

Implementation Research

“Assessing the Effectiveness of Implementing the Community Case Management of Malaria (CCMm) in the liberated governorates of Yemen during the period of 2018-2022”.

BY

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MPH-IS Cohort 1 2022-2024

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THE INTRODUCTION

- **1. Contextual Background of Yemen's Humanitarian Crisis :**

Conflict & Political Instability (Since 2015): Continuous conflict has disrupted services and development, exacerbating humanitarian needs.[1]

Internally Displaced Persons (IDPs): Over 4 million displaced, affecting healthcare access, particularly for women and children.[1]

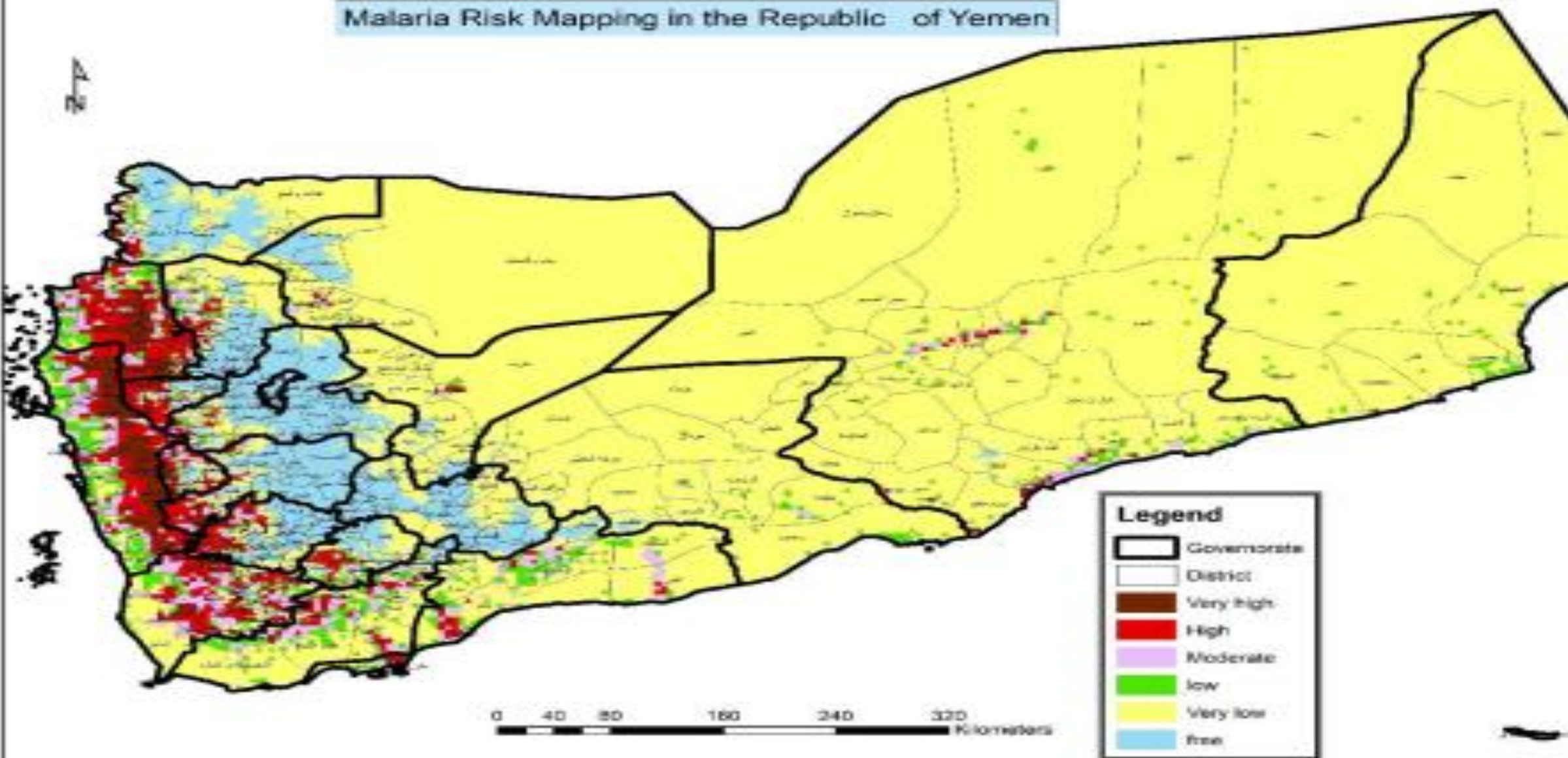
- **2. Health System Challenges**

- **Healthcare Collapse:** 50% of Yemen's health facilities are non-functional, further burdened by staff shortages, electricity issues, and lack of essential medicines and equipment.
- **Access to Healthcare:** Over 19.7 million people lack adequate access due to conflict, facility closures, and geographical barriers, especially in rural areas.(WHO reports)
- **Child Mortality:** The child mortality rate in Yemen remains high, primarily due to ongoing conflict, malnutrition, and the collapse of healthcare systems. According to WHO reports, the under-five mortality rate was estimated at 55 per 1,000 live births in 2021. Major causes of child deaths include preventable and treatable conditions such as malnutrition, diarrheal diseases, pneumonia, malaria, and neonatal complications.

3- Malaria as a Public Health Concern:

- **Malaria Risk:** Two-thirds of Yemen's population is at risk, with significant increases in confirmed cases and deaths between 2014 and 2018.
- **Positivity Rate:** Malaria positivity rates increased from 11% to 17% (2014-2018), with a rise in cases among pregnant women and children under five.
- **Plasmodium Falciparum:** for 98.0% of cases of malaria in Yemen; it is an Afro-tropical malaria primarily spread by *Anopheles arabiensis* [13].
- **2023 Data Malaria Control Program :** Malaria incidence reported at 40.57 per 1,000 population, with high indigenous population challenges affecting efforts to reduce cases by 75% by 2025

Malaria Risk Mapping in the Republic of Yemen



4- **The Socio-economic, Geographic and cultural Barriers:**

- Yemen's diverse geography (mountains, deserts, coastal regions) complicates healthcare access, particularly in rural areas with poor infrastructure.
- High poverty rates (over three-quarters of the population living below US\$3.20/day), weak institutional capacities, and limited resources hinder access to malaria services.
- Cultural behaviors, such as sleeping outdoors due to power outages and resistance to indoor residual spraying (IRS), increase malaria risk.
- Women often perform tasks near mosquito breeding sites in rural areas, exposing them to malaria more frequently.
- Restriction of Women's mobility for seeking the health services.

- **5- Impact of Reduced Funding**

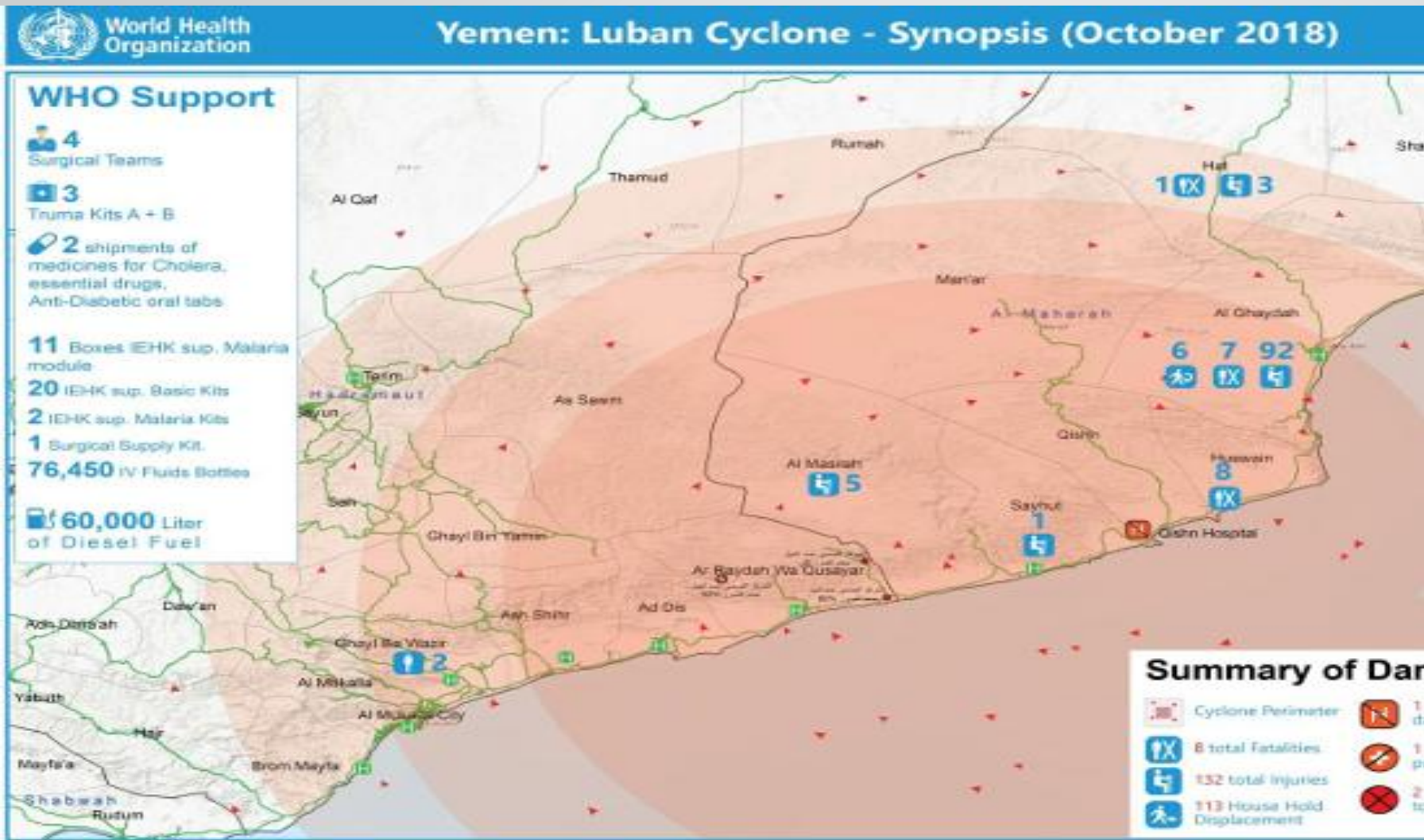
- Program funding saw a 50% decrease between 2015-2017 compared to previous years, with reliance on international organizations (WHO, UNICEF, Global Fund, etc.).

- **6-Concurrent Health Issues** Additional outbreaks of cholera, COVID-19, and dengue, as well as malnutrition, have stretched already limited resources and donor funding

- **7- Effects of Climate Change**

- **Natural Disasters (2015-2023):** Tropical cyclones, floods, and droughts have caused displacement, infrastructure damage, and delayed access to healthcare.

- **Vector-borne Diseases:** These extreme events increase the risk of infectious disease outbreaks, including malaria



- **Figure 2:Cyclone Luban** (October 2018):
- This was a severe cyclonic storm that hit eastern coasts of Yemen, leading to heavy rainfalls and about 8,000 homeless people.

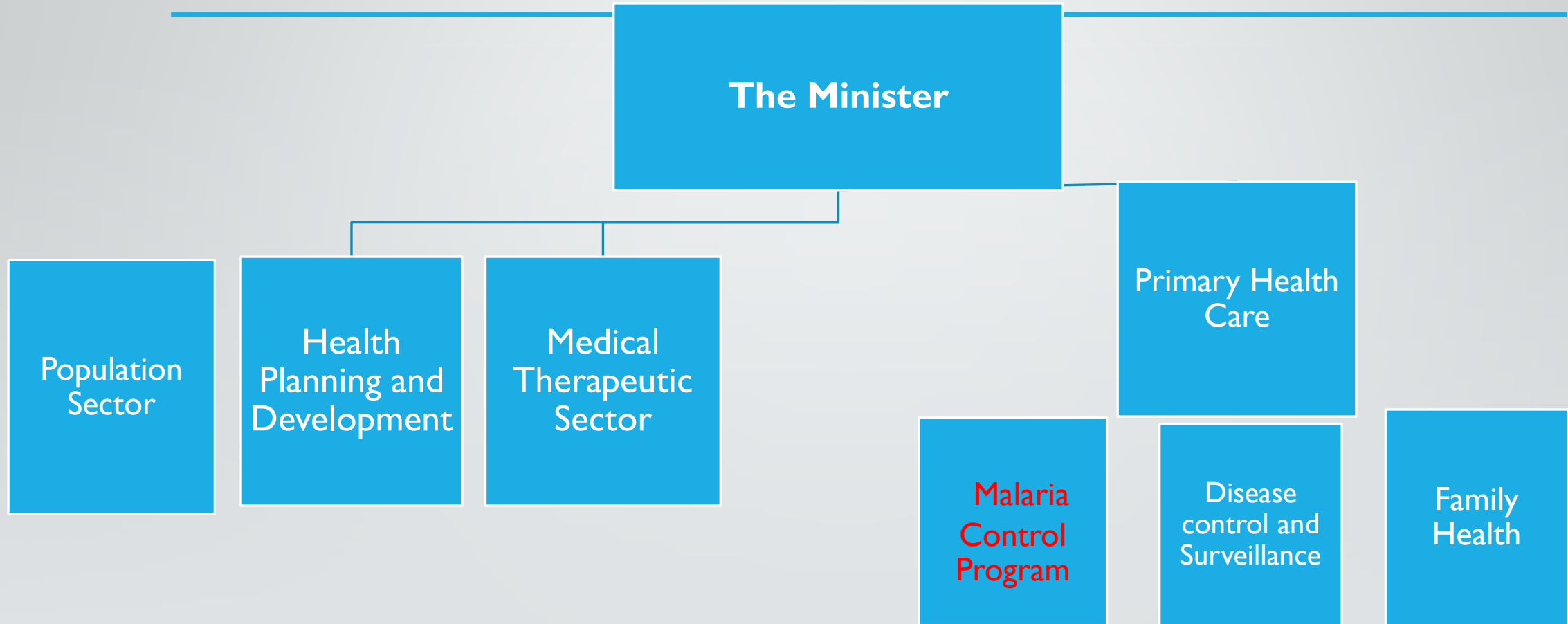
RATIONALE

- 1- Over **19.7 million Yemenis lack access** to health facilities due to ongoing conflict, facility closures, geographical barriers in remote areas, and climate-related factors [1].
- 2- Malaria as Public Health Concern :. Yemen is categorized among regions with a high indigenous population, facing challenges in achieving the Global Malaria Action Plan's objective of reducing malaria cases by 75% by the end of 2025 [11].
- 3 **Malaria** is still a serious public health concern in Yemen, where the risk of infection is around **two thirds of the population**. In 2017, there were more than **114,000 confirmed** cases and **37 deaths** reported [10].
- 4-Between 2014 and 2018, Yemen saw **an increase** in malaria positivity rates by microscopy or rapid diagnostic tests (RDTs), rising from **11.0% to 17.0%**.
- 5-There was also a notable rise in probable malaria cases, with confirmed cases **among pregnant women** increasing from **2,034** in 2014 to **3,489** in 2016, and **among children under five** increasing from **19,068** in 2014 to **44,718** in 2018

RATIONAL

- 6- This study as my knowledge is the **first** in evaluate the effectiveness of CCM of Malaria in Yemen.

NATIONAL MALARIA CONTROL PROGRAM- FIGURE 3:ORGANIZATION STRUCTURE



MALARIA CONTROL PROGRAM IN YEMEN

Vision:

- **Malaria Incidence Reduction:** Reduce malaria case incidence and morbidity by at least 50% in highly endemic areas (particularly in the Tehama region) by 2024, compared to 2018.
- **Malaria Mortality:** Reduce malaria-associated mortality to near zero.
- **Outbreak Prevention:** Prevent malaria outbreaks in IDP-hosting areas and epidemic-prone districts.

Strategic Objectives:

- **Vector Control:** Protect people in endemic areas and vulnerable IDPs by strengthening the coverage of vector control interventions such as Long-Lasting Insecticidal Nets (LLINs) and Indoor Residual Spraying (IRS), based on epidemiological suitability.
- **Surveillance System:** Develop and strengthen a surveillance system capable of early detection, timely reporting, forecasting, and prompt response to malaria epidemics.

Key Strategies:

- **Community Case Management of Malaria (CCMm):** Implement CCMm to address the gap in accessibility to malaria services at health facilities as part of Yemen's main malaria control strategies.



_AN OVERVIEW OF CCM MALARIA PROGRAM IN YEMEN

- ❖ The Ministry of Health (MOH) initiated the **Integrated Community Case Management (iCCM)** program after a technical committee meeting in 2015.
- ❖ In 2016, the **iCCM guidelines** were revised, and a **Community Health Workers Unit** was established within the Primary Health Care sector to manage activities with UNICEF as the main funder.
- ❖ Over **500 Community Health Workers (CHWs)** were trained to deliver interventions for childhood diseases (pneumonia, diarrhea, malnutrition, malaria).
- ❖ Post-2018, more **community volunteers** were added in high malaria-burden areas to enhance **Community Case Management (CCM)** for malaria.

The **CCMm** was implemented in **17 districts** under the **Malaria Control Program**, in partnership with **IOM** and **The Global Fund**



THE COMMUNITY HEALTH VOLUNTEERS -CHVS

❖ **425 female community volunteers** were trained across 17 districts for **malaria diagnosis, treatment, and health education**.

Volunteers were selected based on **eligibility criteria** set by the Malaria Control Program, aligned with Yemeni cultural traditions. Criteria included:

- Preferred **education level**: Bachelor's or Secondary (Primary level acceptable in scarce cases).
- **Age range**: 18 to 35 years.
- Priority given to **hard-to-reach areas** and villages without health facilities.
- ❖ **Nominations** for volunteers came from district health offices and community leaders, with each district having 25 volunteers responsible for about 1,000 people in difficult-to-reach areas.
- ❖ Community Health Volunteers (CHVs) play a key role in malaria care due to their accessibility and cultural alignment, providing **malaria diagnosis, treatment, and health education** in the community.

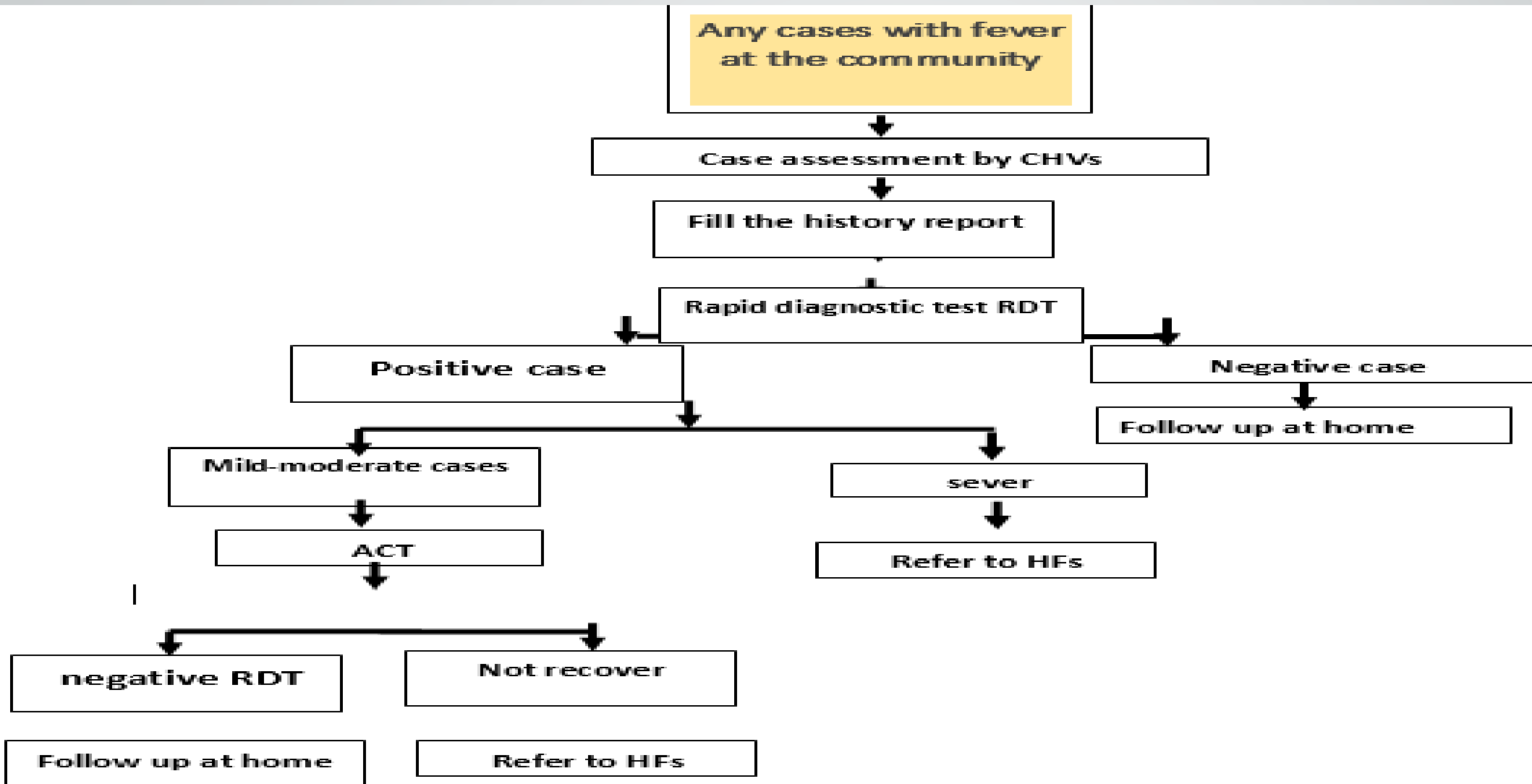
CHVs followed the **WHO/UNICEF iCCM training curriculum** during a 6-day training session, after which they received an initial supply of **medications, ACT treatments, and malaria rapid diagnostic tests (RDTs)**.

- ❖ CHVs work under the supervision of the Malaria Control Program and refer complicated malaria cases to the nearest medical facility. CHVs receive **quarterly and biannual meetings** for training updates, performance feedback, and supply replenishment, but they do not receive a monthly salary.

Table I : CCM of Malaria coverage in Yemen

Sr.	Governorates	Area of implementation	No of CHVs
1	Hadramout	Hajir	25
		Broom-Mayf'a	25
		Raida-Wa Qusir	25
2	Shabwa	Mafa'a	25
		Rodhum	25
3	Al-Mahara	Sayhout	25
		Al-Maseelah	25
4	Ma'reb	Ma'reb Alwadi	25
5	Al-Hudaidah	Al-Khokha	25
6	Taiz	Al-Mukha	25
		Moza'a	25
		Al-Wazia'a	25
7	Dale'e	Al-Azareq	25
8	Abyan	Khanfar	25
		Ahwar	25
9	Lahj	Musaimier	25
		Tor Albaha	25
	Total		425

THE WORKFLOW OF CHVS IN CCMM -YEMEN



THE EXTERNAL FACTORS INFLUENCING YEMEN'S COMMUNITY CASE MANAGEMENT OF MALARIA

Socio-political context: Ongoing conflict has destroyed healthcare infrastructure, limited access to medical supplies, and displaced communities, severely hindering malaria management efforts.

Economic constraints: Yemen's economic crisis limits government funding for health programs, affecting the availability of essential treatments like ACTs and RDTs.

Environmental factors: Yemen's diverse climate influences malaria transmission, requiring adaptable strategies due to varying mosquito breeding patterns.

Social and cultural determinants: Low literacy rates and limited community awareness affect engagement in malaria prevention and timely treatment.

International aid: Support from global organizations is crucial, providing resources, training, and funding for malaria control efforts.



CFIS of the Community case management of Malaria program implementation in Yemen



Intervention Characteristics

1-Difeculties in reach the remotely and rural areas.

2-Shortage of anti-Malarial intervention

3- Shortage of IEC education materials.

4-Adhere to guideline

Outer setting

1-Political war situation.

2-Geaographical access.

3-week Socioeconomic situation

4- Climate change impact.

Inner setting

1-Shortage of Fund

2- Shortage of educated community volunteers.

3- Shortage of CCM malaria logistics.

Characteristics of Individuals

1-Wrong behavior and believes

2- Gender norms

3- Weakness communication

Process

1-Engagement of Malaria Stakeholders in design and implementation phase.

2- Empowering the community.

3-Capacity building of the community members and

LITERATURE REVIEW

01

Numerous studies have demonstrated the effectiveness of CCM in reducing malaria-related morbidity and mortality. For instance, a study in sub-Saharan Africa found that CCM significantly reduced malaria mortality among children under five by ensuring timely access to treatment [2-6-17].

02

Uganda introduced a comprehensive CHW strategy in 2010, known as Village Health Teams (VHTs), aimed at enhancing healthcare provision, accessibility, and utilization. Guided by principles of community ownership, equity, and support, VHTs are integrated into the health system, often considered equivalent to 'health center I' in the tiered healthcare system. VHTs provide a basic package of health promotion, behavior change, and preventive interventions, including child treatment interventions through iCCM [17].

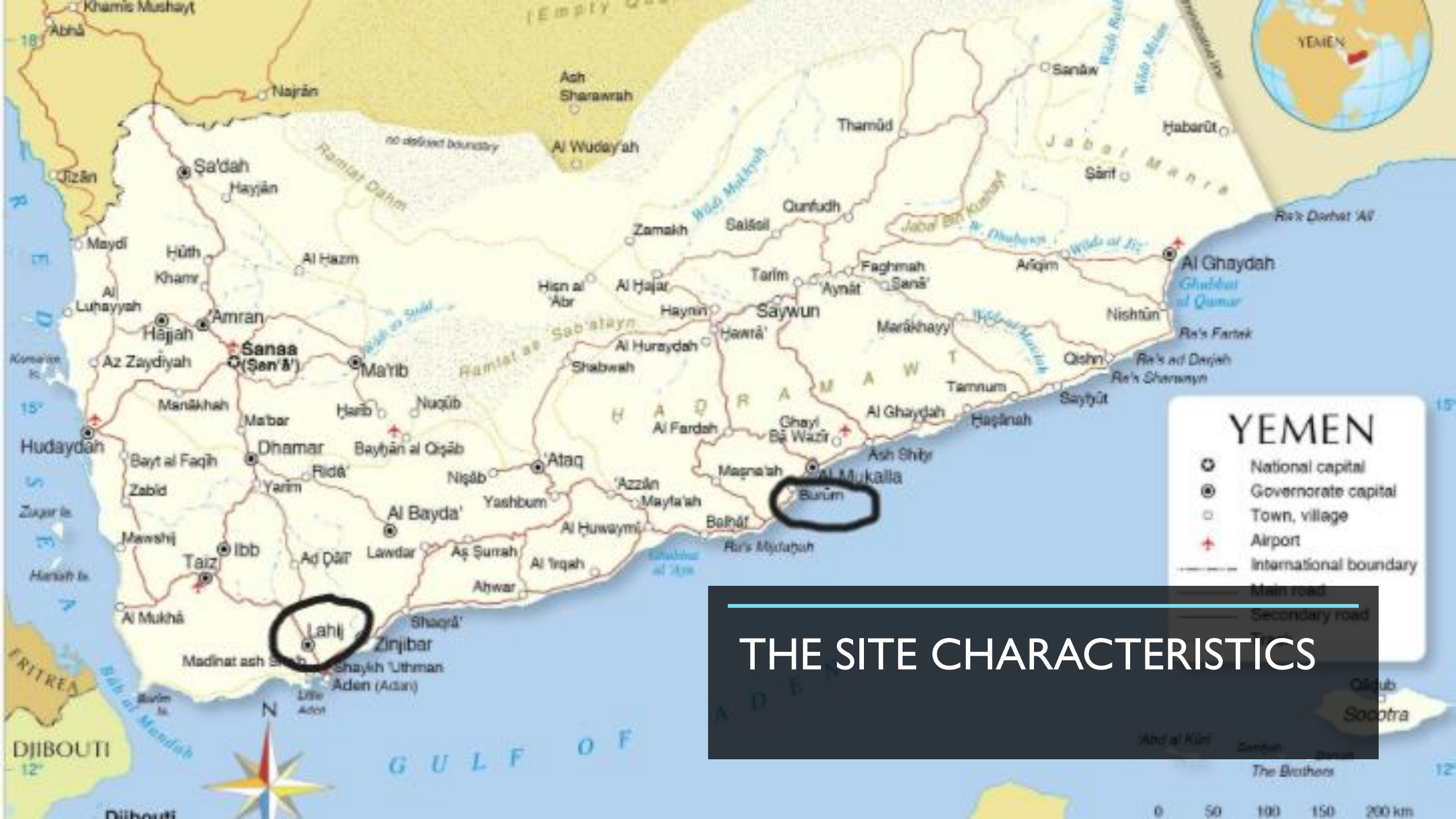
03

CHWs play a crucial role in the success of CCM programs. They are trained to diagnose malaria using rapid diagnostic tests (RDTs) and to administer artemisinin-based combination therapy (ACT) following national treatment guidelines. This decentralized approach helps in early case detection and treatment initiation [6].

RESEARCH OBJECTIVES :

- 1- To assess the **feasibility** of implementing Community Case Management of Malaria (CCMm) in areas with limited access to facility-based treatment services.
- 2- To assess the community's **acceptance** of the Community Case Management of Malaria (CCMm).
- 3-To identify the primary **challenges** and gaps in implementing Community Case Management (CCMm) within the Malaria Control Program.
- 4-To determine the **best practices** in Community Case Management of Malaria (CCMm) program implementation in Yemen.

The Stakeholders Mapping of CCMM in Yemen				
Stakeholder group	Responsibility	Interest	Influence	
MOH	Improving the programe coverage through developing the national strategy and policy at the national level	High	High	
Malaria Control officers	contribute in developing the CCM policy and guideline + support with Malaria data and report	High	High	
International organization (WHO, UNICEF, KSA, IOM)	Funding	High	High	
Community case management coordinator	Coordinating the CCM of Malaria at the national level	High	High	
Community Volunteers	deliver the services to the community.	High	High	
Community Volunteers supervisors	Direct supervision to CHVs	High	High	
Community leaders	By advocating the benefit of CHWs at the community level	High	High	
Community members	By providing the right information regarding to CCM services utilization and acceptance.	Medium	High	
Health Care Providers	Provide the Malaria services at the health facilities.	medium	Medium	
Advocacy center	Provide the Malaria education for behavior change	High	High	



Broom-Ma'afaa district in Hadramout has a scattered population of 19,530, including 3,846 under-five children (16.3%) and 658 pregnant women (2024 estimate).

- The population primarily relies on **fishing** for their livelihood and is located in areas without nearby health facilities.
- **Three out of four health centers** in the district provide malaria services using **RDTs** and offer **free treatment**, while complicated cases are referred to **Mukalla city**, 40 km away.

❖ **Hadramout** Hub was selected as in pre-elimination stage from Malaria and the difficulties in reaching Malaria Services due to the geographical areas and the impact of climate change.

Al-Musaimier district in Lahj governorate, with an estimated population of 43,118 in 2024, includes 7,065 under-five children and 1,776 pregnant women.

- The district has **14 health centers**, all offering **iCCM services**.
- **Four health sites** diagnose malaria using **microscopes**, and the rest use **RDTs** for diagnosis.
- **44.1% of the population** resides in second and third catchment areas.

❖ **Aden** Hub was reported a high burden of Malaria cases and a site for Internal displacement people and Refugees camps.

THE METHODOLOGY

THE RESEARCH DESIGN



Mixed Method

SAMPLING AND SAMPLE SIZE

- ❖ **Sampling Method:** Purposive, non-probability sampling.
- ❖ **Participants:** National policymakers, CCMm program implementers from UNICEF,WHO , Malaria Control Program, healthcare providers, CHWs (Community Health Workers), CHW supervisors, community leaders, and local households.
- ❖ **Sample Size:** Total of 64 participants, including 12 key informant interviews (KIIs) and 6 focus group discussions (FGDs) across national, governorate, and community levels.

DATA COLLECTION TOOLS:

- Collected through KIIs and FGDs.
 - **KIIs:** Conducted with 12 respondents, including policymakers, program implementers, CHW supervisors, and health facility managers.
 - **FGDs:** Conducted with 25 CHWs and 30 community members
- Conducted with community members, primarily mothers with at least six children, and CHVs (Community Health Volunteers) providing CCMm services.
- **Qualitative Data:** : Semi-structured questionnaire for key informant interviews and focus group discussions.
- **Quantitative Data:** Checklist and extraction forms for gathering data from Malaria Control Program records, including the Electronic Disease Early Warning System (eDEWS) and referral data from January 2018 to December 2023.
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DATA ANALYSIS

Qualitative Data:

Transcriptions from KIIs and FGDs were analyzed using **thematic analysis**. Themes were manually coded, and recurring barriers and facilitators in CCMm implementation were identified.

Quantitative Data: Data from the Malaria Control Program and eDEWS records were analyzed using **SPSS** to assess malaria case trends, treatment success rates, referral effectiveness, and stock-outs of antimalarial supplies. Descriptive statistics and other relevant statistical tests were applied to interpret the data

TABLE 2 : PARTICIPANTS, DATA COLLECTION METHOD AND SAMPLE SIZE:

PARTICIPANTS	DATA COLLECTION TECHNIQUE	STUDY LEVEL	NUMBER
POLICY MAKERS	KII	NATIONAL	2
CCM PROGRAM IMPLEMENTORS	KII	GOVERNORATES	2
MALARIA CONTROL PROGRAM	KII	NATIONAL	1
CHV SUPERVISORS	KII	GOVERNORATE	2
CHV	FGD	DISTRICTS	25
COMMUNITY LEADERS	KII	COMMUNITY	2
HOUSEHOLDS	FGD	COMMUNITY	30
TOTAL			64

DATA MANAGEMENT:



Validation of Research Instruments



Project Team Training – Duration of Training, Preparation of Manual, Quality of Training, Learning Aid, Hands on Experience



Quality Control and Monitoring – Ensure quality at the time of training and Data collection, Presence of Researcher, Spot Check, Field Check



Evaluation of Service Providers

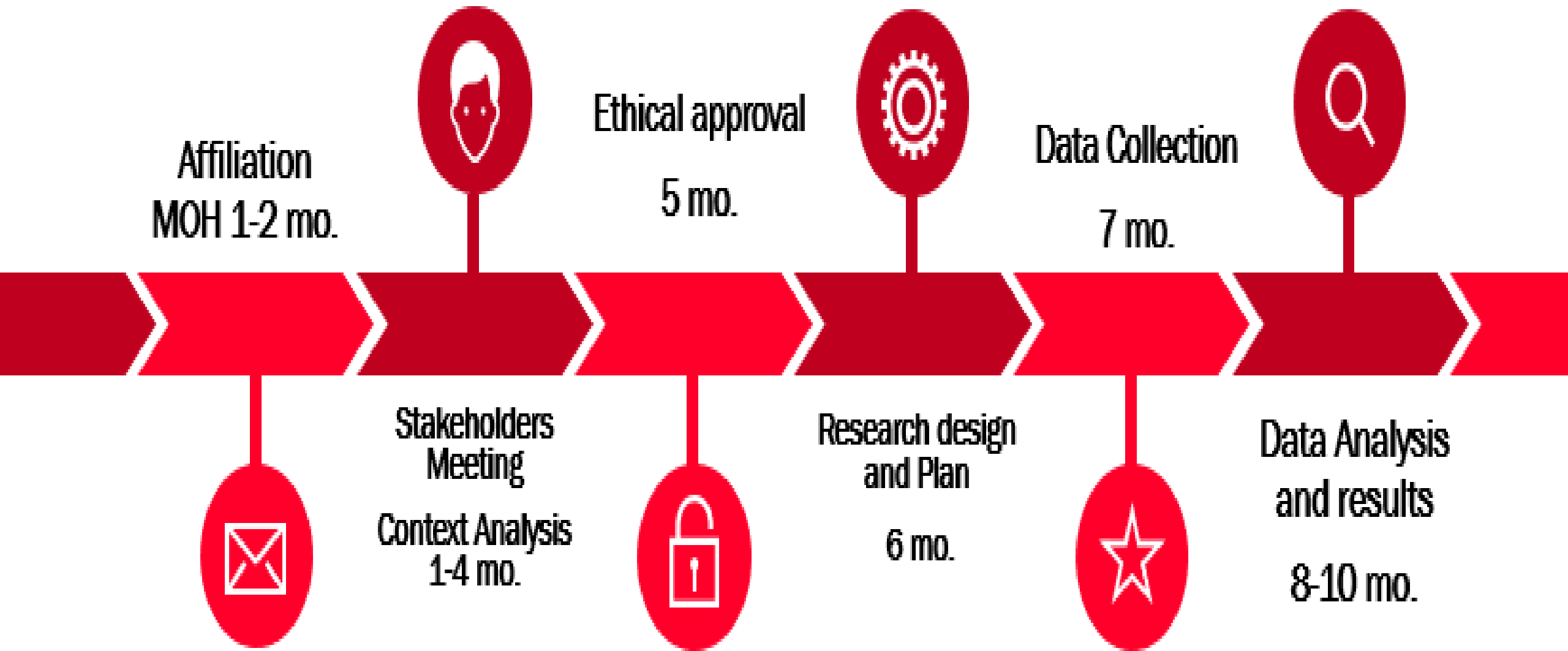


Review of Reports

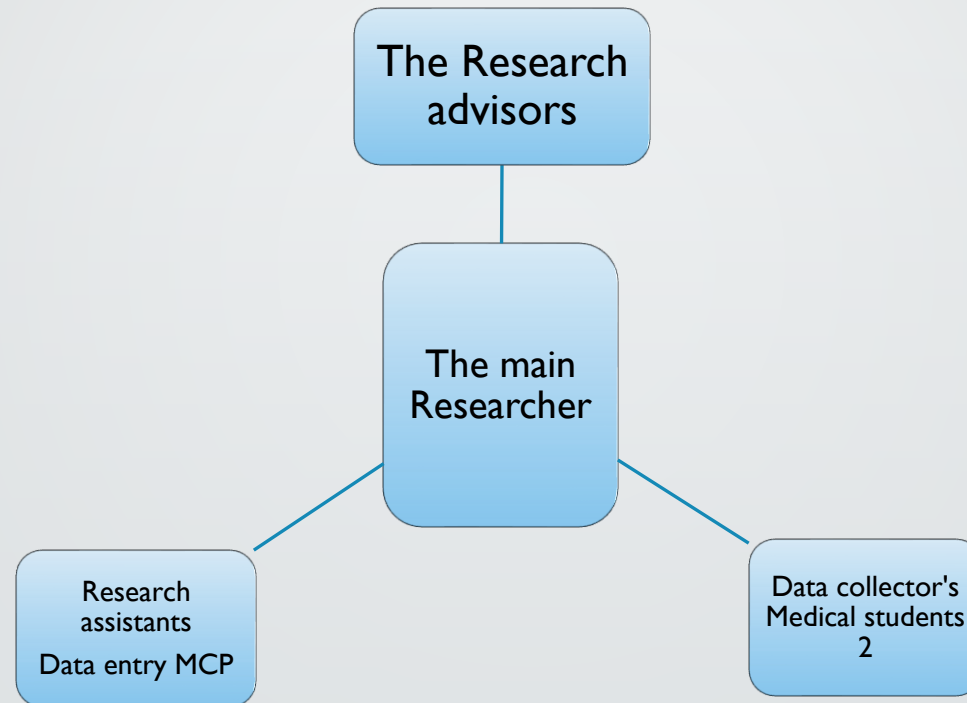
ETHICAL CONCERNS:

- ❖ We followed all of the major guidelines for conducting ethical research when we carried out this study. The impact of the suggested intervention is unknown, and its large-scale implementation may not be assured. Assuring beneficence and justice is a major ethical concern.
- ❖ The intervention is non-invasive, poses no risks to the patient, honors cultural and traditional aspects, and has the potential to help vulnerable groups, especially expectant mothers and infants. Its main goal is to guarantee the poorest people's access to malaria centers.
- ❖ An attempt was made to pinpoint obstacles to enhancing Yemen's malaria control program. A thorough consent procedure was put in place, and the Ministry of Health, the research committee (research code: REC-184-2024), and the Malaria Control Program have all granted their approval.

RESEARCH PLAN (TIMELINE)



THE RESEARCH TEAM





Malaria Programme Review - 2023

October 2023



World Health
Organization

STAKEHOLDERS' MEETINGS AND
CONTEXT ANALYSIS



World Health
Organization

أ.د. قاسم محمد بحبيب
الوطني لمكافحة الملاريا
عالمية

يا والاعداد التمثيل
2023



CHV FROM LAHJ AND HADRAMOUT



DATA COLLECTION

THE RESULTS



THE FEASIBILITY OF IMPLEMENTING CCMM IN YEMEN

1- CCMm Coverage:

implemented in 17 districts across Yemen with a total of **425 trained female CHVs**. Each district had 25 CHVs

2- Malaria Testing and Treatment:

In **2018**, approximately **25,000 fever cases** were examined by CHVs.

By **2022**, this number rose to **135,000 cases**, indicating a six-fold increase in malaria testing efforts over the five-year period .

Positivity rate for malaria **decreased** from **23.5% in 2019** to **12.9% in 2022**.

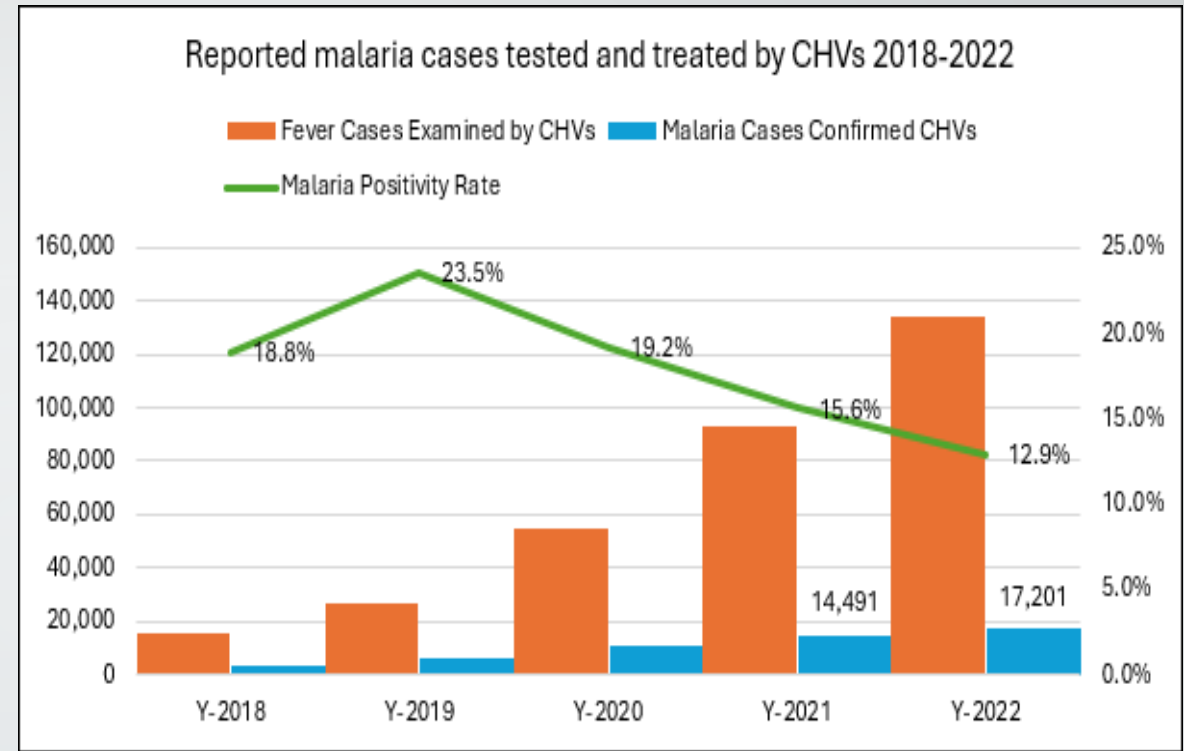


Figure 1: The Performance Statistics of CCMM Program from 2018-2022 in Yemen

Figure 2: The indicators of Community Case Management of Malaria from Malaria Control Program.

Indicators	2020	2021	2022	2023
No of CHVs	175	325	425	425
Suspected Malaria cases	6593	13548	18965	15350
Tested Malaria Cases	6593	13544	18965	15033
Postive Malaria Cases	61	429	840	408
referred cases by CHW (Under 5 or pregnant women)	0	0	0	0
severe Malaria cases	0	0	0	0
training conducted to CHW	150 CHVs	100 CHVs	Biannual meeting	Biannual meeting
Male Postive	-	-	344	156
Female Postive	-	-	496	252
<5 Postive	-	-	140	103
>5 Postive	-	-	700	305
positive cases treated with ACT	61	429	840	408
ACT & RDT stock out	0	0	0	0
Mortality cases	0	0	0	0
RDT distributed to CHW	-	-	-	-
RDT Used / Expired	-	-	-	-

3- Mortality Reduction

Data also reflected a **zero malaria-related mortality rate** in the targeted districts between **2020 and 2023**,

ACCEPTABILITY OF CCMM PROGRAM



93% of community members who reported trusting the CHVs.

- 1- CHVs being local residents helped them build relationships with the community.
- 2- female CHVs conservative areas, was a significant factor in the program's acceptance. One woman from a rural community said, **“It’s easier for us to talk and walk to the CHV because she’s also a woman and understands our concern”**. This gender sensitivity helped increase the willingness of women to seek help from CHVs .
- 3- Perception of Service Quality:.. One participant shared, **“The treatment worked well for my son. He got better in a few days after the CHV gave him the medication”**. The positive outcomes from malaria treatment reinforced the perception of high-quality care .

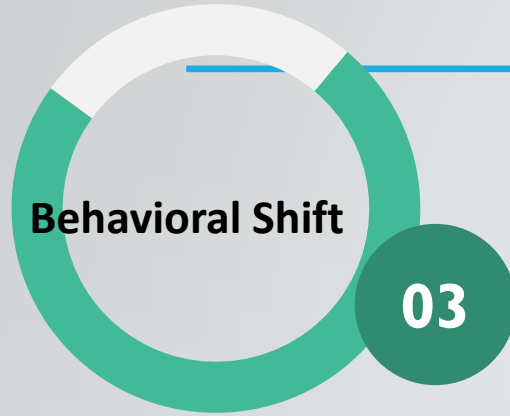
ACCEPTABILITY OF CCMM PROGRAM



Over 90% of respondents reported using the services of CHVs when they or a family member experienced malaria-like symptoms.

CCMm services, including testing and treatment are **FREE**. **“If the CHVs didn’t come, I will have to spend money on going to the city for treatment”** .mother of 3 years child in Broom district.

ACCEPTABILITY OF CCMM PROGRAM



93% of participants in focus group discussions indicated that they had shifted from traditional methods to relying on CHVs for malaria diagnosis and treatment

1- A participant remarked, “***Before, we would use herbs, but now we trust the CHV’s medicine because it works faster***” .

2- Continuous Health education.

ACCEPTABILITY OF CCMM PROGRAM



90% of community members reported being satisfied with the CCMM treatment

35 old women with 4 children from Lahj district “*I was travelling for 2 hours from my home to reach the health center in the district just for treatment and spend 35,000 Yemeni Rials = 40 US dollars for transportation cost and treatment, but now I just call the village volunteer to test and provide me the proper treatment without spending any cost, really they did a great job in the village.*”

The Challenges :-

1- **Challenges in updating the guideline:** The Malaria Control Program director emphasized that “the national iCCM policy, strategy, and action plan should uniform the standards for selecting CHVs and CHWs to unify the program.”

2-**Funding Constraints:** the program faced multiple stoppages due to insufficient international donor funding and lack of government self-funding, affecting sustainability

3- **Training challenges:** conducting trainings with limited budget with the recent climate disaster affected the CHVs training program

4- **Shortage of Equipment:** CHVs faced shortages of essential equipment and logistics, including ID cards, IEC materials, formal vests, Malaria gridline, reporting documents and thermometer.

5- **Challenges in Monitoring and Evaluation:** Tough terrain, budgetary restriction, logistical problems and the climate change were presented challenges for supervision, Data transmission via mobile phones was the main strategy used to get around these obstacles.

The Challenges :-

6- Dropout Rates Among CHVs: relocation, marriage, or the lack of sustained financial support. “In some villages, we cannot find women with the right qualifications to become volunteers” A supervisor from Lahj

7- Supply Chain Issues: frequent stockouts of malaria medications and diagnostic tools, One CHV stated, “Sometimes we run out of RDTs and ACTs, and we are left unable to help patients on time”.

8-Referral System Gaps:
Difficulties in referring patients to higher-level healthcare facilities. One CHV explained, “When we refer serious cases, the family often can’t afford the transportation cost, and there’s no ambulance available”.



THE BEST PRACTICES OF CCM OF MALARIA IN YEMEN



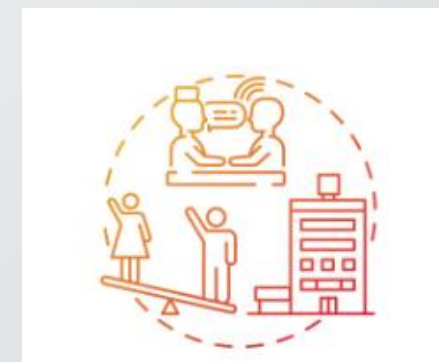
Capacity Building of
Female CHVs
Ownership of the
Program



Cost Effectiveness



Treatment
Effectiveness



Improve Accessibility and Trust

-
- 1- Zero Malaria-Related Mortality in CCMm Targeted Areas.**
 - 2- Malaria Pre-Elimination in Hadramout governorate.**
 - 3- Malaria-Free Status in Socotra Island.**



DISCUSSION

01

Humanitarian Crises In Yemen

Ongoing conflict since 2015 has displaced over 4 million people, mostly women and children.

Political instability and economic collapse have worsened the situation, leaving many in need of humanitarian aid

02

Health System

50% of healthcare facilities are nonoperational.

Challenges include a shortage of health staff, funds, electricity, and medical supplies.

03

Malaria as a Public Health Threat:

Two-thirds of the population is at risk of malaria, with pregnant women and children under five most vulnerable.

Malaria cases and mortality rates have increased since 2014.

DISCUSSION

04

Socio-economic, Geographical and Cultural Challenges:

75% of the population living below US\$3.20/day.

.Diverse landscapes and poorly developed roads limit access to healthcare

Cultural and Traditional barriers

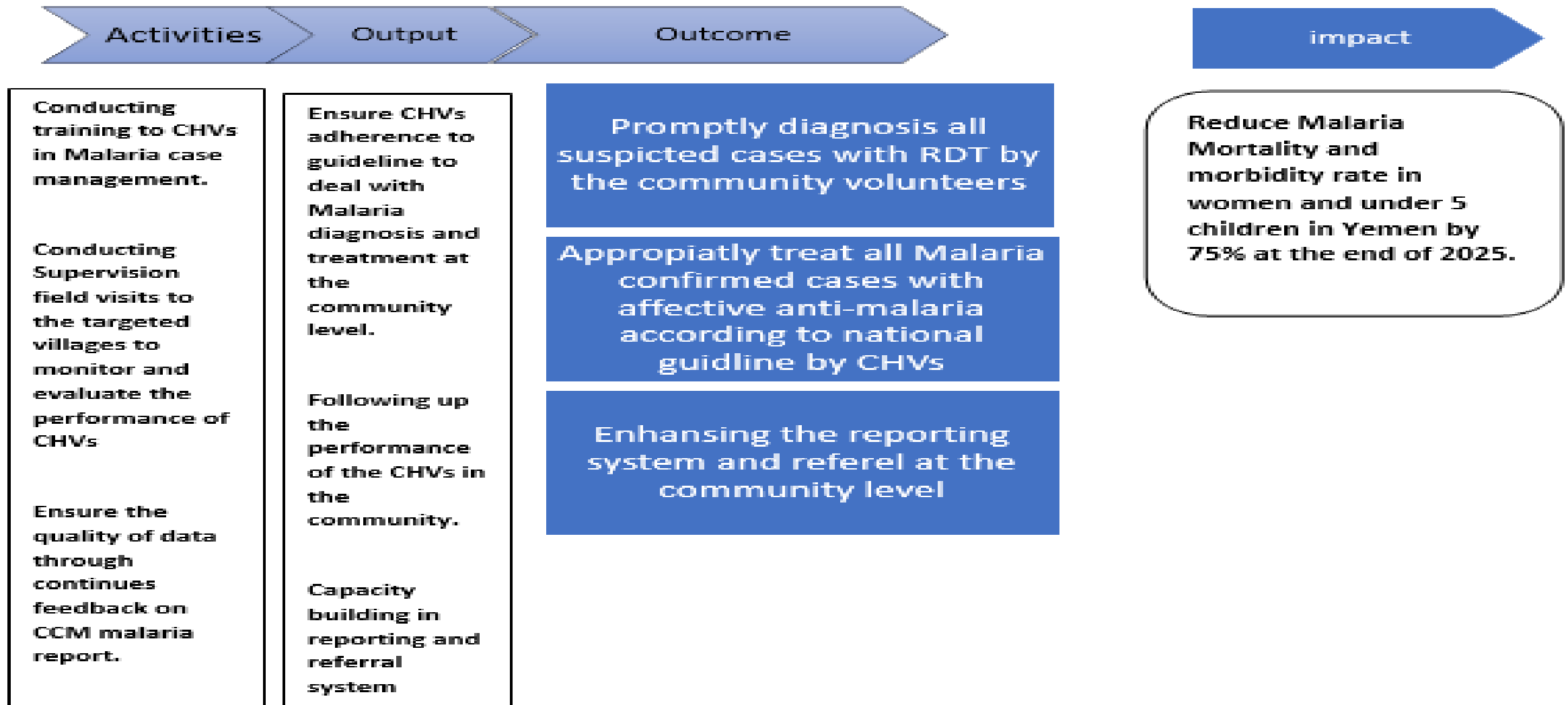
05

Community Case Management of Malaria (CCMm):

CCMm trains and equips Community Health Workers (CHWs) to diagnose and treat malaria at the community level.

The goal is to improve malaria diagnosis, treatment, and prevention in remote areas

THEORY OF CHANGE :-



CONCLUSION :

- The study shows that community-based health interventions, particularly in conflict-affected areas, are both feasible and effective.
- Community-based approaches have the potential to significantly reduce malaria morbidity and mortality in Yemen and strengthen the health system to address broader health challenges
- Community engagement and awareness campaigns are vital for enhancing acceptance and utilization of CHV services.
- Strong support systems, including supervision, supply chain management, and referral systems, are critical for sustaining and enhancing the effectiveness of CHVs.
- Sustainable funding and collaborative stakeholder engagement are essential for the success and longevity of the CCMm strategy.

THE RECOMMENDATIONS

1. **Accelerate** the unifying of all CHVs and CHWs under one umbrella with direct support and supervision from the Ministry of Health.
2. **Improve** the collaborative efforts between the government bodies and the international organizations to provide the necessary funding, resources, and policy frameworks to support malaria control initiatives.
3. **Scaling-up** the iCCM guideline including the CCMm to ensure adherence to the national guideline and the country context.
4. **Strengthen** the community level surveillance and M&E system
5. **Strengthening** malaria data management systems to ensure the quality of data reporting, mapping and dissemination to action and policy.
6. **Establish** a digital application via smartphones for timely data collection and reporting.
7. **Improve** the Capacity building through provide Malaria case management on job training and conducting ToTs workshops on the CCMm guidelines at the community level.

THE RECOMMENDATIONS

- 8- **Strengthen** the supply chain management and promoting the decentralization of supply management, warehousing, logistics and distribution services at governorate and/or district levels
9. **strengthen** the health advocacy, communication and social mobilization through developing advocacy materials meet with the community need and the country context.
10. **Expand** the coverage of CCMm program in endemic and pre-elimination areas and ensure allocate the budget.
- 11- **Ensure** continues providing of CCMm intervention (RDTs and ACTs) to hard-to-reach communities and vulnerable populations, such as IDPs, to achieve a universal, equitable and sustainable community-based CCMm coverage.
12. **Promoting** the collaboration with research institutions to conduct independent M&E and implementation studies.
13. **Developing** public-private partnership strategy for effective involvement of the private sector in maximizing coverage with preventive interventions.
14. **Strengthening** of the referral system for severe malaria case management according to the national guidelines.
15. **Propose** actionable steps to address the climate change on Malaria Control Program.

LIMITATIONS :

- 1.Lack of resources and data on CCM of Malaria Program.
- 2.Dificulties to reach the community volunteers in hard-to-reach areas and villages.
- 3.The period of conducting the data collection was in the rainy season, challenges during travels.



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Thank You

