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July 2, 2020

The Health System Map and Its Actors: Introducing you to the key actors who make up the Kenyan Immunization Program

National Manager
for EPI

Sub County
Pharmacist

Facility
In-Charge

Sub County
Health Assistant

National
M&E HMIS

Pharmacy

County
Director of
Public Health

National
Surveillance Unit

VxDel Data Research Mini Webinar Series



SPEAKERS:



Isaac Mugoya

*Senior Technical Officer, Kenya -
Immunization Center, JSI*

Isaac has been working in immunization for more than three decades, supporting the Kenyan Ministry of Health in monitoring immunization programs, introducing new vaccines, and applying best practices.



Emilia Klimiuk

*Project Lead, Sonder Design
Collective*

Based in Lagos, Nigeria, Emilia is a designer and researcher specializing in applying Human-Centered Design methods to the health, microfinance, and agriculture sectors in low resource settings.



Wendy Prosser

*Senior Technical Officer - Supply
Chain, Immunization Center, JSI*

Wendy provides technical assistance and strategic guidance on the immunization supply chain across JSI's country teams to improve the design and management of the supply chain, create processes for data use for decision making, and apply global best practices to the country context.



Sarah Hassanen

*Kenya Lead, Sonder Design
Collective*

Based in Nairobi, Kenya, Sarah practices Human-Centred Design with a focus on health across multiple continents including Africa, Europe and the Middle East

VxDel Data Research
Mini Webinar Series



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The Vaccine Data Discovery Research study is a joint research effort between [Sonder Collective](#) and [John Snow Inc. \(JSI\)](#) to apply the Human-Centered Design approach in order to uncover and prioritize data specific pain points and challenges that healthcare workers and managers at all levels within a country encounter in delivering immunization services in Kenya, the Democratic Republic of the Congo, and Mozambique.

Note that today's discussion will be based on our conversations with nurses, EPI managers, and other decision-makers at all levels of the healthcare system in Kenya in early 2020. We conducted research in 3 Counties / 12 Sub Counties / 13 Facilities. We spoke to a total of 84 participants.

Kenya Health System Map

- UPDATES ON ANYTHING HAPPENING - SCHEDULED MEETINGS

County Director of Public Health

County Disease Surveillance Mgr. (1704)

Sub County Disease Surveillance Mgr.

DAILY

WELLFARE FOR TEAM

WHAT'S APP

STAFF CLINIC WITH CHAIRMAN GROUP

MONTHLY MEETINGS TO REVIEW PLANS TO TARGET MAKE DECISIONS

FOLLOW UP ON PPTS

X 12

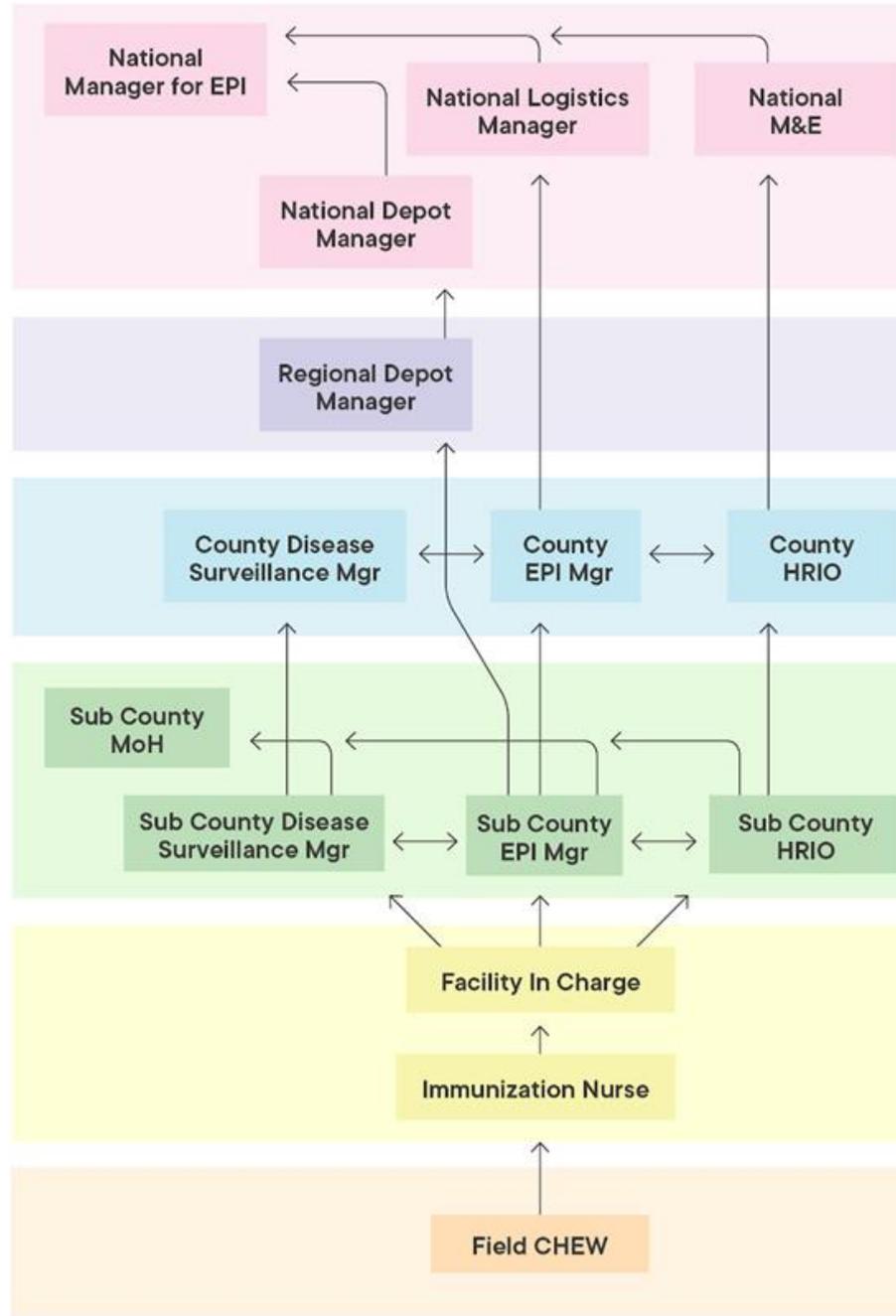
QUARTERLY (EVERY 3 MONTHS)

WHEN NEED ARISES

(SPECIAL CASES) MIGHT TURN TO DAILY.



KEY ACTORS



LEVEL

ROLE

DATA INTERACTIONS

National

The National level drives planning activities such as setting annual targets. They also take on a monitoring role, reviewing Sub County data for trends and performance, and are in charge of the vaccine supply chain (though all other commodities and expenses are handled by the County). Lastly, they work with Partners to secure funds and supplies.



Regional

Regional activities are focused exclusively on managing the vaccine supply chain. The Regional Depot manages the storage and distribution of vaccines directly to the Sub County stores.



County

County level supervises the proper capture and input of data into DHIS-2 at the Sub County level makes strategic decisions about the EPI program. Most funding decisions also happen at this level, but are mostly out of control of the technical immunization staff.



Sub County

The Sub County has a very central role in the immunization program. All the Facility level data is digitized here. Easy and frequent access to the Facility In Charges makes the Sub County perfectly positioned to champion good data culture and course correct any undesirable practices. Additionally, this level also plays a key role in operationalizing the EPI policies put forth at the National and County levels.



Facility

The primary goal at the Facility level is to provide timely and quality immunization services to all clients that come on any particular day. Recording immunization data and reporting it to the Sub County also happens at this level, but it is considered a core function only as long as it can be tied back to the services the facility provides (ex. helping keep the vaccines in stock, ensuring all kids get vaccinated).

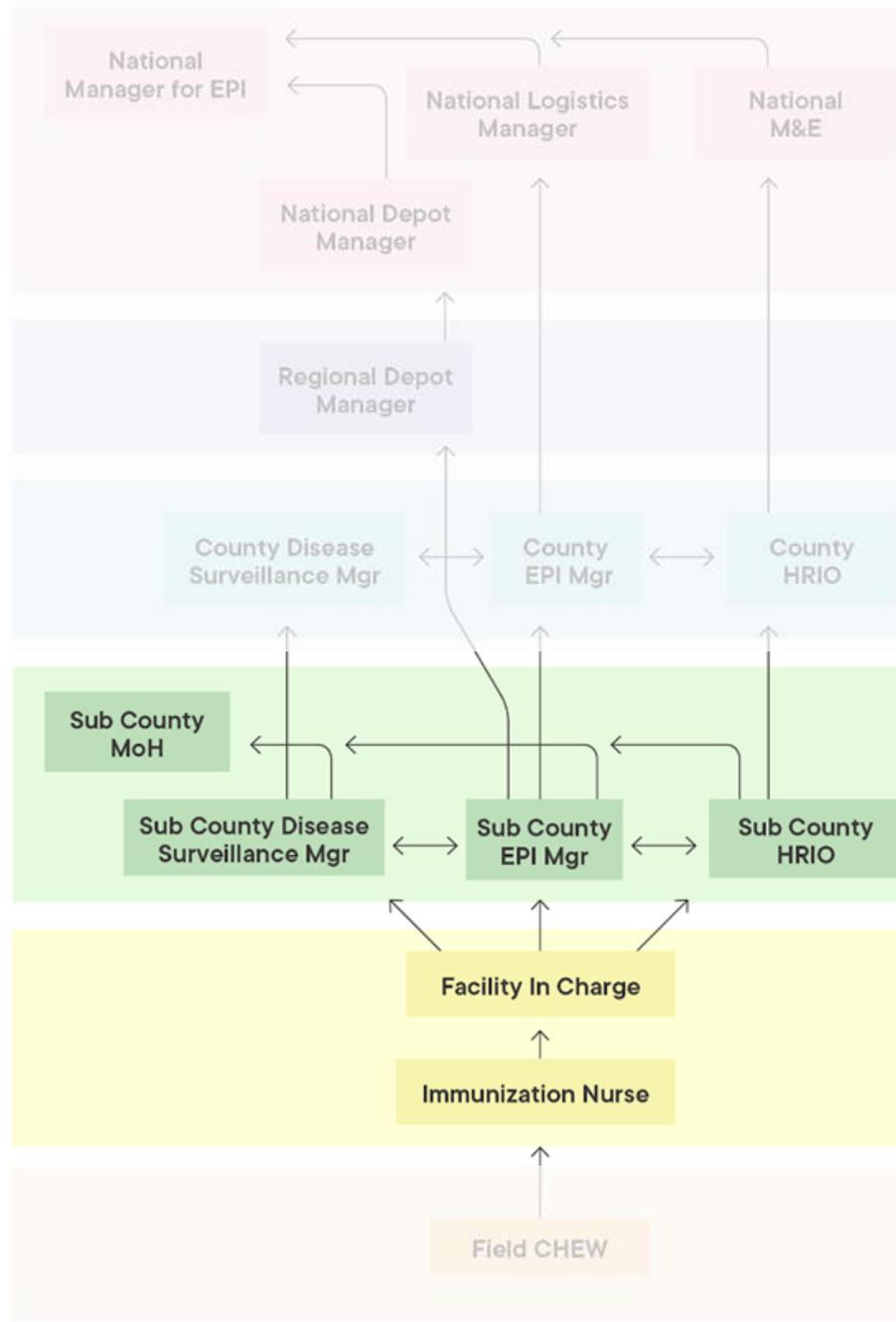


Community

At the Community level, the primary focus is on engaging community members, collecting relevant data to help the Facilities understand their catchment area better, as well as coordinating with the Facilities to implement outreach activities.



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Facility



Generate



Aggregate
& Report



Act On

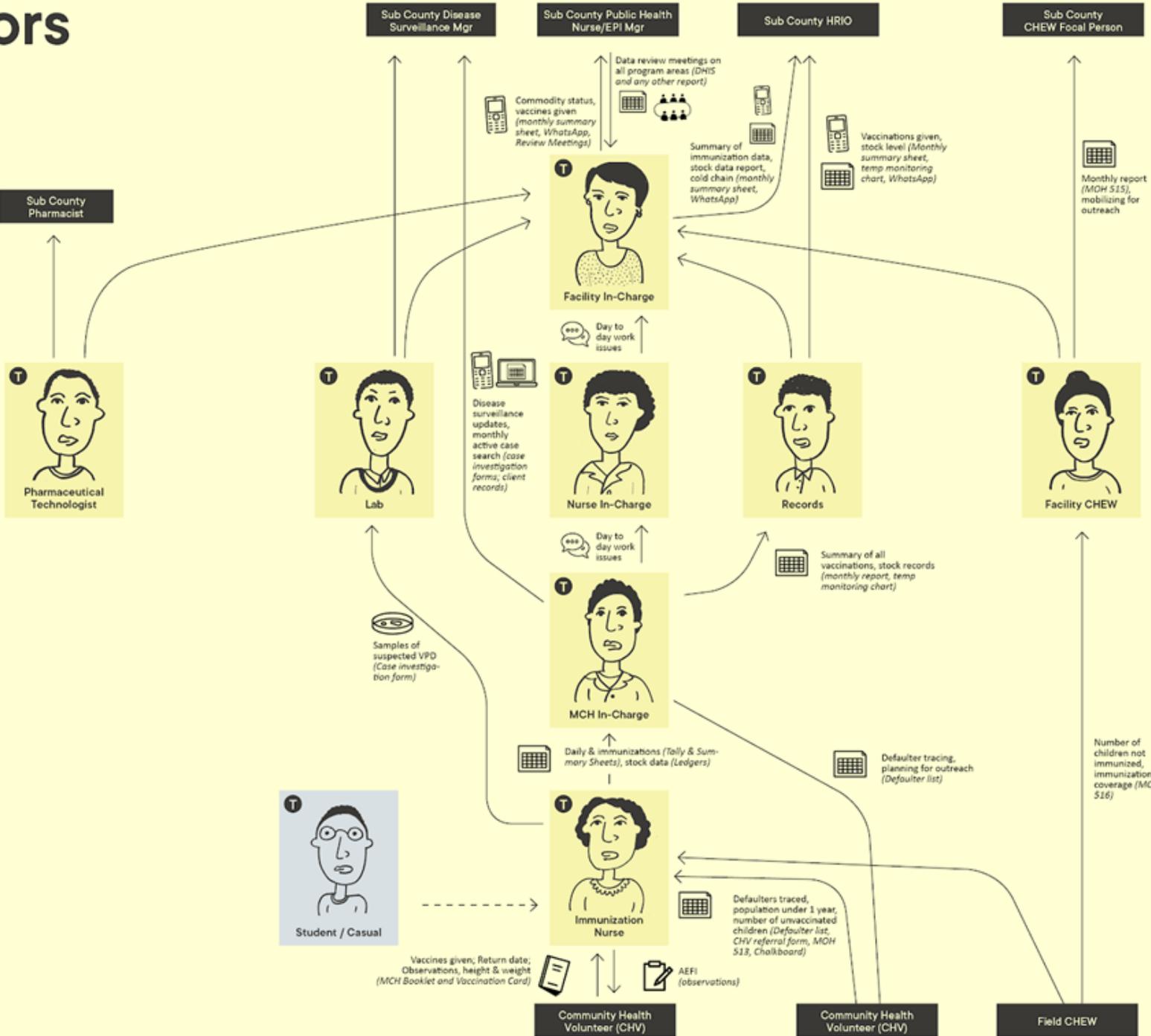
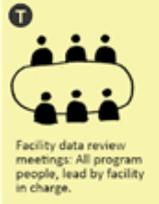
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"It's not about decisions, I think it's about routine."

"When somebody has so many patients to attend to, they'll concentrate on the patients and not capturing the data."

"Now everybody is on your toes, 'Why are you not performing?' But I'm always at peace because I know I've done my best. I've gone to the outreaches, There are no defaulters."

Facility-level Actors



Facility-level Tools

DATA COLLECTION & MANAGEMENT



MCH Booklet (Mother Child Booklet)

A record of all immunizations given to a child kept by the parent/guardian. Updated by facility staff during each visit.



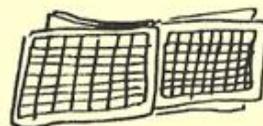
Tally Sheet (MOH 702)

A count of daily immunizations per vaccine, to be completed by facility staff as immunizations are administered.



Daily Register (MOH 511)

A register documenting every child served on a given day. TO be filled during or immediately after the visit. Each page includes a tally at the bottom to help with reporting.



Permanent/Immunization Register (MOH 510)

A record with details of all children immunized at a facility. To be updated with each vaccine. Page number for this entry is often noted in the MCH Booklet to make it easier to find.



HPV Vaccine Card

It is a card given to a patient when they have started their immunizations for the HPV vaccine and is used to record their vaccines. The patient keeps it with them and presents it at the health facility when they come for their next dose.



HPV Vaccine Register (MOH 413)

A register used specifically for the HPV vaccine program. Includes additional information about the girls' school name and class.

DATA COLLECTION & MANAGEMENT *cont.*

(informal)



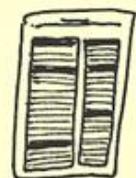
Malaria Vaccine Tally Sheet

A register used specifically for the Malaria vaccine program. Currently in pilot phase, only used in select areas.



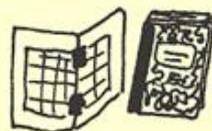
Monthly Summary Sheet (MOH 710)

A summation of all immunizations given at the facility in a particular month. Daily totals are meant to be filled at the close of the day. Monthly total is added up at the end of the month.



Integrated Report (MOH 711)

A monthly report aggregating various information sources, meant to be filled out monthly at the facility. Covers ANC, PNC, Family Planning, Maternity & delivery, Child Health & Nutrition amongst others.



Photocopies & Improved Notebooks

When data recording tools are not available, facilities are advised to make photocopies (at own expense). They may also resort to using blank notebooks (a practice that often leads to increased errors and data gaps).



Hand Notes

When official registers are temporarily unavailable, or staff is too busy to make a formal entry, numbers might be quickly scribbled on a palm or a slip of paper (ex. number of vaccines removed from fridge) and entered into the records at the end of day.



Slips of Paper

Slips of paper might also be used more strategically during busy times. A child's weight might be measured, recorded on a slip, and handed to the mother. Though the wait time has not been reduced, the mother feels attended to and is less likely to leave. The weight is later copied to the registers.

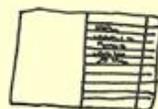
Facility-level Tools *cont.*

DATA COLLECTION *(informal) cont.*



Register Margins

Busy facility staff might also resort to only filling one register at the time of vaccination, noting any additional required data in the margins. They will then use the "master register" to update all the others at the end of the day.



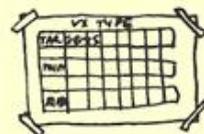
PNC Immunization Book

A register used to track vaccinations completed in the PNC. It is used to update the Daily Register and Tally.



Vaccine Ledger

An inventory of vaccines (usually one ledger per vaccine) at the facility. Used to record any antigens removed in the morning, returned at night, and added to the fridge.



Forecast Sheet

Shows, based on facility targets, what the minimum and maximum number of antigens the facility should have in stock to avoid stockouts and wastage. Ideally, it is compared against stock at the end of the day and used to order antigens monthly.



Temperature Monitoring Chart

Record of temperature readings for each equipment (fridge or freezer). Meant to be completed in the morning and evening seven days a week. Also records any actions taken in the event there was heat or cold alarm.



Ordering Sheet

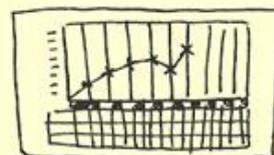
Used to order antigens monthly or as needed (in case a minimum amount is reached).

STOCK MANAGEMENT *(informal)*



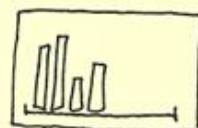
Antigen dilution and expiry time records book

Additional records kept by some facilities to track wastage and when a vial was opened.



Monitoring Chart

A wall chart, to be filled by the facility based on the Monthly Summary Sheet, graphing immunization trends of key vaccines (Penta 1, Penta 3 and Measles) against the set targets. Also shows the cases of vaccine preventable diseases occurring within the month.



Charts on manila paper

A hand drawn bar chart monitoring performance at facility, used when official monitoring charts are not available.

OUTREACH *(informal)*



Appointment Diary

A list of children to be immunized on a particular day. The nurse can quickly know how many children to expect for immunization on any given day. Once a child is vaccinated, he/she is marked and listed on the next appointment dates. At the end of the session, the nurse identifies those who missed and using the child number, gets the child's name from the immunization register.



Defaulter Tracking book /list

At the facility level, a Counter book is used to create a defaulter list. The list is created by going through their permanent registers and identifying which patients have not come back for their follow up vaccinations. This list is either shared with the relevant CHVs for follow up or the patient is directly called by the facility.

Key Actors: Immunization Nurse



My main goal is to ensure complete and accurate data is entered into the DHIS-2 on time. I am responsible for **verifying and keying in the data** from all facilities and **following up** about missing reports, data gaps, or inaccuracies. I also **analyze data and share any insights** with relevant Sub County staff.



CHALLENGES

- I am expected to make reporting a priority, but those at the top don't ensure I have **basic tools to do the job**
- The **reporting tools** work well under ideal circumstances, but the system quickly disintegrates when I'm under pressure
- The way we **trace defaulters and monitor performance** does not work in a dynamic, urban setting where patients are moving in and out of our facility
- I understand the importance of good data, but I didn't go to nursing school to do reporting. **I don't have the proper training or passion for numbers**
- The **feedback I get is infrequent**, and mostly focused on what I did wrong

DECISION-MAKING



I decide on my own:

- How to manage and run an immunization session, which entails deciding on the quantity of vaccines to pull out of the refrigerator and into a vaccine carrier for use during the day, organizing the flow of children for vaccine administration, and process for updating data collection forms.
- When to check and record fridge temperatures.



I decide as part of a group:

- What activities to prioritize across the facility with facility health management team
- How and when to develop the annual workplan with facility health management team



Out of my control:

- Where and when to do outreach is usually decided by either the Facility In-Charge or the Sub County level. Immunization data is rarely used to make these decisions, so my efforts are not as effective as I would like.

Sub County

- The Sub County has a very central role in the immunization program.
- All the **Facility level data is digitized here.**
- Easy and frequent access to the Facility In-Charges makes the Sub County perfectly positioned to **champion good data culture and course correct** any undesirable practices.
- This level also plays a key role in **operationalizing the EPI policies** put forth at the National and County levels.



Aggregate
& Report



Manage



Analyze

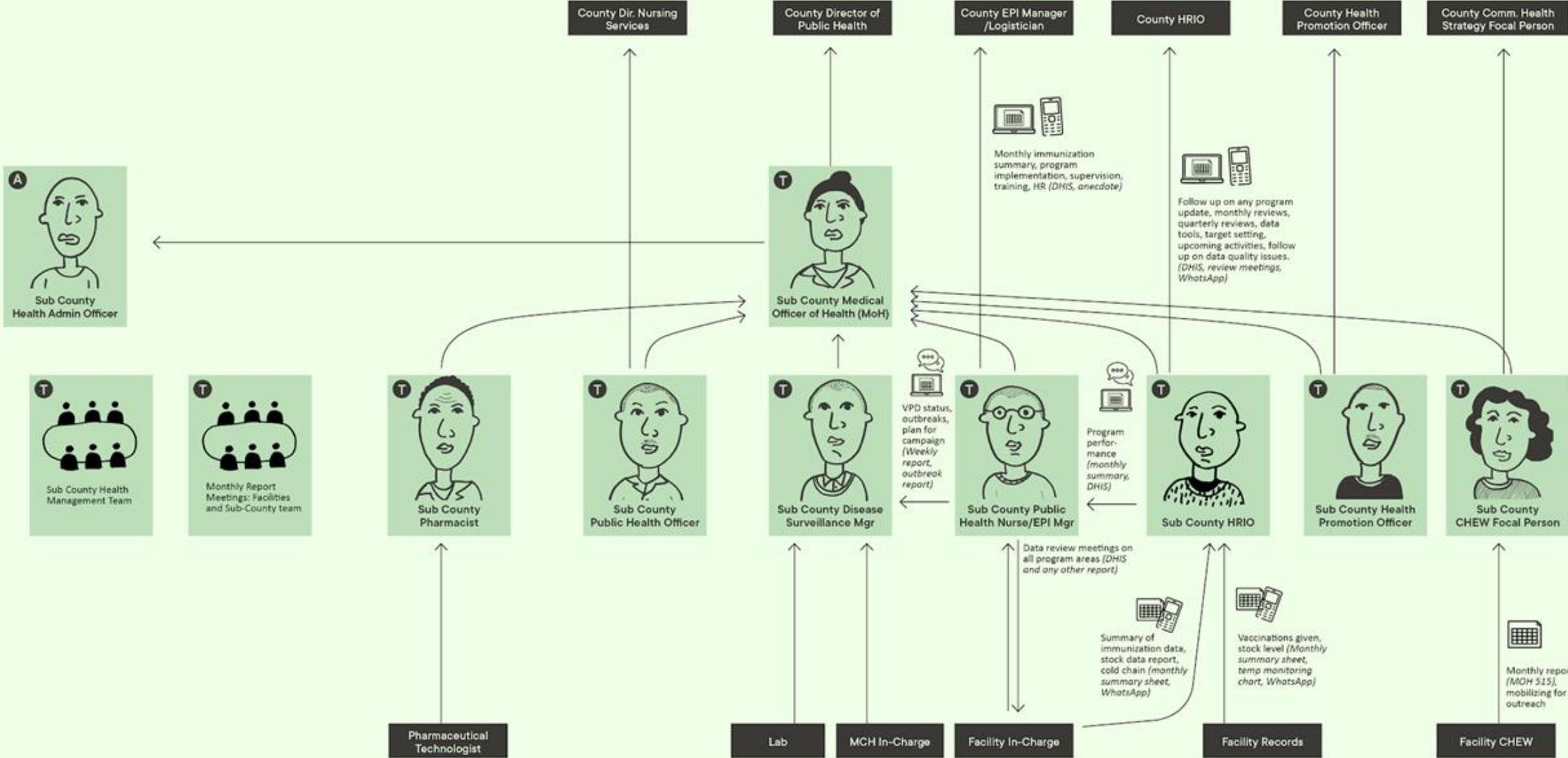


Act On

"Making a work plan is one thing, getting the money is another. This annual year, we are supposed to get 100 vaccine couriers. We are already through half of the year, nothing has come."

"The immunization program is going down but there is no funding. You cannot move out [due to lack of transport], you cannot carry out your activities."

Sub County-level Actors



Sub County-level Tools

DATA COLLECTION & MANAGEMENT



Monthly Facility Reports

Paper reports from facilities are delivered to the Sub County by the 5th of each month. This data is validated and keyed into the DHIS2 system. The paper forms are archived and stored at the Sub County for several years.



DHIS-2

Electronic database of all facility-level data. Data is keyed in by Sub County HRIO and accessible to anyone with a login. Number of logins at Sub County is often limited. Access is also limited by ability to use the system.

(informal)



Report Checklist

A tracker to ensure all facilities have submitted all the necessary monthly forms. It is common for a facility to deliver incomplete submissions (esp. small facilities which might have had no vaccinations that month).

STOCK MANAGEMENT



Stock Ledgers

Monthly stocks of received and issued vaccines at the Sub County Store. There is a separate ledger for each vaccine.



Temperature Monitoring Charts

A record of the daily temperatures for cold chain equipment (such as fridges and freezers) at the Sub County Store.



Vaccine Forecasting Tools

Used to forecast the doses of vaccines for the year and month. Compiled using the population and wastage rate data.

STOCK MANAGEMENT *cont.*



Vaccine Ordering Sheets

Used to order vaccines from the regional depot.



CHANJO

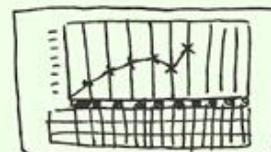
An online system (eLMIS), used for ordering and issuing vaccines. Also records stock levels at the Sub County level.

PERFORMANCE MONITORING



Monthly Summary

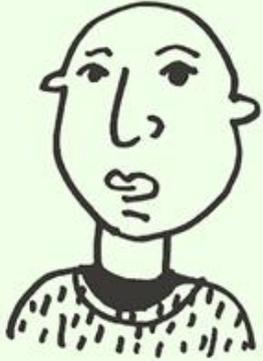
An aggregate of facility summary sheets. Includes a summary of all immunizations given, monthly stock record and cold chain data.



Monitoring Charts

Monitors monthly data on selected antigens and monthly vaccine preventable occurrences.

Key Actors: Sub County HRIO



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CHALLENGES

- **Lack of reporting tools demotivates the facilities** and makes it difficult for me to ensure completeness & quality
- Facilities regularly submit incomplete, late, or inaccurate reports. **I'm responsible for fixing these issues, but lack the airtime & transport** to follow up
- **DHIS-2 is unreliable**, making it difficult for me to key in data
- **Inconsistencies between paper forms and DHIS-2** take up time and introduce inaccuracies in data

DECISION-MAKING



I decide on my own:

- What feedback to provide to different programs
- How to distribute/re-distribute reporting tools to facilities
- Quality standards for data keyed into DHIS-2



I decide as part of a group:

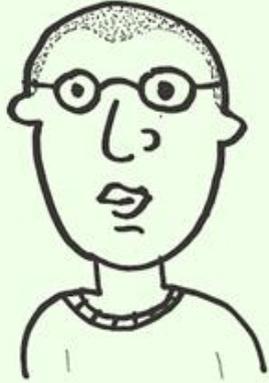
- What is the target population for the Sub County and catchment population for facilities (as part of Management Team)
- What data and reports to present during the monthly review meetings and inform agenda (as part of Management Team)
- Which facilities need supervision, training or support to improve data quality or performance (with EPI Manager)



Out of my control:

- My role of inputting data into DHIS-2 largely depends on the facilities to send in their monthly reports. The quality and timeliness of those reports can greatly vary depending on the facility.
- Printing timing and quantities for reporting tools (decided at County level)
- Tool & DHIS-2 redesigns (decided at National level)

Key Actors: Sub County EPI Manager



My main goal is to ensure the EPI program is running smoothly in my Sub County. I am responsible for immunization activities at the facilities. I review the monthly reports and address gaps in coverage or activities. I am also responsible for managing vaccine stock to ensure all facilities have the quantities they need.



CHALLENGES

- Our planning is based on **unreliable data**
- **Workplans and forecasts rarely reflect the resources I actually get**, so I just go through the motions, knowing I will have to improvise later
- **National stockouts** frustrate our efforts to reach targets
- Basics such as sufficient fridge space are not always available, **forcing me to order based on capacity, not need**
- **Outreach** planning is often **driven by other programs' priorities**

DECISION-MAKING



I decide on my own:

- Solutions to everyday stock management challenges
- What quantities of vaccines to issue to facilities
- Where to re-allocate stock when there are vaccine shortages
- Identify and direct which facilities can immunize



I decide as part of a group:

- Setting annual targets for facilities in order to allocate the population across the Sub County
- Plan when and where outreach should be conducted, based on the reports, missed opportunities to vaccinate as well as other efforts happening in the area
- Best course of action for staffing issues and which facility may need additional nurses with Health Management Team



Out of my control:

- Although we work together to set targets, we only have a small influence over what the overall target population is for our Sub County.



NEXT WEBINAR:

3

July 16, 2020

9:30 a.m. EDT / 2:30 p.m. GMT

Policy vs Practice: Two modes that reflect decision-making in the Kenyan health system

RESOURCES:

- Download the [Initial Kenya Insights Report](#)
- Download the full [System Map](#)
- Read the [Blog Series](#)