



Implementing Nigeria's Master Facility List

Harmonization
with the
National Health
Management
Information
System Facility List

June 2019





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ABBREVIATIONS

API	application programming interface
HFR	Health Facility Registry
HISP	Health Information Systems Program
ID	identifier
LGA	local government area
MFL	Master Facility List
PEPFAR	Presidential Emergency Plan for AIDS Relief
SDPRS	State Department of Planning, Research & Statistics
SRO	State Registration Office
TWG	technical working group
USAID	United States Agency for International Development

INTRODUCTION

The purpose of the Health Facility Registry (HFR) is to serve as the unique source for health facility data: contact information, geocoordinates, services offered, and composition of health providers. Once the HFR is rolled out nationwide, state and local government area (LGA) authorities will update the Master Facility List (MFL) by adding new facilities as they open, modifying information that is constantly changing, and changing the operational status of facilities when they close. State authorities—the state office responsible for facility registration and the State Department of Planning, Research and Statistics (SDPRS)—will review these requests for verification and validation, and the Federal Ministry of Health (FMOH) will make the information available to the public. The HFR database has been customized to capture these approval processes in accordance with standard operating procedures (SOPs) developed with the support of the United States Agency for International Development-funded MEASURE Evaluation project. The SOPs and other resources to support the implementation of the MFL are available here: <https://www.measureevaluation.org/countries/nigeria/toolkit-for-implementing-the-health-facility-registry-in-nigeria/>.

During the development of a monitoring and evaluation (M&E) framework for the implementation of Nigeria's MFL,¹ a technical working group (TWG) prioritized the integration of the Health Facility Registry (HFR) with the National Health Management Information System (NHMIS). Ideally, facility updates with appropriate approvals will be pushed by means of an application programming interface (API) from the HFR to the DHIS 2. Once this integration is complete, no additional changes to the DHIS 2 will be made within that database; rather, requests for modifications to facilities will be submitted and approved through the HFR.

The first step toward this integration entailed aligning the administrative units and health facility names between the two information systems. To that end, the Federal Ministry of Health (FMOH) in collaboration with its technical partners—the Health Information Systems Program (HISP) and MEASURE Evaluation—initiated the health facility alignment process in October 2018. Different types of discrepancies were observed, and valiant efforts were made to seek verification of health facilities by state authorities. Unfortunately, remote reconciliation of discrepancies proved challenging. Even so, as a result of this activity, both the HFR and the DHIS 2 have been updated to include 41,454 facilities.

¹ For details, see <https://www.measureevaluation.org/resources/publications/fs-18-317>.

METHODS

A federal team comprising the Core Group of the Master Facility List Technical Working Group (MFL TWG), staff from HISP Nigeria, and representatives from MEASURE Evaluation organized five meetings in October 2018 to align the facility list from the HFR with DHIS 2 (Appendix 1). Initially, the federal team compared the administrative units (states, LGAs, and wards), which revealed minor discrepancies between the HFR and DHIS 2 lists. Subsequently, facility lists were compared using a unique identifier (ID), which was created by combining the facility, LGA, and state names from each list. These unique IDs from the HFR and DHIS 2 were then compared to each other and facilities were either matched exactly, identified as possible matches, or categorized as unmatched. For facilities found in the DHIS 2 but not in the HFR, the DHIS 2 was reviewed to check reporting status of all unmatched facilities for the period from January to December 2018. Facilities deemed to be regularly reporting in this period were added to the HFR and the rest were excluded. State authorities were then contacted by e-mail and telephone between February and March 2019 to inquire about the remaining possible matches and unmatched facilities. Some facilities were corrected and the operational status of other facilities was confirmed.

RESULTS

The alignment process revealed discordant data at the state, LGA, ward, and facility levels between the HFR and DHIS 2. At the highest administrative level, both information systems included 36 states and Federal Capital Territory, although three states (8.1%) had slightly different names (Appendix 2). At the second administrative level, both information systems included 774 LGAs, although 90 (11.6%) had slightly different names (Appendix 3). At the third administrative level, the HFR did not contain any ward information; therefore, 9,206 wards were imported from the DHIS 2 to the HFR.

At the beginning of this alignment process, the DHIS 2 had 38,901 facilities and the HFR had 39,550 facilities. Analysis of the two lists by means of the linked ID revealed 17,384 facilities in which the LGA and facility name in the two systems matched exactly. In addition, 13,670 facilities were considered possible matches, because they had similar facility names and were found within the same LGA. Three hundred and sixty three facilities had matching names with discordant LGAs. There were also 7,567 facilities in the HFR that did not appear in the DHIS 2 and, conversely, 7,958 facilities in the DHIS 2 that did not appear in the HFR.

Table 1. Comparison of HFR with DHIS 2	Result
Category 1: Facility name and LGA name match	17,384
Category 2: Facility name similarities with LGA name match	13,670
Category 3: Facility name match but LGA discordant	363
Category 4: Facilities in HFR; not in DHIS 2	7,567
Category 5: Facilities in DHIS 2; not in HFR	7,958

Of the 7,958 facilities found in the DHIS 2 and potentially missing from the HFR (Category 5), the 3,437 facilities that were confirmed to be reporting in the DHIS 2 (Category 5a) were added to the HFR by the federal team. The remaining facilities required the federal team to communicate with state authorities either by e-mail or phone for verification. Out of the 36 states and the Federal Capital Territory, only 15 states (40.5%) responded to these requests and 12 states (32.4%) provided complete information (Appendix 4). As a result, state authorities confirmed that 48 facilities exist but were not reporting to the DHIS 2 (Category 5b); these facilities were also added to the HFR. The remaining 4,473 unverified facilities that were not reporting to the DHIS 2 were not added to the HFR.

Table 2. Review of DHIS 2 Reporting	Result
Category 5: Facilities in DHIS 2; not in HFR	7,958
Category 5a: Reporting in DHIS 2	3,437
Category 5b: Not reporting in DHIS 2, state confirmed existence	48
Category 5c: Not reporting in DHIS 2	4,473

State authorities were asked to review 13,670 potential matches (Category 2) to identify the correct name of the facility. Of these, 12,406 facilities were found to refer to the identical facility, and minor corrections in the spelling of the name were made (Category 2a). In addition, 74 potential matches were found to represent different facilities (Category 2b). Finally, 1,264 facilities that are potential matches remain unconfirmed (Category 2c).

State authorities were asked to clarify the administrative area of 363 facilities whose names matched across the two information systems but were placed in discordant LGAs (Category 3). Of these, 196 facilities were found to refer to the identical facility that had been placed in the wrong LGA; each of these facilities was reassigned to the correct LGA (Category 3a). Four facilities were determined to be separate facilities (Category 3b) and 163 facilities that are potential matches remain unconfirmed (Category 3c).

Of the 7,964 facilities found in the HFR but not in the DHIS 2 (Category 4), the federal team asked state authorities to confirm whether or not other facilities existed and were operational. Of these, 669 were confirmed as operational (Category 4a) and 874 facilities were confirmed not to exist (Category 4b); 6,898 facilities that may exist remain unconfirmed (Category 4c).

The 4,473 facilities found in the DHIS 2 that are neither actively reporting nor in the HFR (Category 5c) may exist but remain unconfirmed.

Table 3. Verification with state authorities	Result
Category 2: Facility name similarities with LGA name match	13,744
Category 2a: Facilities are the same	12,406
Category 2b: Facilities are not the same	74
Category 2c: Facilities may be the same	1,264
Category 3: Facility name match but LGA discordant	363
Category 3a: Facilities are the same	196
Category 3b: Facilities are not the same	4
Category 3c: Facilities may be the same	163
Category 4: Facilities in HFR; not in DHIS 2	7,964
Category 4a: Facilities confirmed as operational	669
Category 4b: Facilities state confirmed do not exist	874
Category 4c: Facilities unconfirmed	6,421

At the close of the harmonization process, facilities were added, modified, and deleted if determined to be duplicates. Both information systems—the HFR and DHIS 2—have been updated to include 41,454 facilities.

CONCLUSION

The low response rate and submission of incomplete information by state authorities represented a significant limitation during the alignment of the HFR and DHIS 2 facility lists. While updates to the HFR and DHIS 2 facility lists were possible based on the feedback received from the states, considerable efforts are still required to correct facility names, delete duplicate facilities, and confirm the existence and operational status of others. Recognizing that curation of these lists in Excel by e-mail and telephone is challenging, the federal team anticipates that state authorities will be able to leverage the HFR platform to verify, validate, and publish updates to the MFL more easily in the future. Without doubt, by training state and LGA authorities to curate the MFL inside the HFR, we will see a drop in the number of facilities tracked by the HFR and DHIS 2, because more duplicates and nonexistent facilities will be culled.

APPENDIX 1. STAKEHOLDERS

No	Name	Organization	Current Job Title
1	Balogun Adeleke	FMOH	Deputy Director, M&E
2	Yetunde Hussein	FMOH	Principal Statistical Officer
3	Dr. Odeyimi Adeyinka	FMOH	Senior Medical Officer
4	Timothy M. Dasa	FMOH	Assistant Chief Program Analyst
5	Mr. John Bisong	FMOH	Assistant Chief Population Program Officer
6	Obiageli Jasinta	FMOH	Principal Data Processing Officer
7	Oluwafemi Olowookere	FMOH	Senior Program Analyst
8	Nwagbara Eberechi	FMOH	Scientific Officer
9	Ogeh Ajiroghene	FMOH	Scientific Officer I
10	Aluka Terpase	HISP	Managing Partner
11	Abigail Gaadi	HISP	Capacity Building Officer
12	Mbachaga Julius	HISP	Information Systems Officer
13	Vivian Msuur	HISP	Capacity Building Officer
14	Barnabas Akumba	HISP	Senior Server/Database Administrator
15	Mary Onoja	HISP	Capacity Building Officer
16	Zaharani Kalungwa	MEASURE Evaluation	Senior HMIS Governance Advisor
17	Beatus Kibiti	MEASURE Evaluation	Senior HMIS Systems Advisor

APPENDIX 2. DISCORDANT STATES AND PROPOSED CORRECTION

State_DHIS 2	State_HFR	State_Correct
ak Akwa-Ibom State	AK Akwa Ibom State	ak Akwa-Ibom State
fc Federal Capital Territory	FC FCT State	fc Federal Capital Territory
jg Jigawa State	Jl Jigawa State	Jl Jigawa State

APPENDIX 3. DISCORDANT LGAS AND PROPOSED CORRECTIONS

LGA_DHS2	LGA_HFR	LGA_CORRECT
ab Isiala-Ngwa North Local Government Area	AB Isialangwa North Local Government Area	ab Isiala-Ngwa North Local Government Area
ab Isiala-Ngwa South Local Government Area	AB Isialangwa South Local Government Area	ab Isiala-Ngwa South Local Government Area
ab Obi Nwga Local Government Area	AB Obingwa Local Government Area	ab Obi Nwga Local Government Area
ab Osisioma Ngwa Local Government Area	AB Osisioma Local Government Area	ab Osisioma Ngwa Local Government Area
ab Umu-Nneochi Local Government Area	AB Umunneochi Local Government Area	AB Umunneochi Local Government Area
ad Lamurde Local Government Area	AD Larmurde Local Government Area	ad Lamurde Local Government Area
ad Mubi South Local Government Area	AD Mubi-South Local Government Area	ad Mubi South Local Government Area
ak Oron Local Government Area	AK Oron Local Government Area	ak Oron Local Government Area
ak Urue Offong/Oruko Local Government Area	AK Urue-Offong/Oruko Local Government Area	AK Urue-Offong/Oruko Local Government Area
ba Itas/Gadau Local Government Area	BA Itas-Gadau Local Government Area	ba Itas/Gadau Local Government Area
bo Askira/Uba Local Government Area	BO Askira Uba Local Government Area	bo Askira/Uba Local Government Area
bo Kala/Balge Local Government Area	BO Kala Balge Local Government Area	bo Kala/Balge Local Government Area
by Southern Ijaw Local Government Area	BY Southern Jaw Local Government Area	by Southern Ijaw Local Government Area
cr Bekwarra Local Government Area	CR Bekwara Local Government Area	cr Bekwarra Local Government Area
cr Calabar Municipal Local Government Area	CR Calabar Municipality Local Government Area	cr Calabar Municipal Local Government Area
cr Yakurr Local Government Area	CR Yakur Local Government Area	cr Yakurr Local Government Area
de Ika North East Local Government Area	DE Ika North-East Local Government Area	de Ika North East Local Government Area
de Oshimili North Local Government Area	DE Oshimili North Local Government Area	de Oshimili North Local Government Area
de Oshimili South Local Government Area	DE Oshimili South Local Government Area	de Oshimili South Local Government Area
ed Etsako East Local Government Area	ED Etsako East Local Government Area	ed Etsako East Local Government Area
ed Ovia North-East Local Government Area	ED Ovia North East Local Government Area	ed Ovia North-East Local Government Area
ed Ovia South-West Local Government Area	ED Ovia South West Local Government Area	ed Ovia South-West Local Government Area
ed Uhumwonde Local Government Area	ED Uhumwode Local Government Area	ed Uhumwonde Local Government Area
ek Aiyekire (Gbonyin) Local Government Area	EK Gbonyin Local Government Area	ek Aiyekire (Gbonyin) Local Government Area
ek Irepodun/Ifelodun Local Government Area	EK Irepodun Local Government Area	ek Irepodun/Ifelodun Local Government Area
ek Ise/Orun Local Government Area	EK Ise/Orun Local Government Area	ek Ise/Orun Local Government Area
en Awgu Local Government Area	EN Agwu Local Government Area	en Awgu Local Government Area
en Enugu South Local Government Area	EN Enugu South Local Government Area	en Enugu South Local Government Area
en Igbo-Etiti Local Government Area	EN Igbo Etiti Local Government Area	en Igbo-Etiti Local Government Area

en Igbo-Eze North Local Government Area	EN Igbo Eze North Local Government Area	en Igbo-Eze North Local Government Area
en Igbo-Eze South Local Government Area	EN Igbo Eze South Local Government Area	en Igbo-Eze South Local Government Area
en Isi-Uzo Local Government Area	EN Isiuzo Local Government Area	en Isi-Uzo Local Government Area
en Uzo-Uwani Local Government Area	EN Uzouwani Local Government Area	en Uzo-Uwani Local Government Area
fc AMAC Local Government Area	FC Abuja Municipal Local Government Area	FC Abuja Municipal Area Council
go Billiri Local Government Area	GO Billiri Local Government Area	go Billiri Local Government Area
im Aboh-Mbaise Local Government Area	IM Aboh Mbaise Local Government Area	im Aboh-Mbaise Local Government Area
im Ahiazu-Mbaise Local Government Area	IM Ahiazu Mbaise Local Government Area	im Ahiazu-Mbaise Local Government Area
im Ehime-Mbano Local Government Area	IM Ehime Local Government Area	im Ehime-Mbano Local Government Area
im Ezinihitte-Mbaise Local Government Area	IM Ezinihitte Local Government Area	im Ezinihitte-Mbaise Local Government Area
im Ihitte/Uboma Local Government Area	IM Ihitte Uboma Local Government Area	im Ihitte/Uboma Local Government Area
im Mbatoli Local Government Area	IM Mbaitoli Local Government Area	IM Mbaitoli Local Government Area
im Ngor-Okpala Local Government Area	IM Ngor Okpala Local Government Area	im Ngor-Okpala Local Government Area
im Nwangele Local Government Area	IM Nwagele Local Government Area	im Nwangele Local Government Area
ji Sule-Tankarkar Local Government Area	Jl Sule Tankarkar Local Government Area	ji Sule-Tankarkar Local Government Area
ji Taura Local Government Area	Jl Taura Local Government Area	ji Taura Local Government Area
kd Birnin Gwari Local Government Area	KD Birni-Gwari Local Government Area	kd Birnin Gwari Local Government Area
kd Sabon Gari Local Government Area	KD Sabon-Gari Local Government Area	kd Sabon Gari Local Government Area
kd Zangon Kataf Local Government Area	KD Zango-Kataf Local Government Area	kd Zangon Kataf Local Government Area
ke Arewa Local Government Area	KE Arewa-Dandi Local Government Area	ke Arewa Local Government Area
ke Danko/Wasagu Local Government Area	KE Wasagu/Danko Local Government Area	ke Danko/Wasagu Local Government Area
ke Kalgo Local Government Area	KE Kalgo Local Government Area	ke Kalgo Local Government Area
ke Zuru Local Government Area	KE Zuru Local Government Area	ke Zuru Local Government Area
kn Danbatta Local Government Area	KN Dambatta Local Government Area	kn Danbatta Local Government Area
kn Nassarawa Local Government Area	KN Nasarawa Local Government Area	KN Nasarawa Local Government Area
ko Ogori/Magongo Local Government Area	KO Ogori/Mangongo Local Government Area	ko Ogori/Magongo Local Government Area
ko Yagba East Local Government Area	KO Yagba East Local Government Area	ko Yagba East Local Government Area
kt Dan Musa Local Government Area	KT Danmusa Local Government Area	kt Dan Musa Local Government Area
kt Mai'Adua Local Government Area	KT Maiduwa Local Government Area	kt Mai'Adua Local Government Area
kw Pategi Local Government Area	KW Patigi Local Government Area	kw Pategi Local Government Area
la Ajeromi/Ifelodun Local Government Area	LA Ajeromi-Ifelodun Local Government Area	la Ajeromi/Ifelodun Local Government Area
la Amuwo Odofin Local Government Area	LA Amuwo-Odofin Local Government Area	la Amuwo Odofin Local Government Area
la Eti-Osa Local Government Area	LA Eti Osa Local Government Area	la Eti-Osa Local Government Area

la Ibeju Lekki Local Government Area	LA Ibeju/Lekki Local Government Area	LA Ibeju/Lekki Local Government Area
la Ifako/Ijaye Local Government Area	LA Ifako-Ijaye Local Government Area	la Ifako/Ijaye Local Government Area
la Oshodi/Isolo Local Government Area	LA Oshodi-Isolo Local Government Area	la Oshodi/Isolo Local Government Area
na Nasarawa Eggon Local Government Area	NA Nasarawa-Eggon Local Government Area	na Nasarawa Eggon Local Government Area
ni Kontagora Local Government Area	NI Kontagora Local Government Area	ni Kontagora Local Government Area
og Ijebu East Local Government Area	OG Ijebu - East Local Government Area	og Ijebu East Local Government Area
og Ijebu Ode Local Government Area	OG Ijebu - Ode Local Government Area	og Ijebu Ode Local Government Area
og Obafemi-Owode Local Government Area	OG Obafemi/Owode Local Government Area	og Obafemi Owode Local Government Area
og Shagamu Local Government Area	OG Sagamu Local Government Area	OG Sagamu Local Government Area
on Ese Odo Local Government Area	ON Ese-Odo Local Government Area	on Ese Odo Local Government Area
on Ile-Oluji-Okeigbo Local Government Area	ON Ile-Oluji - Okeigbo Local Government Area	on Ile-Oluji/Okeigbo Local Government Area
os Ayedaade Local Government Area	OS Ayedaade Local Government Area	OS Ayedaade Local Government Area
os Ayedire Local Government Area	OS Ayedire Local Government Area	OS Ayedire Local Government Area
os Atakunmosa East Local Government Area	OS Atakumosa East Local Government Area	OS Atakumosa East Local Government Area
os Atakunmosa West Local Government Area	OS Atakumosa West Local Government Area	OS Atakumosa West Local Government Area
os Ilesha East Local Government Area	OS Ilesa East Local Government Area	OS Ilesa East Local Government Area
os Ilesha West Local Government Area	OS Ilesa West Local Government Area	OS Ilesa West Local Government Area
os Odo-Otin Local Government Area	OS Odo Otin Local Government Area	os Odo Otin Local Government Area
oy Ogbomosho South Local Government Area	OY Ogbomosho South Local Government Area	oy Ogbomosho South Local Government Area
pl Barkin Ladi Local Government Area	PL Barikin Ladi Local Government Area	pl Barkin Ladi Local Government Area
pl Langtang North Local Government Area	PL Lantang North Local Government Area	pl Langtang North Local Government Area
pl Langtang South Local Government Area	PL Lantang South Local Government Area	pl Langtang South Local Government Area
ri Emuoha Local Government Area	RI Emohua Local Government Area	RI Emohua Local Government Area
ri Tai Local Government Area	RI Tai Local Government Area	ri Tai Local Government Area
so Dange-Shuni Local Government Area	SO Dange-shnsi Local Government Area	so Dange-Shuni Local Government Area
ta Karim-Lamido Local Government Area	TA Karim Lamido Local Government Area	ta Karim-Lamido Local Government Area
ta Kurmi Local Government Area	TA Kurim Local Government Area	ta Kurmi Local Government Area
yo Bursari Local Government Area	YO Busari Local Government Area	YO Busari Local Government Area

APPENDIX 3. STATE RESPONSES

States	Complete Response	Partial Response	No Response
Abia			X
Adamawa			X
Akwa-Ibom			X
Anambra			X
Bauchi	X		
Bayelsa	X		
Benue			X
Borno	X		
Cross River	X		
Delta	X		
Ebonyi		X	
Edo			X
Ekiti			X
Enugu		X	
Federal Capital Territory			X
Gombe			X
Imo			X
Jigawa	X		
Kaduna			X
Kano		X	
Kastina			X
Kebbi			X
Kogi	X		
Kwara			X
Lagos	X		
Nasarawa			X
Niger		X	
Ogun			X
Osun	X		
Oyo			X
Plateau	X		
Rivers			X
Sokoto	X		
Taraba			X
Yobe			X
Zamfara			X

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