The Lakshmi Mittal and Family
SOUTH ASIA INSTITUTE
HARVARD UNIVERSITY

RESPONSES TO THE

INVITATION FOR PUBLIC

COMMENT

Consultation

Paper on

Healthcare

Facilities

Registry

1st AUGUST, 2021

Facilitated by:
The India Digital Health Network,
Lakshmi Mittal and Family South Asia Institute at Harvard University

EXECUTIVE SUMMARY

We are delighted to see the progress with the National Digital Health Mission's work and are pleased to provide feedback as requested. In keeping with prior submissions from the India Digital Health Network at Harvard's Lakshmi Mittal South Asia Institute, this response has been collaboratively drafted by domain experts from India and the US.

Prior submissions including responses to the Government of India's National Digital Health Blueprint (NDHB), Personal Data Protection (PDP) Bill, the White Paper of the Committee of Experts on the Data Protection Framework for India; drafts of NITI Aayog's National Health Stack; are accessible at: https://mittalsouthasiainstitute.harvard.edu/india-digital-health-net/

Responses are submitted by chapter and questions posed for consultations. Where applicable, other comments are added.

The key messages and themes of our comments on the Health Facilities Registry (HFR) are summarized below:

- **Required enrolment**

  We are concerned that market incentives alone will not achieve a critical mass of enrolment in the registries. The proposed incentives for reimbursement, for example, may not attract the majority of facilities, 60% of which are single-person facilities.[1] Many of their transactions remain cash-based and out-of-pocket. Instead, consider requiring registration (as we have proposed for providers) through regulation by appropriate authorities or ministries. Such regulation may serve as one deterrent for the vast numbers of unregistered practitioners that provide care to a large number of citizens in rural India. NDHM may work with the appropriate bodies to roll out the requirement in phases (public vs. private, large vs. small, physical vs. virtual). Alternatively, similar to GST, strong disincentives can be placed against not registering in the HFR. The NHA and NDHM's role then would be to remove any technological barriers and make registration and verification as feasible and simple as possible.

- **Scope of HFR**

  The scope of the HFR needs to be expanded. Currently, it is largely focused on facilities with some physical presence. This focus misses the industry trend toward a growing proportion of healthcare being delivered virtually, in home-based settings, and through a mix of physical and digital services. Telemedicine, online pharmacies, home-care agencies must be included in the HFR registry. Additionally, entities like cloud hospitals and labs which bundle independently owned and operated service providers will need to be represented along with their relationships. If these types of entities are left out of the registry or not appropriately represented, we worry that patient experience and interoperability will suffer (examples included in our Chapter 2 response). Overall, we

[1] NITI Aayog. Health System for a New India: Building Blocks. http://niti.gov.in/sites/default/files/2019-11/NitiAayogBook_compressed_1.pdf

request more clarity on how the NDHM and NHA envision integrating these entities in the digital health ecosystem.

- **Architecture**
  Adhering to principles of data minimization[2], consider including only data to verify the existence, legitimacy and scope of practice of a facility in the minimal HFR dataset. Consider relegating all other information about the facility to lower tier registries, and/or making it optional to the HFRI. For example, the location, identity confirmation, licenses to practice may be in the HFR while information about hours, capacity, emplanellments can be in lower tier registries. Over 98% of private healthcare facilities in India have less than 5 employees; we are concerned that most fields in the current minimum dataset will not apply to them. A minimal dataset will make compliance with a registration requirement more feasible and the job of verification more practical. Consider allowing facilities to store the detailed dataset in lower tier databases maintained by the facility or a third-party, but linked to the HFR. Data in the lower tier registries need not be verified but facilities should be able to display this information in the HFR via APIs.

- **Health Facility Verifiers and Verification Platform**
  Consider making verifications by Health Facility Verifiers time-bound and time of last verification public. In case there are changes to verified attributes, facilities may be made to have reporting obligations to the Health Facility Verifiers. Accountability is imperative: Health Facility Verifiers may be blacklisted and their prior verifications cancelled, if found to be colluding with facilities to provide inaccurate information. Public reporting of discrepancies can also be used to red-flag health facility verifiers and facilities. Until the HFR can communicate directly via APIs to HFR organization/programmes databases, officials in HFR organization/programmes should also be able to use the health verification platform to electronically submit verifications to the HFR. NHA and NDHM may consider developing the core verification platform, including end-user applications for the health facility verifiers, as well as HFR organizations/programmes. This would make it easier for small health facility verifiers to become established. At the same time, NHA and NDHM could make the platform and APIs open source so other verification applications may be built.

- **HFR Data**
  Regarding HFR data, we highlight the following key points. For specific comments on data elements, please see comments section in 3.2.

  1. Staging - Existing high quality facility registries like the PMJAY (empanelment of over 23,000 hospitals) could be used to create entries in the HFR. These entries should be staged and only appear in the HFR once a facility manager claims the profile. In case a facility appears as multiple entries in staging, unique identifiers

[2] Balsari S, Fortenko A, Blaya JA, et al. Reimagining Health Data Exchange: An Application Programming Interface-Enabled Roadmap for India. J Med Internet Res 2018;20:e10725. doi:10.2196/10725

like PAN, GST or bank details could be used for deduplication or narrowing purposes.

2. Digital Signature - Consider allowing the HFR to have digital signature and identity verification capabilities. This will improve security overall, promote trust in the ecosystem and improve patient safety through non-repudiation. The Signature could be linked to a designated healthcare professional in the facility - for example, the facility director. [The Ministry of Corporate Affairs mandates that all Company Directors be given a DIN (Director's Identification number) which is linked to their respective digital signatures.]
3. Standards and APIs - The document contains a missing link to the API specifications in section 4.1 and we could not assess appropriateness. Consider aligning the specification as per HL7 FHIR resources with extensions that are appropriate to the context of the NDHM.

We are very grateful for the time, attention and counsel provided by all contributing authors. And finally, we thank the NDHM and NHA for this opportunity to respond to the consultation paper on Health Facility Registry.

Sincerely,
On behalf of the contributing authors,

Dr. Tony D S Raj, MBBS, MD
Dean, St. John's Research Institute
Head, Division of Medical Informatics, St. John's Research Institute

Satchit Balsari, MD, MPH
Assistant Professor, Emergency Medicine, Harvard Medical School
Assistant Professor, Global Health and Population, Harvard TH Chan School of Public Health

Angshuman Sarkar
Principal Consultant, B.E
ThoughtWorks

The India Digital Health Network,
Lakshmi Mittal and Family South Asia Institute at Harvard University

CONTRIBUTORS

Name	Organization
Dr. Abijeet V Waghmare	St. John's Research Institute
Dr. Akhil Malhotra	ThoughtWorks India
Mr. Angshuman Sarkar	ThoughtWorks India
Dr. Bharat Kalidindi	St. John's Research Institute
Dr. Dhinagaran D	St. John's Research Institute
Dr. Ryan Fernandez	St. John's Research Institute
Dr. Satchit Balsari	Harvard Medical School, Harvard TH Chan School of Public Health
Dr. Sehj Kashyap	Lakshmi Mittal and Family South Asia Institute, Harvard University India Digital Health Network (IDHN)
Dr. Tony Raj	Professor and Dean, St. John's Research Institute
Dr. Verghese Thomas	St. John's Research Institute

Introduction

- Comments relevant to Chapter 1

Re 1.3.2 While the registry would indeed be a nationally recognised and accepted database, this is also an opportunity to standardize the terminologies so that it is easier for other systems to communicate with the registry and the communication is established through a uniform protocol. The sentence may read “In their respective domains, these registries are designed to emerge as nationally recognized and accepted ***standardized*** databases.”

Re 1.4.1 Though the document says "all systems of medicines,'' consider explicitly mentioning the list of systems to be included in the HFR, using conventional nomenclature for these systems.

Re 1.4.2 Is the HFR ID going to be unique in its lifetime? How will it transfer or transition in cases of mergers and acquisitions? Also, in case of a registered facility opting out and re-enlisting, would the previous Facility ID be applicable? In other words, does the ID signify location, legal entity, financial entity, or some combination thereof, as health care facilities will exists in all kinds of permutations, ranging from multi-partner polyclinics (multiple entities, one location?), to multi-campus healthcare systems, to multi-state corporations. We suggest adopting the Ministry of Corporate Affairs mechanism of managing identities of entities including mergers and acquisition.

Consider providing examples for how the HFR ID would work when there are labs or pharmacies operating out of shared infrastructure, or in association with large hospitals. Would labs and pharmacies that are simply departments of the same organization have their own unique ID (as may be advisable to facilitate the collation of results from multiple labs across multiple systems into a patient’s PHR)?

In reference to consented access to facility data — we would like NDHM/NHA to clarify how this consented access will be enabled. Will a construct like the Health Information Exchange Consent Manager (HIE-CM), a data fiduciary exclusively for patients, be set up for facilities? Or would HFR manage such consent through a one time limited access consent (token) given to the requester?

Re 1.4.4 Consider providing clarification on “sub-locations” like collection centers tied to a central laboratory facility.

Consider providing clarification on whether online services and virtual, tele-services will participate in the ecosystem - will they also be provided unique HFIDs or be considered sub-entities if part of a facility which has physical presence? Will there be a machine readable ID nomenclature identifying their “virtual” or “electronic” status? Please also refer to the comment on section 2.5 for more details.

If facilities are registered from existing databases, there should be a notification and deduplication mechanism. Facilities should be able to view errors and make corrections to registrations completed through existing registries.

Setting the Context

- As referenced in Clause 2.1 of this paper, are there any other technical, operational or structural challenges that exist in India that may be addressed with a nationally recognized platform such as the HFR?
    a. How should these gaps be prioritized for solutioning?
    b. Are there examples of robust digital registries of health facilities that are widely adopted and used in India?

Emphasis on Physical Location of the Health Facilities

The current outline of the facility registry seems to be primarily for those organizations with a physical footprint. Consider broadening the scope beyond "physical" infrastructure facilities to include Telemedicine Services, online Pharmacies, Mobile Medical Units, Home care etc.

Healthcare services are increasingly unbundled, distributed and virtual instead of delivered in one single infrastructure based institution. Different organisations are also servicing, operating, sharing resources at the same physical locations. Bigger organizations and chains also have servicing locations - for example - tertiary hospitals having mini clinics/mobile clinics, which may be temporary. Another example is of "collection centers" for diagnostic labs where physical infrastructure is minimal. Consider articulating how the HFR will address these permutations.

Technical Architecture of the Registry

Consider making the HFR function as a level 1 registry, consisting of minimal details but possessing linkages to other registries. NDHM HFR can play the role of aggregator of data sources and sub-registries, operating in a federated manner. HFR acts as a primary registry providing essential information, yet capable of allowing browsability, discoverability of other capabilities from other registries which may be private or public. It would be important to define the unified experience of service discoverability and linkages both in terms of User Experience and APIs. Consolidating all information a the central HFR is likely unadvisable and infeasible.

For providing digital services to patients and providers, entities such as NDHM HRP, HIU services, Health Lockers, etc will all require to be integrated into the digital ecosystem, and be able to communicate with each other. Please consider providing clarification on how the HFR will link with these registries. To stress the need of public interlinked registries, consider this scenario: a hospital requests consent for viewing health records as HIU while it is not listed in the HFR registry as HIP. From a patient perspective, the patient would not understand why the facility he/she is visiting is unverified and whether to entrust it with consent to access other records. This would hinder experience and trust.

Onboarding assistance

Please provide clarity on how rural, remote and resource-constrained facilities can be ***meaningfully*** supported to upload, validate and maintain their credentials with the HFR. A

low-friction analog support system may be important for the success of this digital enterprise. Again, we believe enrolment should be required - but the process could be accessible and equitable.

- As discussed in Clause 2.3, are there other international case studies or best practices that should be studied to inform the design of the HFR platform?
    a. Which best practices should be adopted from these international models?
    b. How do we tailor these best practices for the Indian context?

We think it would have been very useful to study experiences from Bangladesh and Philippines, where HFRs have been established:
Bangladesh - http://facilityregistry.dghs.gov.bd/
Philippines - https://nhfr.doh.gov.ph

Bangladesh's HFR is an extension of their Human Resources Information System (HRIS) and managed by Directorate General of Health Services (DGHS) and is used in day to day operations (e.g. biometric attendance at Govt Facilities), national reporting, and for planning. Philippines HFR managed by the Department of Health, forms an essential building block of their eHealth Strategy and acts as the official master list of health facilities for the Philippines, providing public health professionals and the public with a core set of information regarding health facilities in the country.

The UK NHS does have ODS (Organisation Data Service) that is integrated with the NHS Service Finder and primary (GP) and secondary (Hospitals) care networks. It allows ecosystem integration through NHS Spine Directory Services. While the UK's NHS service delivery models are very different from India's, there may be value in studying NHS Digital's systems.

- **Other Comments**

1. With reference to point 3 in section 2.1.2, we agree that no registry may provide exhaustive information of health facilities with respect to civil and medical infrastructure that can be used to make evidence-based decisions on resourcing and allocation. Consider providing discoverability of such information from inter-linked level 2 registries.

2. With reference to the second point in section 2.2.1, consider including health care facilities in the observation. It may read "Implementation of healthcare interventions requires coordinated effort of multiple ***healthcare facilities*** and professionals and current infrastructure does not provide tools for them to coordinate, nor does it provide the policy makers with granular ground truth." In disasters like monsoon floods resulting in mass evacuations, for example, multiple facilities would need to coordinate triage and transfers. In pandemics, various types of facilities, including labs and hospitals, may be recruited in public health response.

3. With reference to Scope of Benefits in section 2.4, apart from health resources planning and administrative aspects, the HFR plays a significant role in Care Services Discovery (CSD) - be it facility or specific service/speciality - for patients, and for the ecosystem.

Health Facility Registry

- **Comments**

1. How would the registry handle a facility that shuts down and then resumes operations? Would HFR consider it to be a new facility? If not, then HFR may consider keeping a history of active operations.

2. With reference to Facility ID as mentioned in section 3.1, facilities should be able to digitally sign electronic health documents. HFR should either issue or provide accessibility to digital certificates at a facility level. For example, a lab report exchanged through NDHM Federated health records ecosystem would be digitally signed, and be verifiable. This would engender trust, will improve patient safety as non-repudiation is guaranteed, and will improve security overall.

3. Consider leveraging the recently established GST network, under which Health Facilities may already be registered, to associate an ID with the facility or for verification purposes. This could provide easier and faster enrollment of facilities on the HFR.

HFR Data

- **Is there any modification needed in the data schema followed for categorisation of the data fields in HFR? Please go through the structure and share your views on whether any additional categories are needed and/ or if any of the existing categories should be eliminated.**

- **The minimum HFR data fields are attached as an Annexure 1 with this paper. The fields are marked as mandatory and non-mandatory for a health facility to fill. While some fields are optional, the minimum HFR dataset is essential for a health facility to fill to generate their Facility ID. Please go through the fields and share your views and comments on whether there should be any changes in terms of adding/ deleting/ modifying fields and keeping the respective fields mandatory/ non mandatory.**

  Adhering to principles of data minimization, consider including only data to verify the existence and scope of practice of a facility in the minimal HFR dataset. Consider designating all other information about the facility optional. For example, the location, identity confirmation, licenses to practice may be in the HFR while information about hours, capacity, emplanellments can be in lower tier registries. Given 98% of private healthcare facilities in India have less than 5 employees, most fields in the current minimum dataset may not be relevant. A minimal dataset will make compliance with a registration requirement more feasible and the job of verification more practical.

  Alternatively, we recommend conceiving of the HFR as a tier of registries. The centralized database could contain information that is required of all facilities participating in India's healthcare ecosystem, regardless of their desire or ability to engage in digital health exchange. This may require regulation across states and Union Territories. This "minimum HFR" dataset could contain, for example, information about the facility type, location, its operation status (whether open or shut)* and its credentialing status (whether licensed or not).

  All other information may be considered in lower tiers, as currently proposed, and may be federated and available locally. Facilities may have the option to populate (or not) additional information in these optional tier 2 registries, that may be hosted by the NDHM, or by a third-party, or locally, with or without a fee. The NDHM should consider offering this service free of cost to individual practitioners. The tier 2 registries provide role-based access to the information contained in them. This allows the primary function of the NDHM HFR to be laser sharp: to maintain an up-to-date record of all facilities (brick and mortar, and virtual) that participate in health care delivery.

- Annexure 1 indicates that HFR will record geographic location information. This will assist in care services discovery closest for patients and geographic analysis. for planning, research and utilization perspectives. Note, a facility may change location, which may not require re-registration but simply re-verification of relevant information. The document does not clarify what geolocation information will be captured for virtual and telemedicine

clinics (business address?).

- Other Comments

1. In reference to section 3.2.2, capturing details on the prices of various services and consumables (rate card) should be optional or reserved for the lower tier database.

2. In reference to section 3.2.2, under the list of Government Health and Insurance Schemes/Programmes, we think the following schemes also deserve to be included:
    - Aam Aadmi Bima Yojana
    - Universal Health Insurance Scheme (UHIS)
    - Individual State Insurance schemes like Rajasthan SIPF or the state insurance schemes which are not yet merged with PMJAY.

3. In reference to section 3.2.3, we would like to underscore that FHIR is an interoperability standard not necessarily a comprehensive data standard, which ought to be defined by the country. Assuming that a facility will be represented as an HL7 FHIR Organisation[3] resource, certain extensions will need to be made for use in the NDHM context. Section 4.1 of the document mentions HFR APIs, but we could not find these on the NDHM website or Sandbox. It would have been useful to examine the API representations of the HFR and its compliance with HL7 FHIR standard. This is important because HFR representations will be referenced in the NRCeS defined FHIR profiles for health information exchange (e.g. a Prescription[4] Record). We anticipate that the following resource types need to be represented in FHIR from the HFR: Organization, Location[5], HealthcareService[6], and OrganizationAffiliation[7].

4. Point ‘d’ of section 3.2.3, suggests that data attributes will have associated rules that determine the state of an attribute. For optional attributes, error codes need not be used to specify missing information entries; these can be reflected as "missing" or "absent."

5. Consider maintaining an auditable trail of all changes.

6. Akin to the patient Bill of Rights that is required to be posted at all healthcare facilities across the United States, patients should be able to scan the facilities’ QR code or ID number to quickly verify its credentials at any time.

[3] https://www.hl7.org/fhir/organization.html
[4] https://nrces.in/ndhm/fhir/r4/StructureDefinition-PrescriptionRecord.html
[5] https://www.hl7.org/fhir/location.html
[6] https://www.hl7.org/fhir/healthcareservice.html
[7] https://www.hl7.org/fhir/organizationaffiliation.html

Health Facility Verifier

- As mentioned, the UT administration currently physically verifies the existence of the facility as a preliminary step in the health facility verification. This can be a drain on the administration's resources and takes significant time and effort since it's a manual verification. Please share your views on the current process and share any alternative methods of verification you can think of to make this process faster and seamless. For instance, in some instances, the general public can be called upon to verify the information through crowdsourcing. Please evaluate the risks associated with the alternate methods and share your views.

  Verification is key to establishing the HFR as an authoritative registry. Physical verification need not be relied on exclusively. Where possible, digital verification through credentialing, licensing and certification bodies may be prioritized. HFVs doing physical verification could later on assist in the development of digital verification pathways for fields currently requiring physical verification.

  Consider clarifying what happens in cases where facility-reported data fails verification. In cases where verification was done by HFV, we would recommend marking the data field as "disputed" and the facility given a limited time period to resolve before the data is removed from the HFV. In cases where the verification is done automated through HFR programmes/organizations, the data could be removed immediately.

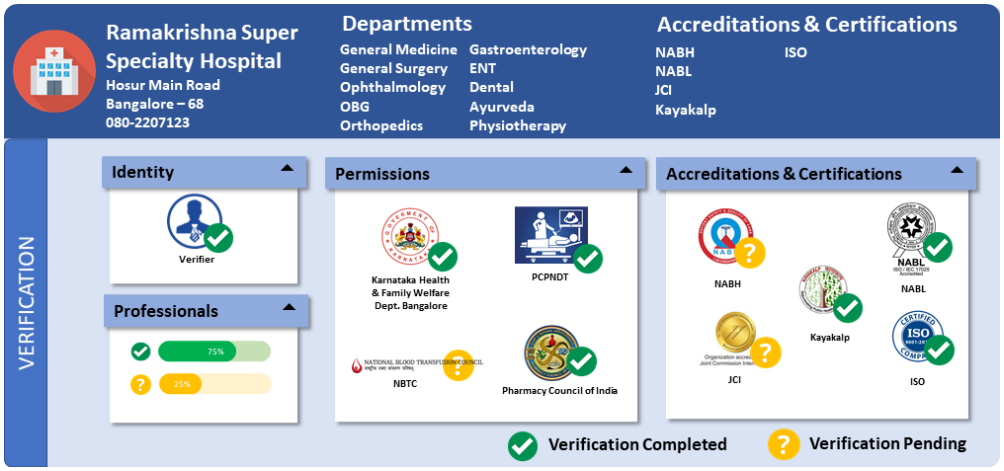

Fig1: Pictorial demonstration of healthcare facility profile and verification of attributes by concerned authorities

- The concept of Health Facility Verifier has been introduced to conduct the assessment and verification of the detailed HFR data fields and build trust in the registry. Since this is a novel concept in the Indian healthcare ecosystem, share your views on the terminology and if nomenclature should be changed from 'Health Facility Verifier'.

  Consider making verifications by Health Facility Verifiers time-bound and time of last verification public. Some information like quality control (e.g. waste management, water treatment plants) needs to be validated on a regular basis. The contract between the

facility and HFV might specify a period of time over which the verifier is responsible for re-verifications. In case there are changes to verified attributes, facilities may be required to have reporting obligations to the Health Facility Verifiers. This would apply if a regional authority cancels/suspends a particular license that cancels/restricts a facility's operations. Similarly, re-verification would be needed if a facility manager makes changes in any verified information.

Health Facility Verifiers may be blacklisted and their prior verifications cancelled, if found to be colluding with facilities to provide inaccurate information. Public reporting of discrepancies can also be used to red-flag health facility verifiers and facilities. Consider periodic audits of the HFVs.

- **For the selection and onboarding process, two alternatives have been discussed in Clause 3.3.3. Both approaches have their merit and a foundation to support them. Comments are invited from concerned stakeholders on the approach that should be followed to ensure complete transparency and objectivity in selection and onboarding of the Health Facility Verifiers.**

  Health facility verifiers will likely be chosen based on budget considerations and market options. Regardless, consider framing guidelines to hold the HFV accountable in case of misinformation and to preclude collusion with health facilities. Payment for HFV verification could of course be tiered, and subsidized for facilities like GP clinics or other services below certain annual revenue The identity of the HFV should be apparent; their activities auditable.

- **The layer of verification by Health Facility Verifier is technologically supported by a verification platform, as discussed in Clause 3.3.4. Two approaches are mentioned in these clauses - a platform built and maintained by NHA or a common building block developed by NDHM as the technology portal and then independent platforms built and managed by prospective verifier organisations, respectively. Comments from stakeholders are invited on the merits and demerits of both approaches and share their views on which option (or both options) should be considered.**

  We recommend that the core HFV platform is managed and controlled by NDHM, which can determine and enforce SOPs. Workflows and processes should be auditable and reportable, e.g. why and when was a particular verification changed, who did it, what is pending for the last several months and why. The platform should also include information about the HFVs which carried out the verification on a particular facility for accountability purposes. Independent platforms outside the purview of NDHM cannot be expected to include the critical metadata about verifications and the HFV verifying the facility. With a core platform that is primarily API driven, NDHM may even build the common experience layers leveraging APIs - e.g. interfaces for Facility manager to grant consents to HFVs, and/or see current notifications, status and remarks/updates.

  For assisting in HFV operations, NDHM may consider building reference apps/solutions as

Free and Open Source Software (FOSS), which HFVs can adopt and enhance as per their extended needs.

- Other Comments

In reference to section 3.3.6, we agree that facilities registered through trusted entities can be exempted from the verification process initially. This exemption should only be one-time as verifications will be needed for subsequent changes in the licensing, certification or operational status. We recognize that in the long term the HFR will communicate via APIs to systems of trusted entities (L&C, regional regulatory authorities, municipal corporation), but consider articulating how the verification process will work in the interim. Until these systems interoperate, are regulatory authorities expected to access and edit portions of the health facility record? For example, would a municipal corporation need to update the facility record for a permit in their own system as well as in the HFR? Until the HFR can communicate directly via APIs to HFR organization/programmes databases, officials in HFR organization/programmes should also be able to use the health verification platform to electronically submit verifications to the HFR.

HFR Organization/Programme

- Similar to Health Facility Verifier, an HFR Organisation/ Programme is a novel concept that hasn't been defined before in the Indian healthcare ecosystem. Therefore, the consultation is open on the terminology/ nomenclature as well as the definition of the concept.

  Consider using an alternate term. The inclusion of "HFR" to describe the mandate of these organizations may not be necessary.

Ecosystem Adoption of Health Facility Registry

- For the stakeholders listed, incentives have been outlined to define ecosystem adoption and application of the registry.
    a. Are these potential incentives / product applications framed in accordance with the stakeholders mentioned and their business purposes? Is there any other incentive that can be included in the HFR module for any stakeholder?
    b. What are the risks associated with these potential applications / incentives?

We are concerned that market incentives alone will not achieve a critical mass of enrolment in the registries, especially given a majority of private healthcare entities in India are single-person facilities and many of their transactions remain cash-based and out-of-pocket. Consider requiring enrollment through regulation. It is not an administrative overreach but a prerequisite for providing accountable and quality care in the 21st century. All listed incentives are then the benefits provided to participants, and justification for the regulated enrolment in the tier-1 registry.

Maintenance of optional data beyond the minimum HFR may be incentivized or required by HFR Organizations/Programmes.

For implementation, consider piloting interoperability between licensing and accrediting authorities that involve health care professionals, facilities, verifiers, and registries to test potential roadblocks given the vast variation in state-wise capacity to maintain and update such records. Consider identifying time intervals at which various kinds of data are required to be updated, the responsibility to update this information (pull vs push), the resources needed to support updates, and consequences of not updating information.

Consider analog alternatives at the outset to complement the digital update and preclude delays, loss of enthusiasm and trust. In brief, allocate resources to manually facilitate this interoperability until the kinks are worked out.

- Other Comments

1. In reference to section 3.5.1, We do not think that the HFR should be required to have all the attributes needed by each of the particular programs. There can be a linkage to a level 2 registry that the government program maintains with linkage to the Health Facility Record.

2. The document mentions that the facilities can be linked to health workers. Such linkages should be updated as health workers move jobs or assignments to new facilities. Please consider providing low-friction analog alternatives to updating this record until universal digitization can be achieved. Lower tiers of the Health Professional Registry can maintain

facility associations over time.

3. Referring to section 3.5.5, the statement "open source some of the information held in the registry," consider clarifying whether this means allowing public access to information or whether information will be made accessible via Open APIs.

4. Regarding API-based information access, facilities would want to have some control over the information pertaining to themselves on the HFR. Please consider articulating that access to each type of data will be role-based and approved by consent, contract or mandate.

- Other Comments

Referring to section 3.7.3.1,

1. Consider clarifying the term "OPD beds" Do you mean out-patient appointment slots per day, or ambulatory day-care services, or beds in the emergency department (since out-patient clinics typically will not have beds, per se).

2. Consider including available elements about safety/quality, and the insurance schemes under which the facility is empaneled. Safety and quality measures may be considered sensitive but there is precedent for reporting such metrics, derived out of public insurers data[8,9]. The list may also include the operational status of the facility.

[8] https://www.medicare.gov/care-compare/

[9] https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Compare-DAC

Additional Issues for Consultation

- HFR envisions that the entire ecosystem should be able to interact with the registry through open APIs and integrating the same through the NDHM Sandbox. While the list of HFR APIs has already been laid out on the Sandbox portal here, stakeholders are invited to share their comments on any additional APIs they might require to make their integration with HFR more seamless. This is to ensure that all types and categories of players in the healthcare ecosystem are able to add value to their products and standardise their offerings as per the standards set by NDHM.

  At the time of writing this report, we were unable to locate the HFR APIs on the NDHM website or on Sandbox documentation.

- What should be the scope of responsibility of the Health Facility Verifier? Should the verifier be considered liable for the correctness and reliability of data in HFR?

  We propose that the verifier be made liable for the veracity / accuracy of the data they verify.
  1. All verified information should be time-stamped.
  2. Facilities can change attributes and other details, which may flip verification status to "unverified." It would be reasonable to require that certain attributes be periodically verified at pre-prescribed intervals. Such requirements may not pose undue financial or reporting burden on smaller facilities.

- As per the current model, HFV may charge a fee for the verification from the hospital. What should be the mechanism of setting the price for the verification services and should NDHM act as one of the parties involved in the process?

  Since we advocate that enrollment is required, we propose that fees for smaller businesses be subsidized, even if for a limited period of time. Please consider a tiered fee structure for verification, and consider both, the complexity of the verification process and the business's revenue.