and managed using Microsoft Excel

Who and how many people were included in the study?

The study participants for the in depth interviews (IDIs) include policy makers at different levels

Focus Group Discussions (FGDs) included personnel engaged in different surveillance system (DEWS, GF, and DIHS), Surveillance officers DEWS, PR/SR GFATM Malaria Component, program implantation partners working on Malaria (Sub-Recipient of GFTAM), and donor agencies.

What were the outcomes of the analyses of the data?

Results

Half of the respondents of IDI were satisfied with present malaria surveillance system about one forth were aware about multiple reporting system rest only knew the system they were using.

Only 40% knew that malaria surveillance system is not all over Sindh some were of the opinion that it cover whole Sindh and similarly some had no idea

More than Half of them were aware of microscopy and RDT for diagnosis rest were using microscopy only

About 66% knew that there were Three malaria surveillance system . senior member thought coordination is present between all malaria surveillance system

Most of the respondents of IDI recognise the need of single malaria surveillance system .As one respondent said 'if there is no coordination mechanism or it fails' "the proper report cannot be prepared or MIS officer will make errors."

However less than 10% said there is no need for change "I can tell from our experience is that l practically at present system is working nicely ," said one of the respondent

As far as quality assurance of data most of them thought it exist only for microscopy Only few said that there are multiple methods of QA Almost all new about the flow of data

Doctors and paramedics in Focal group discussion FGD complained about multiple malaria surveillance system , they shared the difficulties they were facing in Data management almost all doctors said when they get Data by two systems and even if entry is done by same person the results are different because different case definitions are used.

Respondent highlighted the weakness in malaria surveillance system due to different case definition used in the surveillance such as MIS, DIHS, GFATM, and DEWS. There is weak coordination between ,G 30 DIHS, DEWS, GFATM(MIS ,), and DEWS.There is discrepancy in number of cases reported due to different cases definition used. Para med complain that all indicator are not present in all malaria surveillance system Performas. They were   aware about RDT and microscopy as diagnostic tool but also said that it is not used in all districts

Case definition of malaria is different in different implementing areas this is adopted according to the facilities available in area . Clinical criteria is used where microscopy and RDT is not available. Diagnoses is based on presence of MP in some places and in other it is based on species identification as pointed out by one of the respondent *"We have two type of guideline for identification one of them is national guideline, that define identification protocol define by Global Fund and Director of Malaria, one is Microscopy and second is RDT. Some time doctors give treatment without tests"*

What do these data tell you about the theory about the systems failure (section 1 part c) – does it confirm your theory or reject your theory?

This confirms our theory strongly .Case definition of malaria is different in different implementing areas this is adopted according to the facilities available in area . Clinical criteria is used where microscopy and RDT is not available. Diagnoses is based on presence of MP in some places and in other it is based on species identification this is causing problems as pointed out by our respondents

"the report that arrives from BHU, in G30 the number of malaria suspects given by it if supposed is hundred cases, the same BHU in Global Fund format gives the number of ninety suspect cases. The problem is right from the grass root level. The in charge signs the report showing hundred cases as well as on the one showing ninety. This later becomes a mess"

Another respondent complained about lack of facilities in 80% of districts

"We have the health facilities for the surveillance of malaria in the following :DHQ, Civil hospital, Taluka hospital RHC and diagnostic centers for the majority. There are many other localities where there are no centers and no facilities available. In such places clinical treatment facility is provided. And this is very much problematic. There is no surveillance and no reporting in these areas. Where there are no proper facilities available the ratio is 80%. Proper facilities, surveillance and reporting is available only where Global fund is available for malaria".)

Based on your analysis, what is the new knowledge that you have generated about the implementation of your programme?

This study   brought into light that higher authorities have little awareness about different malaria system working simultaneously in the province therefore they did not realize the seriousness of the issue and its consequences .

 Multiple Case definition of malaria are used in different implementing areas this is adopted according to the facilities available in area . Clinical criteria is used where microscopy and RDT is not available. Diagnoses is based on presence of MP in some places and in other it is based on species identification

Most of the respondents stressed the need for single surveillance system to collect accurate data.

Section 5: Conclusion

System failure is due to lack of political commitment and ownership of the malaria control program. No serious efforts have been made to properly plan, implement and evaluate malaria control program including malaria surveillance

Case definition of malaria is different in different implementing areas this is adopted according to the diagnostic facilities available in area . Clinical criteria is used where microscopy and RDT is not available. Diagnoses is based on presence of MP in some places and in other it is based on species identification

There should be single Malaria surveillance system based on lab diagnoses

Section 6: Strategy for Implementation

It is suggested that malaria control should adopt one surveillance system that is based on laboratory diagnoses that is using microscopy and RDT.

It will be based on GFATM surveillance system which is being piloted in Sindh. Malaria control program has prepared a planning commission one (PC1)document . this includes the proposal to allocate funds to establish additional microscopic centers and procurement of RDT for health facilities where microscopy is not available and trainings on single surveillance system. PC1 will be submitted to secretary health Govt of Sindh. It is expected that this will be approved in this budget. Training will be given to the trainer on surveillance system who will give training to all stake holders on recording and reporting (R&R) tools, microscopes and/or RDT will be provided at all levels and it is expected that the uniform surveillance system will be in place in all districts of Sindh by the end of 2017

This process will be monitored by Malaria control program. Director malaria control Program who is the principal investigator in collaboration with health authorities that director general health and secretary of health to the government of Sindh will be the responsible persons. Funding will be provided through the resources of Government

Part II: Reporting on the iPIER process

Section 1: Please describe how research findings helped inform changes in health policies and programs

Research finding helped us in assessing the difficulties that implementer are facing due to multiple surveillance system. This study also brought into light that higher authorities have little awareness about different malaria system working simultaneously in the province therefore they did not realize the seriousness of the issue and its consequences This has suggested the need of reform in health policy regarding malaria surveillance system

Section 2: Please describe the collaboration (positive and negative aspects) between the implementer (principal investigator) and the researcher(s)

Before the start of study a meeting was held with all the researcher where PI give complete insight into the rationale and objectives of study . Subsequently training was provided to the researcher on use of field guide for IDI and FGD and data recording, so that data can be transcripted and subsequently analysed. Data collection was monitored by PI at all levels therefore there was good collaboration between the implementer (principal investigator) and the researcher(s . however in few interviews vague and irrelevant discussion were recorded that caused difficulty in transcription but overall collaboration was good.

Section 3: Please describe the collaboration/support (positive and negative aspects) provided by Birzeit ICPH and EMRO?

Study was well supported by Birzeit ICPH and EMRO from beginning . Pre launch workshop was a good strategy where opportunity was provided to fine tune the study design to use the results for future programming and implementation

Periodic Skype calls were help specially the talk on qualitative research

We were not able to attend the workshop because of non issue of visa in time it should be assured that enough time is given to process visa.

the study results were shared on skype .Post workshop call on the issues required to be addressed in the write up was useful

 The negative aspect was :

Communication gap mails were addressed to PI his mailing address remained the same but co investigators was changed during the study. In spite of repeated sharing of information about the new co investigators they were not taken into the loop and mails were sent to old co investigators

Dispersal of fund was delayed .it was issued in instalments and it was not mentioned that what percentage of fund will be given at what stage. Complete delivery of fund is still awaited

<u>Section 4</u>: What if any, challenges have you experienced during this period?

The major challenge we faced during study was appointments for interview especially of the high officials in department of health due to their busy schedule and prior engagements and appointment were sometimes cancelled.

Action plan for your implementation strategy

Proposed Strategy	Key Implementation Steps	Key Players	Lead authorities	Timeline
Implementation of single malaria surveillance system based on lab diagnosis in all districts of Sindh	Development of PC1alloation of fund to establish additional microscopic centres and procurement of RDT for health facilities where microscopy is not available	Directorate of malaria control	Director malaria control	August 10
Implementation of single malaria surveillance system based on lab diagnosis in all districts of Sindh	Submission of PC1	Directorate of malaria control	Director malaria control	August 16
Implementation of single malaria surveillance system based on lab diagnosis in all districts of Sindh	Approval of PC1	Provincial ministry of health	Secretary of health	October 16
Implementation of single malaria surveillance system based on lab diagnosis in all districts of Sindh	Training on surveillance system	Directorate of malaria control	Director malaria control	March 17

Implementation of single malaria surveillance system based on lab diagnosis in all districts of Sindh	Implementation in all district Establishment of new microscopy centre	Directorate of malaria control/ Provincial ministry of health	Director malaria control	Dec 17