

# Building a responsive and resilient health system in Tanzania: exploring recommendations from literature and the first International Primary Health Care (iPHC) conference

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## Annex 1: the extraction checklist —checklist;

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Annex 1: the extraction checklist —checklist											
WHO health system building block	Title	Author	Objectives	Study design	Meaningful	Condensed	Codes	Sub codes	Categories	themes	Recommendation

## Supplementary materials



**Annex 2:** conference abstracts iPHC 2023

S/N	Authors	Title	study objectives	Study design	Recommendation
<b>1 Leadership and Governance</b>					
1	Mwandum Kini Jiyenze, Beatus Chrisostomus Chikoti, James Tumaini Kengia	Leadership and governance for primary health care: Tanzania's experience in training development and implementation	To document how Tanzania developed and implemented a short course on leadership and governance (LG) for primary health care (PHC).	Cross-sectional	Need for leadership and management training
2	Matilda Kokwikiliza Basinda, Gladness Xavier Tilweselekwa	Visionary leadership and building resilient medical teams in achieving universal health coverage in Tanzania		Cross-sectional	Leadership as key driver to achieve UHC
<b>2 Health workforce</b>					
3	Godson Maro, Vailet Mollel, Anna Mahenge, Aminiel Mongi, Paschal Wilbroad	Contribution of community volunteers in supporting HIV Cascade in Orphans and Vulnerable Children (OVC) and Caregivers	To achieve UNAIDS 95-95-95 targets and improve clinical outcomes for OVC and caregivers affected by HIV.	Intervention	Role of community health workers on optimization of health outcomes
4	Delphine Mselle, Michael Tindo, Moke Magoma, Lilian Lukumai, Deus Ngerangera, Ramadhani Mlange, Kate O'Connell, Danielle Garfinkel	Enhancing Primary Health Care (PHC) services in Tanzania: the role of skills labs as a pathway for improving service provider skills	To report on the effect of the establishment and utilization of skills labs in selected health facilities to improve service provider skills and its impact on service	Intervention	Need for human workforce professional development
5	James T. Kengia, Mwandum K. Jiyenze, Msafiri N. Kabulwa, Paul Chaote, Kijakazi O. Mashoto	Towards universal access to primary oral health services in Tanzania. understanding supply-side opportunities and bottlenecks	To assess the current situation of oral health care services in Tanzania, in particular, understanding the bottlenecks in the supply side that requires policy level and implementation attention in the progress towards the realization of universal access to oral health.	cross-sectional	Address the shortage of the health workforce in PHC

## Supplementary materials

6	Agness Kajungu, Julius Ntwenya, James Kengia	Exploring patients, family, and providers' experiences and practices in palliative care among colorectal cancer patients in Dar es Salaam, Tanzania.	To document patients, family, and providers' experiences and practices in palliative care among colorectal cancer patients in Dar es Salaam, Tanzania	cross-sectional	Address the shortage of the health workforce in PHC
3	<b>Health commodities</b>				
7	Godfrey Andrew, Lucy Maliyao, Elizabeth Bendera	Healthcare service complaints validation in Lushoto Council Hospital	To validate complaints about patients' dissatisfaction with the health services provided in Lushoto Council Hospital	cross-sectional	Need to address challenges for the stockout of essential health commodities for quality health services Integration of digitalized systems in essential health commodity management to effectively support health care delivery
8	Thobias Germanus Ngonyani, Bethuel Gwandu Allay, Charles Rashid Mkombachepa, Robert Makori Hongo	Review of health commodity logistics management systems in government health facilities: a case of four councils in Arusha Region of Tanzania.	To address gaps in logistics and management practices	cross-sectional	Need to address challenges for the stockout of essential health commodities for quality health service
9	Sadock Peter Mathias, Kahabi Isangula, Amos Kahwa, Catherine Joachim, Esther Ngadaya, Godfather Kimaro, Mercy Mpatwa, Richard Valimba, Wema Kamora, Sharon Shayo, Sylvia Swai, Mfaume Kibwana, Omari Sukari, Paul Kazyoba, Gibson Kagaruki, Pius Kagoma, Ntuli Kapologwe, Japhet Simeo, Daudi Msasi, Yunus D. Mgaya, Remi Kadula, Anelisa Martin, Naku Makoko, Modest Burchard, Francis Donard, Lucy Mwenda, Grace Soka, Caritas Kitinya, Doreen Philbert, Victor Minja, Prince Mtalemwa, Mary Mathania, Sayoki Mfinanga	Married factors affecting the availability of essential health commodities in Tanzania, with a special focus on the tracer commodities	To identify factors affecting the availability of essential health commodities across all levels of the supply chain in Tanzania	cross-sectional convergent parallel mixed method	Need to address challenges for the stockout of essential health commodities for quality health services Integration of digitalized systems in essential health commodity management to effectively support health care delivery
4	<b>Health information system &amp;ICT</b>				

10	Faith Njeri, Gloria Wandeyi, Lila Mwango, Jane Kitonga, Joyce Murerwa	Efficient and accountable service delivery by use of a grants management system to automate and streamline grants processes-Amref Health Africa's Technical Assistance Initiative	To address challenges related to manual reporting, inefficient funds accountability, and an unstandardized reporting process	cross-sectional	Use of an integrated health information system and research data in planning
11	Pamela Kisoka, Mageda Kihulya	Improved TB data analysis and use at the district level in Tanzania	To develop a user-friendly data analysis and interpretation tool	cross-sectional	Use of an integrated health information system and research data in planning
12	Eusebi Cornelius Kessy, Stephen Matthew Kibusi, Julius Edward Ntwenya	Electronic medical records system data use in decision-making among health managers at public primary health facilities, Dodoma region, Central Tanzania: a cross-sectional analytical study	To assess the use of data generated by the electronic medical records system in decision-making among health managers at public primary health facilities in the Dodoma region, Central Tanzania.	cross-sectional	Use of an integrated health information system and research data in planning  Addressing barriers to data use for evidence-based planning in PHC
12	Pius Kagoma, Richard Mongi, Joel Ambikile Seme, James Kengia, Albino Kalolo	Exploring the determinants for the utilization of health research evidence within the public health system in Tanzania: insights from a qualitative study involving members of the health planning team	This study explored the determinants for utilizing health research evidence in the public health system in Tanzania	cross-sectional-qualitative	Use of an integrated health information system and research data in planning  Addressing barriers to data use for evidence-based planning in PHC
5	<b>Health financing</b>				
14	Victoria Odemary Lyimo, Clement Sobe Morabu, James Tumaini Kengia, Nyasiro S. Gibore, Leonard Katalambula	Effect of education intervention on perception of financial health risk protection, health insurance for all, and willingness to enroll among rural communities of north western Tanzania: a cluster randomized controlled trial	This study aimed to determine the effect of financial health risk protection education on perception and willingness to enroll in health insurance for all low-income communities.	Randomized controlled trial	Health insurance education
15	Wemaeli Mweteni, Kennedy Panja, Rose Marwa, Veronica Kabona, Casmil Masayi, Julius Masanika Shabbir Lalji, Geofrey Mackenzie, Douglas Ndeki, Sara Hussein,	Neglected Tropical Diseases Control Program (NTDCP) Country ownership: domestic resource mobilization	To capacitate Council NTD's planning and budgeting through Comprehensive Council Health Planning (CCHP), and integration of NTD data into	cross-sectional	Effective resource mobilization for improved health financing

	Abdallah Missenye, Ramla Nandala, Chandler Ciuba, Edward Owino, George Kabona, Maureen Kunambi, Isaac Njau, Faraja Lyamuya, Clara Jones	(DRM) through strengthening planning and budgeting systems at the council levels	the national Health Information System (HMIS-DHIS2).		
6	<b>Health services delivery</b>				
16	Agness Kajungu, Julius Ntwenya, James Kengia	Exploring patients, family, and providers' experiences and practices in palliative care among colorectal cancer patients in Dar Es Salaam, Tanzania	To document patients, family, and providers' experiences and practices in palliative care among colorectal cancer patients in Dar Es Salaam, Tanzania	cross-sectional-qualitative	Invest in comprehensive care services delivery
17	Frank Sandi, Gareth Mercer, Robert Geneau, Kenneth Bassett, Deogratius Bintabara, Albino Kalolo	Dodoma community cataract surgery acceptance trial (Doccat): intervention co-creation phase	To co-create a community-led intervention through community engagement for cataract surgery uptake in Dodoma	cross-sectional-qualitative	Invest in comprehensive care services delivery
18	James T. Kengia, Mwando K. Jiyenze, Msafiri N. Kabulwa, Paul Chaote, Kijakazi O. Mashoto	Towards universal access to primary oral health services in Tanzania. understanding supply-side opportunities and bottlenecks	To assess the current situation of oral health care services in Tanzania, in particular, understanding the bottlenecks in the supply side that requires policy level and implementation attention in the progress towards the realization of universal access to oral health.	cross-sectional	Invest in comprehensive care services delivery
19	Delphine Mselle, Michael Tindo, Moke Magoma, Lilian Lukumai, Deus Ngerangera, Ramadhani Mlange, Kate O'Connell, Danielle Garfinkel	Enhancing Primary Health Care (PHC) Services in Tanzania: The Role of Skills Labs as a Pathway for Improving Service Provider Skills	To report on the effect of the establishment and utilization of skills labs in selected health facilities to improve service provider skills and its impact on service	Intervention	Improve the health service quality


**Annex 3:** supportive references in the past ten years

**Supportive references**

Leadership & Governance					
S/N	Authors	Title	Objective	Method	Recommendations
1	Kingu UA, Ismail JI, Kibusi, SM	Leadership competencies of primary healthcare managers: a cross-sectional quantitative study of high, medium, and low performing district councils in Tanzania	examined the leadership competency of the primary healthcare facility managers in the selected high, medium, and low-performing District Councils in Tanzania.	Quantitative design	There is a need to improve leadership competency of the primary healthcare facility manager
2	Syabo M Mwaisengela, Joseph C Hokororo, Chrisogone J German, Erick S Kinyenje, Radenta P Bahegwa, Talhiya A Yahya, Mohamed A Mohamed, Omary A Nassoro, Ruth R Ngowi, Yohannes S Msigwa, Mbwana M Degeh,	Functionality of Primary Health Facilities Management Teams: Learning from 2017/2018 Tanzania star rating assessment	This study aims at ascertaining the functionality of Health Facility Management Teams (HFMTs) in PHC facilities in the context of Star Rating Assessment (SRA) in Tanzania	Qualitative	Management and leadership training and mentorships are to be taken to enhance HFMT's functionality in these facilities

	Laura Marandu, Bush N Lugoba, Edwin C Mkwama, Lilian D Lyakurwa, Alpha E Cholobi, Michael Habtu, Eliudi S Eliakimu				
3	World Bank Group	Leadership for Universal Health Coverage (UHC)	<p>To get a deeper understanding of UHC-related political economy issues and adaptive leadership challenges.</p> <p>To jointly reflect on change towards UHC from a leadership perspective, including the role of self-mastery and quality of interactions with other stakeholders.</p> <p>To acquire skills for initiating and making change towards UHC happen.</p>	First face-to-face engagement & Implementation	Investing on leadership and management training
4	Michel J, Datay MI, Motsohi TJ, Bärnighausen T, Tediosi F, McIntyre D, Tanner M, Evans D	Achieving universal health coverage in sub-Saharan Africa: the role of leadership development		Systematic review	Leadership development key to UHC
02.	<b>Health care workforce</b>				
5	Elysia Larson, Pascal Geldsetzer, Eric Mboggo, Irene Andrew Lema, David Sando, Anna Mia Ekström, Wafaie Fawzi, Dawn W Foster, Charles Kilewo, Nan Li Lameck Machumi, Lucy Magesa, Phares Mujinja, Esther Mungure Mary Mwanyika-Sando, Helga Naburi, Hellen Siril, Donna Spiegelman, Nzovu Ulenga, Till Bärnighausen	The effect of a community health worker intervention on public satisfaction: evidence from an unregistered outcome in a cluster-randomized controlled trial in Dar es Salaam, Tanzania	Determine the effects of a CHW program focused on maternal health services on public satisfaction with the health system among women who are pregnant or have recently delivered	cluster-randomized controlled health trial	CHWs may be one effective and an efficient way to enhance public satisfaction with the health system.
6	Nathanael Sirili, Angwara Kiwara, Frumence Gasto,	Training and deployment of medical	The study aimed to assess achievements in the training and deployment of MDs	Cross-sectional study	Human resources for health planning should consider training, placement, and retention.

	Isabel Goicolea, Anna-Karin Hurtig	doctors in Tanzania post-1990s health sector reforms: assessing the achievements	in Tanzania, over the past 20 years, since the 1990s, health sector reforms		
7	Brandon A Knettel, Kimberly M Fernandez, Lisa Wanda, Ismail Amiri, Clair Cassiello-Robbins, Melissa H Watt, Blandina T Mmbaga, Michael V Relf	The role of community health workers in HIV care engagement: a qualitative study of stakeholder perspectives in Tanzania	explore the strengths and limitations of the CBHS program	Qualitative study	Need for financial, logistical, and educational support to rejuvenate the program and effectively address care engagement challenges.
8	WHO	Global strategy on human resources for health: workforce 2030	Guideline recommendation		
03. <b>Health commodities</b>					
9	WHO	Monitoring the building blocks of health systems:	A handbook of indicators and their measurement strategies		
10	Naomi Printz, Johnnie Amenyah, Brian Serumaga, Dirk Van Wyk	Strategic Review of the National Supply Chain for Health Commodities	Assessment report		
11	SIKIKA	Report on the availability of essential medicines, medical supplies and bed capacity in hospitals in Tanzania mainland	Report on availability of essential medicines, medical supplies, and bed capacity in hospitals in Tanzania - mainland		
12	George M RuhagoI D, Frida N. Ngalesoni, Daudi Msasi, James T Kengia, Mathew Mganga, Ntuli A Kapologwe, Majiliwa Mtoroki, Mavere A Tukai	The public health sector supply chain costs in Tanzania	Identifying the cost of operating the supply chain is vital to facilitate the allocation of adequate finances to run the supply chain.	Cross-sectional study	It remains an empirical question into exploring other factors contributing to the efficient running of supply chain operations in one zone compared to the other.
13	Patrick Githendu, Linden Morrison, Rosemary Silaa, Sai Pothapregada, Sarah Asiimwe, Rafiu Idris, Tatjana Peterson, Emma Davidson, Abaleng Lesego, Neema Mwale, Sako Mayrick Mwakalobo,	Transformation of the Tanzania medical stores department through the global fund support: an impact assessment study	The study sought to assess the impact of the reforms and document the lessons learnt.	Mixed methods	Multistakeholder efforts are necessary to make progress and expand public health.

## Supplementary materials

	Laurean Rugambwa Bwanakunu, Tom Achoki				
14	Ministry of Health Tanzania	Digital health strategy	Report		
04.	<b>Health information system</b>				
15	WHO 2007	Strengthening health systems to improve health outcomes "WHO Framework of actions"	Report		
16	WHO 2008	Framework and Standards for Country Health Information Systems	Report		
17	World Bank	Measurement and accountability for results in the health summit	Summary report		
18	Leonard EG Mboera, Susan F Rumisha, Doris Mbata, Irene R Mremi, Emanuel P Lyimo, Catherine Joachim	Data utilisation and factors influencing the performance of the health management information system in Tanzania	The study aimed to determine the utilisation of HMIS data and factors influencing the health system's performance at the district and primary health care facility levels in Tanzania	cross-sectional study	Need to conduct periodic support supervision for HMIS activities use innovative ways to motivate staff to perform HMIS-related tasks and use evidence from routine health data to make decisions
05.	<b>Health financing</b>				
19	Mselle, Goodluck Nsanya, Peter Konlan, Kennedy Diema Lee, Yuri Ryu, Jongsoo Kang, Sunjoo	Factors Associated with the Implementation of an Improved Community Health Fund in the Ubungo Municipality Area, Dar es Salaam Region, Tanzania	To describe healthcare facilities and community factors that are associated with the Improved Community Health Fund (iCHF) scheme in the Ubungo district of Tanzania.	Cross-sectional study	Efforts should be made to improve the education and awareness of the tenants of the fund. The education of community members about the iCHF must focus on those in the lower socioeconomic groups, who have limited formal education.
20	Alphoncina Kagaigai, Amani Anaeli, Amani Thomas Mori, Sverre Grepperud	Do household perceptions influence enrolment decisions into community-based health insurance schemes in Tanzania?	How does perception affect enrolment in health insurance schemes?	Cross sectional	Policymakers should recognize and consider these perceptions when designing policies and programs that aim to increase enrolment into CBHIs
21	Ntuli A Kapologwe, Gibson B Kagaruki, Albino Kalolo, Mariam Ally, Amani Shao,	Barriers and facilitators to enrollment and re-enrollment into the	This study aimed to identify barriers and assess facilitators to the social marketing strategies	Cross sectional	Interventions for increasing enrolment rate to the CHF/TIKA scheme should also consider impending socio-

	Manoris Meshack, Manfred Stoermer, Amena Briet Karin Wiedenmayer, Axel Hoffman	community health funds/Tiba Kwa Kadi (CHF/TIKA) in Tanzania: a cross-sectional inquiry on the effects of socio-demographic factors and social marketing strategies	used to enroll and re-enroll people in CHF/TIKA schemes in two regions of Tanzania.		demographic parameters such as family size and marital status.
22	George M Ruhago, Frida N Ngalesoni, Ntuli A Kapologwe, James T Kengia, James Ngocho, Stephen M Kabusi, Albino Kalolo, Erick J Kitali, Elisa Rwamiago, Gemini Mtei	Strengthening financial management systems at primary health care: Performance assessment of the Facility Financial Accounting and Reporting System (FFARS) in Tanzania	The study aimed to assess the functionality of the FFARS in management, accounting, and reporting funds received and disbursed in the stride forward, strengthening public financial management in PHC facilities towards UHC	Mixed methods	Need for ICT infrastructure, and limited opportunities for capacity building, could
06.	<b>Health service delivery</b>				
23	Ntuli A Kapologwe, Gibson B Kagaruki, Albino Kalolo, Mariam Ally, Amani Shao, Manoris Meshack, Manfred Stoermer, Amena Briet Karin Wiedenmayer, Axel Hoffman	Barriers and facilitators to enrollment and re-enrollment into the community health funds/Tiba Kwa Kadi (CHF/TIKA) in Tanzania: a cross-sectional inquiry on the effects of socio-demographic factors and social marketing strategies	This study aimed to identify barriers and assess facilitators to the social marketing strategies used to enroll and re-enroll people in CHF/TIKA schemes in two regions of Tanzania.	Cross sectional	Interventions for increasing enrolment rate to the CHF/TIKA scheme should also consider impending socio-demographic parameters such as family size and marital status.
24	Ministry of health and social welfare	Client service charter, 2013	Report		
	WHO, 2018	Quality in primary health care	Report		
07.	<b>Beyond the WHO building blocks</b>				
25	Fischer, Sara Elisa Strandberg-Larsen, Martin	Original article power and agenda-setting in Tanzanian health policy: an analysis of stakeholder perspectives	The intention was to provide an analysis of the power dynamics in the agenda-setting process of the Tanzanian health sector from the perspective of major stakeholders, both national and international.	Qualitative policy analysis	foster working relationships that facilitate and emphasize meaningful policy dialogue, to set agendas in consensus, utilizing the best available evidentiary support, and understanding fully how power dynamics affect not only the process, but also the outcomes, of national health policies
26	Karuga, Robinson Kok, Maryse Luitjens, Marthe	Participation in primary health care through community-level health	Paper aimed to establish an in-depth understanding of how community members participate in	Systematic review	Need to acknowledge the inherent strengths of health committees and address the challenges of power and

	Mbindyo, Patrick Broerse, Jacqueline EW	committees in sub-Saharan Africa: a qualitative synthesis	primary health care through health committees in sub-Saharan Africa (SSA).		degree of participation in decision making by communities and marginalized groups. Limitations
27	Marijani, Ramadhani	Community participation in the decentralized health and water services delivery in Tanzania	The study aimed to examine the community participation in the decentralized health and water service delivery in Tanzania	Descriptive study	Decentralization can improve service delivery if there is improved provider-user communication involvement in the service delivery
28	WHO, 2019	Climate change, health & WASH	Report & strategies		