RHEA PROJECT RWANDA

Health Informatics Standards Infrastructure for Rwanda:

Health Care Facility Registry

Health Care Professional Registry

Version 1.7

Revisions

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# Introduction

This document is the second deliverable of the standards infrastructure of the Rwanda Health Enterprise Architecture (RHEA). The provider registry consists of two registries: the HC facility and the HC professional registries.

The unique identification of HC providers (professionals and organizations) is necessary and allows for the identification of where a patient receives care, and of the person who delivers it.

# Objectives

This document presents the business requirements of Rwanda Provider Registry, the second building block of the Rwanda eHealth Architecture. This is also a deliverable for the RHEA project

# Methods

The first step was to assess the current Rwanda facility registry revising the data collected and the standards currently in use.

Facility registry - the MOH of Rwanda already has a HC facility registry. The list of all HC facilities in the country is available at the MOH home page [here](http://www.moh.gov.rw/index.php?option=com_content&view=category&layout=blog&id=37&Itemid=54), with unique identifications, called the FOSA number. This document proposes an extension on the current HC facility registry as well as a new registry that will contain all the HC professionals in the country.

HC professional registry - the MOH Ubudehe database was identified as the initial source of data for the HC professional database, since this database has almost 90% of the Rwanda population uniquely identified either with the NID or with another unique number. The paper forms filled at the HC facility inform the NID of each HC professional. This will be used to query the client registry and obtain/update the demographic information. Please refer to the Rwanda Client Registry document.

In parallel, a revision of standards and international recommendations on how to build national registries of HC professionals and providers was also made.

Finally, adaptations for the Rwanda context were proposed.

## Reference Standards

The following reference documents and standards apply to the Rwanda Provider Registry:

* ISO TS 22220 Identification of Subjects of Care – provides the data structures to represent and identify clients of the health system [1]
* ISO TS 27527 Provider Identification – provides the data structures to represent and identify HC facilities and HC professionals [2]
* Report of the First Meeting of the Health Workforce Information Reference Group (HIRG), WHO, Geneva 2010 [3]
* Healthcare workers classification – WHO [4]
* International Standard Classification of Occupations. International Labour Organization [5]

# Requirements for the Health Facilities Registry and HC Professional Registry

## Health Facilities Registry Requirements

R#1 – Each facility is identified by a unique national sequential number of 5 digits followed by two control digits (MOD 11)

R#2 – All facilities currently part of the Access database of the MOH should be imported to the facility registry. The FOSA number is the actual unique number. The control digit has to be calculated and added to the unique number after the initial import;

R#3 – After the initial load, new facilities will have their unique number automatically generated by the system

R#4 – Inaugurated dates and planned opening date are fields that should accept partial dates in month/year or only year

R#5 - Inaugurated dates must be lower or equal the current date

R#6 – Opening date must be greater than current date

R#7 – The system will automatically calculate the population of the HC facility catchment area by adding the population of the respective geographical area selected. The tables with the population for each village will be stored in the system by database script. In addition to that, the tables with the hierarchical geographical structure from provinces, district, sector, cell and villages with their names and codes will also be stored directly in the database by script. Based on the villages population the system will add and store the population for the respective cells, sector, district and provinces.

R#8 – According to its type, each HC facility has a catchment area. The data-entry from must first ask for health posts, then health centers, then district hospitals, then provincial hospitals and finally national referral hospitals. For the pilot the catchment area will be defined as follows:

* For health centers and or Health posts the system should first present a list of sectors to be selected. For each sector selected the system should show the list of villages from the sector, allowing for the selection of one or more villages. The field HC\_CATCHMENT\_AREA\_LEVEL should be = “4” meaning “villages” and this should automatically appear in the data-entry form. The field HC\_CATCHMENT\_AREA\_POPULATION should be the sum of all selected villages population. On the table TB\_HC\_FACILITY\_CATCHMENT\_AREA the field HC\_CATCHMENT\_AREA\_CODES should contain the codes of the villages selected.
* For district hospitals the system should first present a list of districts to be selected. For each district selected the system should show all health centers from the district, allowing for the selection of one or more health centers. The field HC\_CATCHMENT\_AREA\_LEVEL should be = “3” meaning “district” and this should automatically appear in the data-entry form. The field HC\_CATCHMENT\_AREA\_POPULATION should be the sum of all catchment area population of the health centers selected. On the table TB\_HC\_FACILITY\_CATCHMENT\_AREA the field HC\_CATCHMENT\_AREA\_CODES should contain the codes of the districts selected.
* For Provincial Hospitals the system should present the list of provinces for selection. The field HC\_CATCHMENT\_AREA\_LEVEL should be = “2” meaning “provincial” and this should automatically appear in the data-entry form. The field HC\_CATCHMENT\_AREA\_POPULATION should be the sum of all selected provinces population and should appear automatically in the data-entry form. On the table TB\_HC\_FACILITY\_CATCHMENT\_AREA the field HC\_CATCHMENT\_AREA\_CODES should contain the codes of the provinces selected.
* For National Referral Hospital the system will assume the total population of Rwanda meaning the sum of all provinces population. The field HC\_CATCHMENT\_AREA\_LEVEL should be = “1” meaning national and this should automatically appear in the data-entry form. The field HC\_CATCHMENT\_AREA\_POPULATION should be the sum of all provinces population and should appear automatically in the data-entry form. On the table TB\_HC\_FACILITY\_CATCHMENT\_AREA the field HC\_CATCHMENT\_AREA\_CODES should contain the codes of all provinces in Rwanda.

R#7 – the maintenance of the HC facility registry is done only at the central level directly at the HC facility registry application, based on the information on the paper forms received from the HC facilities across the country. The MOH must establish a minimum frequency for this registry to be updated (trimester? semester? Or whenever a new facility is created). In addition to that, it will be necessary to define the staff who will be responsible for the data entry and quality control of the registry

R#8 – Services provided by the facility should be represented in a hierarchical structure as shown on page 13. Each service has its own classifications/category as the table shows. The category and respective services are:

|  |  |
| --- | --- |
| Category of services |  Type of Service Provided |
| Code | Description | Code | Classifications |
| 01 | Health Promotion and Prevention |
|  |  | 0101 | Ante-natal consultation |
|  |  | 0102 | Behavior Change Communication/Health Education |
|  |  | 0103 | Community mobilization |
|  |  | 0104 | Family Planning |
|  |  | 0105 | Post Natal Consultation |
|  |  | 0106 | Growth Monitoring/Nutrition Surveillance |
|  |  | 0107 | Vaccination |
|  |  |  0108 | Psychosocial support |
|  |  | 0109 | General Health Promotion Activities |
| 02 | Diagnostic Services | 0201 | Laboratory |
|  |  | 0202 | Voluntary Counseling and Testing |
|  |  | 0203 | Laboratory |
| 03 | Clinical Services | 0301 | Primary Outpatient Curative Consultation (CPC) |
|  |  | 0302 | Hospitalization |
|  |  | 0303 | Emergency care |
|  |  | 0304 | Dentistry |
|  |  | 0305 | General Ophthalmology |
|  |  | 0306 | Integrated Management of Childhood Illness |
|  |  | 0307 | Management of gender violence |
|  |  | 0308 | Mental Health Services |
|  |  | 0309 | Physical therapy |
|  |  | 0310 | Nutritional Rehabilitation  |
|  |  | 0311 | Cardiovascular care and treatment |
|  |  | 0312 | TB care and treatment |
|  |  | 0313 | Care and treatment for persons living with HIV/AIDS |
|  |  | 0314 | Diabetes care and treatment |
|  |  | 0315 | Other Non Communicable disease (NCD) care and treatment |
|  |  | 0316 | Management of dystocic pregnancies |
|  |  | 0317 | Post-abortion care |
|  |  | 0318 | Deliveries - high risk |
|  |  | 0319 | Deliveries – normal |
|  |  | 0320 | Newborn care |
| 04 | Surgical Services |  |  |
|  |  | 0401 | Major surgical interventions |
|  |  | 0402 | Minor surgical interventions |
| 05 | Organ transplants and Blood transfusions |  |  |
|  |  | 0501 | Blood bank |
|  |  | 0502 | Organ transplants |
| 06 | Pharmacy |
|  |  | 0601 | Pharmacy |
| 07 | Prosthetics and Medical devices |  |  |
|  |  | 0701 | Prosthetics |
|  |  | 0702 | Other medical devices |
| 08 | Complementary actions to promote health |  |  |
|  |  | 0801 | Hygiene and environmental health |
|  |  | 0802 | Medico-Legal documentation |
|  |  | 0803 | Pre-marital Consultation |
|  |  | 0804 | Vector and Zoonosis control |
|  |  | 0805 | Epidemiological Surveillance and Response |

R#9 – Each HC facility may have one or more implementing partner organizations, as follows:

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| 6. Implementing Partners Organizations |
| Code | Partner Organizations  |
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| 1 | CAAC  |
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| 12 |

 | PIH/CF |
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 | GTZ |
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| 13 |

 | DREW |

## Health Care Professional Registry Requirements

R#1 - All HC professionals must have either an NID number or the Health Number.

R#2 – If the HC professional does not have the NID or the Health Number, it will be necessary the client registry will create the unique health number. This new ID should be printed (label or cardboard) and sent to the HC professional at the HC facility where he/she works. (This could be sent even by an e-mail to HC facility manager).

R#3 – All HC professionals responsible for encounters that will be sent to the SHR must be registered in the client/HC professional registry, otherwise the message with the clinical content will be stored in a temporary area. This will generate an event that will dispatch a message to the MOH data manager that will call the HC facility and ask the data necessary to register this HC professional. Only after that the message with the clinical content will be stored in the SHR

R#4 - Anyone accessing the SHR, must be a registered HC professional in the MOH HC professional registry with permission to query and or maintain the SHR.

# Workflow for updating the Rwanda facility and HC professional registry

The proposed workflow for the Rwanda facility registry is described below.

* **Initial load of the HC facility database** - the actual health care access database that has all HC facilities in Rwanda. This is an Access Database that currently has all the facilities in Rwanda. Structure is detailed in Annex 3. Note that although the director name is part of the current database there is no NID. Maybe the facility registry could import the name without the NID and wait for the next update that will come from the paper form to include the NID. Another alternative would be that the central data manager would make a search in the client registry looking for that person in order to get his/her NID to update the HC facility registry.
* **Including a new HC professional** - when including a new HC professional it will always be necessary to query the client registry to check if that person is already included or not. In case of any discrepancy we will consider the paper form the most updated information for all demographic data, except the NID number. In cases of mismatch of the NID number this requires a manual intervention and call to the facility to confirm the NID number. If it is confirmed that the client registry is wrong this should be manually informed to the MOH person responsible for the client registry to sort this out. If the HC professional is not on the client registry it will be necessary to first include he/she in the client registry before entering the HC professional data.
* Information from the facility and providers registry will be manually informed in the respective Facility and HC Professional Forms (Annex 1).
* These forms will be sent to all HC facilities in Rwanda, public and private.
* Each facility will fill on the HC facility form and as many HC professional forms as the number of HC professionals currently working in the facility. For the first iteration only the HC professionals involved in the use cases of maternal and child health will be in the registry. All those who do HC delivery and /or enter data or query the system must be registered in the HC professional registry, otherwise they will not have access to the SHR.
* POC applications, such as OpenMRS will be able to query the HC facility and HC professional registries through web services exchanging Hl7 v2 messages (to be defined).

## Health Care Professionals Registry (Identification of individual provider)

The Health Care Professionals Registry will encompass all the health workers in Rwanda. It is a specialization of the Client Registry with additional information specific to the health worker. The classification of health workers adopted follows the WHO recommendation mapping occupation categories into five broad groupings: health professionals, health associate professionals, personal care workers in health services, health management and support personnel, and other health service providers not elsewhere classified. The incorporation of all these categories in the national HRH database should be an incremental and interactive process, as described below. The full implementation of all the functionalities for managing, allocating, monitoring and evaluating HRH is out of the scope of the registry but this should be the national database that the country HRH system will use, update and maintain. Therefore, there will be no duplications of databases for HRH. The full functionalities of the country HRH system will be described later in a separate document also part of the Rwanda eHealth Architecture.

### Data requirements for the HC professional registry

| Element | Description | Length/ TYPE | Status (R = required and O =Optional) | Behavior |
| --- | --- | --- | --- | --- |
| TB\_PERSON (From the client registry) |
| NID\_NUMBER | Rwanda NID  | 16 | R | This is the national unique identifier number (NID) as provided by the national NID database.. |
| DOCUMENTS\_NID\_NUMBER\_FK | Link to the table documents with the NID details |   | R |  |
| MOH\_NUMBER | Unique health number | 16 | R | One these two (NID or Health number must be informed). |
| DOCUMENTS\_MOH\_NUMBER\_FK | Link to the table documents that describe the MOH identifier details | R |  |  |
| MUTUAL\_HEALTH\_INSURANCE\_ NUMBER | Mutual health insurance number |  | O |  |
| DOCUMENTS\_MUTUAL\_NUMBER\_FK | Link to the table documents that describe the Mutual Health Insurance details |  | O |  |
| DOCUMENTS\_RAMA\_NUMBER\_FK | Link to the table documents with the Rama Health Insurance details  |  |  |  |
| SOCIAL\_SECURITY\_NUMBER | Client Social security number  |  |  |  |
| DOCUMENTS\_SOCIAL\_SECURITY\_FK | Link to the table documents with the Social Security details |  |  |  |
| LAST\_NAME | Last Name of the client | 30 | R |  |
| OTHER\_NAMES  | Other names of the client | 50 | R |  |
| FATHER\_NAME | Full name of the father | 80 | R |  |
| MOTHER\_NAME | Full name of the mother | 80 | R |  |
| DATE\_OF\_BIRTH | Date of birth | 8 | R |  |
| ESTIMATED\_AGE | Estimated age of the client | Integer | R |  |
| TEMPORAL \_UNITS\_FOR ESTIMATED\_AGE\_FK  | Link to to the temporal units for estimated age, based on the calculation made (from the patient-banner standard) | 1 | R | For the HC professional registry those are the domains from the TB\_TEMPORAL\_UNITS\_AGE that may apply:6= “ < 18 years, display year and month => 17y 6m7 = “ >= 18 years, display years => 18y” |
| MARITAL\_STATUS\_FK | Link to the specific code at TB\_MARITAL\_STATUS  | 1 | R | TB\_MARITAL\_STATUS1= single 2 =married 3 = widow/widower4 = divorced5 = cohabitation |
| GENDER\_FK | Link to the specific code at TB\_GENDER | 1 | R | TB\_GENDER1= male2= female3=undetermined (this field does not appear on the paper form but is part of the domain at the client registry)4=not known |
| COUNTRY\_PLACE\_OF\_BIRTH\_CODE\_FK | Link to the country code where the client was born at TB\_COUNTRIES | STRING (2) | R | TB\_COUNTRIESISO country codes (see Annex) |
| DISTRICT\_OF\_ BIRTH\_CODE\_FK | link to the district code where the client was born on TB\_DISTRICTS  | STRING | O |   |
| PASSPORT\_ NUMBER | Passport number in case of foreigners | STRING (10) | O | If foreigner the passport number is mandatory |
| COUNTRY\_CODE\_OF\_ISSUANCE\_FK | link to the ISO Country code where the client passport was issued, on TB\_COUNTRIES  | STRING (2) | O | If foreigner, field is required. (ISO country codes) |
| DATE\_PASSPORT\_ISSUED | Date passport was issued | DATE | O | If foreigner, field is required |
| PASSPORT\_EXPIRATION\_DATE | Date passport expires | DATE | O | If foreigner, field is required |

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| TB\_ADDRESS (\*) |
| PROVINCE\_CODE\_FK | Link to the province code where the client lives, on TB\_PROVINCES | STRING (1) | R | TB\_PROVINCES1 = Kigali2 = North3 = East4= South5 = West |
| DISTRICT\_CODE\_FK | Link to the district code where the client lives on TB\_DISTRICTS  | STRING | R | On the data entry screen, only the district names from the respective province should appear for selection.  |
| SECTOR\_CODE\_FK | Link to the Sector code where the client lives on TB\_SECTORS | STRING | R | On the data entry screen, only the sector names from the respective province/district should appear for selection. |
| CELL\_CODE\_FK | Link to the Cell code where the client lives on TB\_CELLS | STRING | R | On the data entry screen, only the cell names from the respective province/district/sector should appear for selection. |
| VILLAGE\_CODE\_FK | Link to the Village code where the client lives on TB\_VILLAGES | STRING | R | On the data entry screen, only the village names from the respective province/district/sector/cells should appear for selection. |
| POST\_OFFICE\_BOX | Post Office Box of the client address | STRING | O |   |
| CELULAR\_TELEPHONE\_ | Client cell phone | STRING (12) | O |  |
| BUSINESS\_TELEPHONE | Client Business Telephone  | STRING (12) | O |  |
| EMAIL |  | STRING (30) | O |  |
| STREET\_NAME | Street name where the client lives | STRING (50) | O |  |
| STREET\_NUMBER | Street number where the client lives | STRING (10) | O |  |
| COMPLEMENT | Complement of the street number like apt number  | STRING (30) | O |  |
| POSTAL\_CODE | Postal code of the address where the client lives |  | O |  |
| COUNTRY\_CODE | Country where the person lives | STRING (2) | O | Use ISO 3166 Country codes |
| LATITUDE | (degrees, minutes..) | STRING(5) | O |  |
| LONGITUDE | (degrees, minutes..) | STRING(5) | O |  |

(\*) TB\_ADDRESS is a separate table that holds all addresses no matter if from an individual or organization. A foreign-key will establish the relationship between either the individual or the organization with the address. Historical data about the addresses will be stored in the database

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| TB\_HC\_PROFESSIONAL-QUALIFICATION |
| EDUCATION\_LEVEL | HC professional education level  | STRING (1) | R | 0 = Pre-primary education1 = Primary education or first stage of basic education2 = Lower secondary or second stage of basic education3 = (Upper) secondary education 4 = Post-secondary non-tertiary education 5 = First stage of tertiary education 6 = Second stage of tertiary education  |
| PROFESSIONAL\_REGISTRATION\_BODY\_CODE  |  HC professional registration body code  | STRING (1) | R | 1 = Physicians2 = Nurses3 = Not applicable |
| PROFESSIONAL\_ REGISTRATION\_ NUMBER | HC professional registration number | STRING (10) | O |  If there is a professional registration body code = 1 or 2 then this field is mandatory |
| PROFESSIONAL\_REGISTRATION\_START\_DATE | Date the professional registration was issued | DATE | O |  If there is a professional registration body code = 1 or 2 then this field is mandatory |
| PROFESSIONAL\_REGISTRATION\_STATUS |  Informs the status of the professional registration | STRING (2) | O |  If there is a professional registration body code = 1 or 2 then this field is mandatory1 = Active / full registration2 = Limited registration3 = Student registration4 = Suspended registration5 = Terminated registration 6 = Nullified 7 = Pending 8 = Inactive registration |
| PROFESSIONAL\_REGISTRATION\_END\_DATE | Date professional registration ended  | DATE | O |  If there is a professional registration body code = 1 or 2 then this field is mandatory |

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| TB\_HC\_CURRENT EMPLOYMENT(\*) |
| HC\_PROFESSIONAL\_FK | Holds the key to the HC professional table to establish the relationship among them  | STRING (15) | R |  |
| OCCUPATION\_GROUP\_CODE  | Informs the professional occupation group code for this employment  | STRING (10) | R | Please see Annex 2 |
| OCCUPATION\_CODE |  Informs the professional occupation code for this employment  | STRING (10) | R |  Please see Annex 2 |
|  NUMBER\_HOURS\_WORKED\_WEEK |  Informs the number of hours per week the HC professional works in this employment | INTEGER | O |   |

(\*) Separate table in an 1 to n relationship from the HC professional table to this one.

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| --- |
| TB\_HC\_PROFESSIONAL\_SIGNATURES |
| HOC\_PROFESSIONAL\_ID | STRING (15) | R | Holds the key to the HC professional table to establish the relationship among them |
| NID\_FORM\_SUBMITTER | STRING(16) | R |  |
| DATE\_FORM\_COMPLETED | DATE | R |  |
| NID\_PERSON\_APPROVED\_FORM | STRING(16) | R |  |
| DATE\_FORM\_APPROVED | DATE | R |  |

### Use cases for the HC professional registry

At the central level, SHR application, the following use cases are implemented:

* Maintain HC professional registry – include, query and update
* Query HC professionals registry – print report of HC professionals from one or more HC facilities

### Interoperability Requirements

External systems will be able to interoperate with the MOH Health Worker Registry through the following web services, using the HIX:

* + **Query Health Care Professional Registry** - to query the HC professional registry and obtain all the information on one HC professional. The query response will show the demographic data as in the client registry response plus the extensions regarding credentials and current work places. If the professional works in more than one facility each work relation (facility and specific occupation) will be part of the response. A history of previous positions is also part of the registry. The query should allow for the POCs to query the HC professional registry using any of this fields as filters:
		- Name of HC professional (last name / name ) or full name
		- NID
		- Health Number
		- Mutual Number
		- Rama Number
		- Social Security Number
		- Gender
		- DOB
		- Country of birth
		- HC Professional Address (province / district / sector / cell / village
		- Cell phone
		- HC Professional Qualifications
			* Education level
			* Registration Body
			* Registration Number
			* Registration Status
		- Current Employment
			* Occupation Group
			* Occupation Code
			* Type of Contract
			* Number of Hours per Week

The query results should also allow for a printed version.

## Health Facilities Registry (HFR)

The Facilities Registry holds all HC facilities as well as administrative health units identified by a unique national number. There is a relationship between the individual provider registry and the facility registry. This is a 1 to n relationship, meaning that one individual provider can work in one or more facilities with different roles in each. The registry will be updated in a two-step way, always with validation from the central level. The HFR design took into account the work currently being done in the definition of the National Asset Management Information System.

### Health Facilities Registry Data Requirements – (TB\_HEALTH\_FACILITY)

| Element | Description | Length/ TYPE | Status (R = required and O =Optional) | Behavior |
| --- | --- | --- | --- | --- |
| Identification structure |
| HC\_FACILITY\_ \_NUMBER  | Number of the HC facility  | STRING (10) | R | This is the national unique identifier number for all HC facilities.  |
| HC\_FACILITY\_NAME | The name of the HC facility | STRING (80) | R |  |
| HC\_FACILITY\_CODE | The code of the HC Facility | STRING (3) | R | 1 = National Referral Hospital (HNR) 2 = Provincial Referral Hospital (PH)3 = District Hospital (HD)4 = Health Center (CS)5 = Health Post (PS)6 = Dispensary (DISP) 7 = Community Dispensary (FOSACOM) * + - * 1. 8= Prison Clinic (PRIS)

9 = Medical Clinic (CLIN)10 = Military Hospital (HM)11 = District Pharmacy (DP)12= Blood Bank (BB)13 = Other (\*)  |
| HC\_FACILITY\_STATUS\_CODE | The status of the HC facility | STRING (2) | R | 1 = Active :2 = Planned 3 = Closed  |
| HC\_FACILITY\_OPENING\_DATE\_PLANNED | The probable opening date  | DATE | O | Required if status is = PlannedShould accept partial dates in month/year and or only year |
| HC\_FACILTY\_CATEGORY\_CODE  | The category of the HC facility | STRING (2) | R | 1 = Public2 = Agrée3 = Private4 = Community owned5 = Parastatal (Military, Police, Prison, State run dispensaries) |
| HC\_FACILITY\_DATE\_INAUGURATED | The date the HC was inaugurated | DATE | R | Should accept partial dates in month/year and or only year |
| HC\_FACILITY\_DIRECTOR\_NAME | The Name of the HC facility director | STRING (80) | R |  |
| HC\_FACILITY\_DIRECTOR\_NID | The NID of the HC facility director | STRING (10) | R |  |
| HC\_FACILITY\_DIRECTOR\_EMAIL | The eMail of the HC facility director | STRING (20) | O |  |
| PRIMARY\_REFERRAL\_FACILITY\_FOSA\_NUMBER | The HC facility number of the primary referral facility  | STRING (10) | R |  |

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| TB\_ADDRESS (\*) |
| PROVINCE\_CODE\_FK | Link to the province code where the client lives, on TB\_PROVINCES | STRING (1) | R | TB\_PROVINCES1 = Kigali2 = North3 = East4= South5 = West |
| DISTRICT\_CODE\_FK | Link to the district code where the client lives on TB\_DISTRICTS  | STRING | R | On the data entry screen, only the district names from the respective province should appear for selection.  |
| SECTOR\_CODE\_FK | Link to the Sector code where the client lives on TB\_SECTORS | STRING | R | On the data entry screen, only the sector names from the respective province/district should appear for selection. |
| CELL\_CODE\_FK | Link to the Cell code where the client lives on TB\_CELLS | STRING | R | On the data entry screen, only the cell names from the respective province/district/sector should appear for selection. |
| VILLAGE\_CODE\_FK | Link to the Village code where the client lives on TB\_VILLAGES | STRING | R | On the data entry screen, only the village names from the respective province/district/sector/cells should appear for selection. |
| POST\_OFFICE\_BOX | Post Office Box of the client address | STRING | O |   |
| CELULAR\_TELEPHONE\_ | Client cell phone | STRING (12) | O |  |
| BUSINESS\_TELEPHONE | Client Business Telephone  | STRING (12) | O |  |
| EMAIL |  | STRING (30) | O |  |
| STREET\_NAME | Street name where the client lives | STRING (50) | O |  |
| STREET\_NUMBER | Street number where the client lives | STRING (10) | O |  |
| COMPLEMENT | Complement of the street number like apt number  | STRING (30) | O |  |
| POSTAL\_CODE | Postal code of the address where the client lives |  | O |  |
| COUNTRY\_CODE | Country where the person lives | STRING (2) | O | Use ISO 3166 Country codes |
| LATITUDE | (degrees, minutes..) | STRING(5) | O |  |
| LONGITUDE | (degrees, minutes..) | STRING(5) | O |  |
| TARGET\_POPULATION | The target population of this facility |  | R |   |
| YEAR\_POPULATION\_ESTIMATE | The year of the population estimate | YEAR | R |  |

TB\_HC\_FACILITY\_CATCHMENT\_AREA\_POPULATION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| HC\_FACILITY\_NUMBER\_ID | ID of the facility | STRING(10) | R |  |
| HC\_CATCHMENT\_AREA\_LEVEL | The level by which the catchment area was calculated | STRING (1) | R for all HC facilities type 1,2,3,4, or 5. | 1 = National2 = Province3 = District4 = Villages |
| HC\_FACILITY\_CATCHMENT\_AREA\_POPULATION | The code of the village that is part of the catchment area of this HC facility | STRING (10) | R |  |

TB\_HC\_FACILITY\_CATCHMENT\_AREA

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| HC\_FACILITY\_NUMBER\_ID | ID of the facility | STRING(10) | R |  |
| HC\_CATCHMENT\_AREA\_CODES | The codes of the regions used to calculate the population | STRING (4) | R for all HC facilities type 1,2,3,4, or 5. |   |

TB\_HC\_FACILITY\_INFRASTRUCTURE

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| HC\_FACILITY\_NUMBER\_ROOMS | The number of rooms at the HC facility | INTEGER | R |  |
| HC\_FACILITY\_NUMBER\_PT\_BEDS | The number of patient beds at the HC facility  | INTEGER | R |  |
| HC\_FACILITY\_NUMBER\_AMBULANCES |  The number of functional ambulances at the HC facility | INTEGER | R |  |
| HC\_FACILITY\_NUMBER\_CARS | The number of functional cars at the HC facility | INTEGER | R |  |
| HC\_FACILITY\_NUMBER\_MOTORCYCLES | The number of functional motorcycles at the HC facility | INTEGER | R |  |
| HC\_FACILITY\_ELETRICITY\_SOURCE\_CODE | The main electricity source for the HC facility | STRING(2) | R | 1 = National Grid2 = Generator 3 = Solar panels4 = No electricity |
| HC\_FACILITY\_GENERATOR\_KVA | The generator KVA | REAL | O | Required if electricity source is = Generator |
| HC\_FACILITY\_WATER\_SOURCE\_CODE | The main water source for the HC facility | STRING(2) | R | 1 = National piped water supply2 = Local piped water supply3 = Protected well4 = Open well5 = Surface water (river, lake, etc.)6 = Rain water reservoir7 = Water Truck8 = No regular water source |
| HC\_FACILITY\_NUMBER\_REFRIGERATORS | The number of functional refrigerators or freezers  | INTEGER | R |  |
| HC\_FACILITY\_COMPUTERS\_NUMBERS | The number of functioning computers of the HC facility | INTEGER | R |  |
| HC\_FACILITY\_INTERNET\_CONNECTION\_PRIMARY\_CODE | The HC facility primary Internet connection | STRING (2) | R | 1 = Cell Modem2 = Fixed Line (ADSL, fiber)3 = Satellite (VSAT)4 = Wireless (WINMAX)5 = No Internet connection |
| HC\_FACILITY\_INTERNET\_CONNECTION\_SECONDARY\_CODE | The HC facility secondary Internet connection | STRING (2) | R | 1 = Cell Modem2 = Fixed Line (ADSL, fiber)3 = Satellite (VSAT)4 = Wireless (WINMAX)5 = No Internet connection |

|  |
| --- |
| TB\_HC\_FACILITIES\_SERVICES OFFERED (one record for each service provided) |
| HC\_FACILITY\_NUMBER\_ID | The ID of the HC facility | STRING(10) | R |  |
| CATEGORY\_SERVICE\_CODE | The HC service provided category\_code | STRING(03) | R |  |
| SERVICE\_PROVIDED\_CODED | Service provided code | STRING(04) | R |  |

|  |
| --- |
| TB\_HC\_FACILITY\_PARTNER\_ORGANIZATIONS (one record for each partner organization) |
| HC\_FACILITY\_NUMBER\_ID | The ID of the HC facility | STRING(10) | R |  |
| PARTNER\_ORGANIZATION\_CODE | The partner organization code | STRING(3) | O |  |

|  |
| --- |
| TB\_HC\_FACILITY\_SIGNATURES |
| HOC\_PROFESSIONAL\_ID | STRING (15) | R | Holds the key to the HC professional table to establish the relationship among them |
| NID\_FORM\_SUBMITTER | STRING(16) | R |  |
| DATE\_FORM\_COMPLETED | DATE | R |  |
| NID\_PERSON\_APPROVED\_FORM | STRING(16) | R |  |
| DATE\_FORM\_APPROVED | DATE | R |  |

### Interoperability Requirements

External systems will be able to interoperate with the MOH Facilities Registry through the following web services, using the HIX:

* + Query Health Facility – to query Health Care Facilities by any of the filters below:
		- HC Facility number
		- HC facility name
		- Type of HC facility
		- HC facility status
		- HC facility category
		- HC facility date inaugurated (should be able to query before, or after partial dates)
		- HC facility director name
		- HC facility director NID
		- HC facility partner organizations (need to structure this field)
		- HC facility referral villages
		- HC facility latitude or longitude
		- HC address (province, District, Sector, Village, Cell)
		- HC facility number of rooms (less or greater than should also be allowed)
		- HC facility number of patient beds (less or greater than should also be allowed)
		- HC facility number of ambulances (less or greater than should also be allowed)
		- HC facility number of cars (less or greater than should also be allowed)
		- HC facility number of motorcycles (less or greater than should also be allowed)
		- HC facility electricity source
		- HC facility water source
		- HC facility number of freezers (less or greater than should also be allowed)
		- HC facility number of computers ((less or greater than should also be allowed)
		- HC facility type of Internet connection
		- HC facility telephone number (cell and or fixed)

The query results should also allow for a printed version.

# References

[1] ISOTC 215. ISO TS 22220:2009 Identification of Subjects of Care. <http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=40782> (accessed October 5,2010)

[2] ISO TC 215. ISO TS 27527:2010 Provider Identification. <http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=44216>

(accessed October 5,2010)

[3] WHO. Report of the First Meeting of the Health Workforce Information Reference Group (HIRG). WHO/HSS/HRH/HIG/2010.1. Genebra 2010.
<http://whqlibdoc.who.int/hq/2010/WHO_HSS_HRH_HIG_2010.1_eng.pdf> Acesso em 20 Ago 2010

[4] WHO. Classificação de Profissionais de Saúde - <http://www.who.int/hrh/statistics/workforce_statistics/en/index.html> Acesso em 20 Jul 2010

[5] International Standard Classification of Occupations. International Labour Organization.
<http://www.ilo.org/public/english/bureau/stat/isco/index.htm>, Acesso 11 Jan 2009

# Annex 1 – HC Facility and HC Professional Registry Forms (mandatory fields are marked with an \*)

|  |
| --- |
| **1. Identification** |
| Health Facility Name\* : | Facility ID\*: (HMIS unit only) (mandatory for updates, blank for new facilities) |
| Type of health care facility\*: | [ ]  National Referral Hospital (HNR)[ ]  Provincial Referral Hospital (PH)[ ]  District Hospital (HD)[ ]  Health Center (CS)[ ]  Health Post (PS)[ ]  Dispensary (DISP) [ ]  Community Dispensary (FOSACOM) | [ ]  Prison Clinic (PRIS)[ ]  Medical Clinic (CLIN)[ ]  Military Hospital (HM)[ ]  District Pharmacy (DP)[ ]  Mutuelle/CBHI section (MU)[ ]  Blood Bank (BB)[ ]  Other, Specify : . |
| Status\*: | [ ]  Active :[ ]  Planned, specify probable opening date :[ ]  Closed : |
| Category\*: | [ ]  Public[ ]  Agrée[ ]  Private[ ]  Community owned[ ]  Parastatal (Military, Police, Prison, State run dispensaries) |
| Date inaugurated\*: (at least year must be informed) | DAY: MONTH: YEAR:  |
| Name of titulaire/director\* : |  | NID #\* |  |
| eMail of titulaire/director: |  | Cell phone #\* |  |
| Name of health facility that provides supervision and receives HMIS reports\* |  | ID of the health facility that provides supervision and receives HMIS reports |  |
| Implementing partner organizations: | (List partners organizations in section 6) |
| **2. Geographic Coordinates** |
| Province\*: |  | Street: |  |
| District\*: |  |  Number |  |
| Sector\*: |  | Complement  |   |
| Cell\*: |   | PO box: |  |
| Village\*: |  |   |  |
| Latitude\*:  |  | Longitude\*: | Catchment area population section 7)\*: |
| Target Population\*: |  | Year target population\*: |  |

|  |
| --- |
| **3. Infrastructure** |
| Number of rooms (clinical and administrative) : |  | Number of Patient beds:  |  |
| Transport available :(and functional) | # of ambulances  |  | Principal Water Source: | [ ]  National piped water supply[ ]  Local piped water supply[ ]  Protected well[ ]  Open well[ ]  Surface water (river, lake, etc.)[ ]  Rain water reservoir[ ]  Water Truck[ ]  No regular water source |
| # of cars |  |
| # of motorcycles |  |
| Principal Electricity Source : | [ ]  National Grid[ ]  Generator, specify KVA :[ ]  Solar panels[ ]  No electricity |
| Cold chain: | # of functional refrigerators/freezers: |  | Computers : | # functioning |  |
| 4. Communications |
| Communication: (belonging to the HC facility) | [ ]  Fixed Telephone | No  | Primary Internet Connection: | [ ]  Cell Modem[ ]  Fixed Line (ADSL, fibre)[ ]  Satellite (VSAT)[ ]  Wireless (WIMAX, etc.)[ ]  No internet connection |
| [ ]  Mobile Telephone | No  |
|  |
| Secondary Internet Connection: | [ ]  Cell Modem[ ]  Fixed Line (ADSL, fibre)[ ]  Satellite (VSAT)[ ]  Wireless (WIMAX, etc.)[ ]  No internet connection |
|
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Top of Form

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| **5. Services offered (check all services that are offered)** |
| **03** | **Clinical services** | **06** | **Pharmacy** |
| **0301** |  | Primary Outpatient Curative Consultation (CPC) | **0601** |  | Pharmacy |
| **0302** |  | Hospitalization | **07** | **Prosthetics and Medical devices** |
| **0303** |  | Emergency care | **0701** |  | Prosthetics |
| **0304** |  | Dentistry | **0702** |  | Other medical devices |
| **0305** |  | General Ophthalmology | **08** | **Complementary actions to promote health** |
| **0306** |  | Integrated Management of Childhood Illness | **0801** |  | Hygiene and environmental health |
| **0307** |  | Management of gender violence | **0802** |  | Medico-Legal documentation |
| **0308** |  | Mental Health Services | **0803** |  | Pre-marital Consultation |
| **0309** |  | Physical therapy | **0804** |  | Vector and Zoonosis control |
| **0310** |  | Nutritional Rehabilitation  | **0805** |  | Epidemiological Surveillance and Response |
| **0311** |  | Cardiovascular care and treatment | **02** | **Diagnostic services** |
| **0312** |  | TB care and treatment | **0201** |  | Laboratory |
| **0313** |  | Care and treatment for persons living with HIV/AIDS | **0202** |  | Voluntary Counseling and Testing |
| **0314** |  | Diabetes care and treatment | **0203** |  | Ultrasound |
| **0315** |  | Other Non Communicable disease (NCD) care and treatment | **0204** |  | Medical Imagery (x-ray) |
| **0316** |  | Management of dystocic pregnancies | **01** | **Health promotion and prevention** |
| **0317** |  | Post-abortion care | **0101** |  | Ante-natal consultation |
| **0318** |  | Deliveries - high risk | **0102** |  | Behavior Change Communication/Health Education |
| **0319** |  | Deliveries – normal | **0103** |  | Community mobilization |
| **0320** |  | Newborn care | **0104** |  | Family Planning |
| **04** |  | **Surgical services** | **0105** |  | Post Natal Consultation |
| **0401** |  | Major surgical interventions | **0106** |  | Growth Monitoring/Nutrition Surveillance |
| **0402** |  | Minor surgical interventions | **0107** |  | Vaccination |
| **05** |  | **Organ transplants and Blood transfusions** | **0108** |  | Psychosocial support |
| **0501** |  | Blood bank | **0109** |  | General Health Promotion Activities |
| **0502** |  | Organ transplants |   |  |   |

Bottom of Form

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| 6. Implementing Partners Organizations (check all that apply) |  |
| Code | Partner Organizations  |  |
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 | MSH  |  |
| 1 | CAAC  |  |
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 | Non-affilie |  |
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 | GF |  |
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 | MAP |  |
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 | IHI/HCSP |  |
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| 3 |

 | EGPAF |  |
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 | ICAP/CU |  |
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 | FHI |  |
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 | CRS |  |
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 | PIH/CF |  |
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| 6 |

 | GTZ |  |
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| 13 |

 | DREW |  |

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| 7A. List of villages in health facility catchment area (Health Centers, Health Posts only) |
| Code[[1]](#footnote-1) | Village Name | Code | Village Name |
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| --- |
| 7B. List of health centers that refer to this districtal hospital |
| Code[[2]](#footnote-2) | Health Center Name | Code | Health Center Name |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
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| --- |
| 7C. List of provinces that refer to this provincial hospital |
| Code[[3]](#footnote-3) | Province |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

|  |
| --- |
| 4. Signatures and Approvals |
| Prepared by: |  | NID |  |
| Date of submission: |  |
| Approved by: |  | NID |   |
| Date of approval: |  |

 **Rwanda Health Facility Employee Registration Form**
(Version 1.7)

(one form per HC professional )

|  |  |
| --- | --- |
| Health Facility Name : | Health Facility ID: (HMIS unit only) |

|  |
| --- |
| 1. HC Professional Identification |
| NID:  | Health Number:  |
| Last Name\*: | Other Names\*: |
| Drivers License: | Mutual Number: |
| Full name of the father: | Full name of the mother: |
| Date of birth DD/MM/YYYY: DD: MM: YYYY: | Estimated age (if date of birth is not available)<number> years  |
| Gender: ( ) masculine ( ) feminine  | Marital Status: ( ) single ( ) married ( ) widow/widower ( ) divorced ( ) cohabitation |
| Country of birth: ( ) Rwanda ( ) Other Please fill foreigner information below | District of Birth:  |
| 2. Foreigner Information  |
| Country of Birth (see codes below) :  | Country passport was issued (see codes below): |
| Date passport was issued: DD/MM/YYYY | Passport expiration date: (DD/MM/YYYY) |

|  |
| --- |
|  3. HC Professional Address |
| Province: ( ) Kigali ( ) North ( ) East ( ) South ( ) West | Client Business Telephone : |
| District where the client lives: | Street name where the client lives: |
| Sector where the client lives: | Street number where the client lives: |
| Cell where the client lives: | Complement of the street number like apt number : |
| Village where the client lives: | Postal code of the address where the client lives: |
| Post Office Box of the client address: | Country where the person lives:(please use two letter codes from list below ISO 1366 country codes) |
| Client cell phone: |  |

|  |
| --- |
| 3. HC Professional Qualifications |
| Education Level: ( ) Level 0 - Pre-primary education( ) Level 1 - Primary education or first stage of basic education( ) Level 2 - Lower secondary or second stage of basic education( ) Level 3 - (Upper) secondary education ( ) Level 4 - Post-secondary non-tertiary education ( ) Level 5 - First stage of tertiary education ( ) Level 6 - Second stage of tertiary education  |  Professional Registration Body: ( ) Physicians( ) Nurses( ) Not applicable |
| Professional Registration Number:  | Registration Start Date: DD/MM/YYYY |
| Registration status:  ( ) Active / full registration ( ) Limited registration ( ) Student registration ( ) Suspended registration ( ) Terminated registration ( ) Nullified ( ) Pending ( ) Inactive registration | Registration End Date: DD/MM/YYYY |
|  4. Current Employment (all different contracts in this facility should be informed – codes on Annex 2. |
| Occupation group: |  Occupation code: | Number of hours per week: |
| Occupation group: |  Occupation code: | Number of hours per week: |
| Occupation group: |  Occupation code: | Number of hours per week: |
| Occupation group: | Occupation code: | Number of hours per week: |

|  |
| --- |
| 4. Signatures and Approvals |
| Prepared by (name): | NID: |
| Date of submission: (dd/mm/yyyy) |
| Approved by (name): |  NID: |
| Date of approval: (dd/mm/yyyy) |  |

# Annex 2. Rwanda Enterprise architecture framework: Occupation and Education codes for Provider registry

|  |  |  |  |
| --- | --- | --- | --- |
| Occupation Groups Code | Occupation Groups | Occupations Code | Occupations Description |
| 001 | Health Professionals  | 2211 | Generalist medical practioners |
| 2212 | Specialist medicalpractitioners |
| 2212.1 | Doctors in obstetric and gynaecological specialties |
| 2212.2 | Doctors in paediatrics |
| 2212.3 | Doctors in psychiatric specialties |
| 2212.4 | Doctors in the medical group of specialties |
| 2212.5 | Doctors in the surgical group of specialties |
| 2212.6 | Doctors in specialties not elsewhere classified |
| 2221 | Nursing professionals |
| 2222 | Midwifery professionals |
| 2230 | Traditional and complementary medicineprofessionals |
| 2240 | Paramedical practitioners |
| 2261 | Dentists |
| 2262 | Pharmacists |
| 2263 | Environmental and occupational health and hygieneprofessionals |
| 2264 | Physiotherapists |
| 2265 | Dieticians and nutritionists |
| 2266 | Audiologists and speech therapists |
| 2267 | Optometrists and ophthalmic opticians |
| 2269 | Health professionals not classified elsewhere |
| 002 | Health Associate Professionals | 3141 | Life science technicians |
| 3211 | Medical imaging and therapeutic equipment technicians |
| 3212 | Medical and pathology laboratory technicians |
| 3213 | Pharmaceutical technicians and assistants |
| 3214 | Medical and dental prosthetic technicians |
| 3221 | Nursing associate professionals |
| 3222 | Midwifery associate professionals |
| 3230 | Traditional and complementary medicine associate professionals |
| 3251 | Dental assistants and therapists |
| 3252 | Medical records and health information technicians |
| 3253 | Community health workers |
| 3254 | Dispensing opticians |
| 3255 | Physiotherapy technicians and assistants |
| 3256 | Medical assistants |
| 3257 | Environmental and occupational health inspectors and associates |
| 3258 | Ambulance workers |
| 3259 | Health associate professionals not classified elsewhere |
| 003 | Health Management and Support Personnel  | 1342 | Health service managers |
| 2131 | Health managementpersonnel notelsewhere classified |
| 2133 | Life science professionals (including bacteriologists, pharmacologists and related |
| 2635 | Social work and counselling professionals |
| 2635.1 | Non-health professionals not elsewhere classified |
| 3141 | Life science technicians |
| 3344 | Medical secretaries |
| 3344.1 | Non-health technicians and Associate professionals not elsewhere classified |
| 3344.2 | Clerical support workers |
| 3344.3 | Service and sales workers |
| 3344.4 | Trades workers |
| 3344.5 | Plant and machine operators and assemblers  |
| 3344.6 | Elementary occupations |
| 3344.7 | Armed forces occupations |
| 3344.8 | Data Manager/Statistician |
| 3344.9 | Other health management and support personnel |
| 5321 | Health care assistants |
| 5322 | Home-based personal care workers |
| 5329 | Personal care workers in health services not classified elsewhere |

## Education level

|  |  |
| --- | --- |
| EdLevelCD | Education Level |
| 01 | Level 0 - Pre-primary education |
| 02 | Level 1 - Primary education or first stage of basic education |
| 03 | Level 2 - Lower secondary or second stage of basic education |
| 04 | Level 3 - (Upper) secondary education |
| 05 | Level 4 - Post-secondary non-tertiary education |
| 06 | Level 5 - First stage of tertiary education |
| 07 | Level 6 - Second stage of tertiary education |

# Annex 3 . Health care facility database – current structure

|  |
| --- |
| Name: |
| Address: |
| Province: |
| District: |
| Sector: |
| Nom du Chef : (name of director) |
| Email du Chef: (email of director) |
| Date PBF : (????) not sure what that is. |
| Reseau: (????) not sure what that is.  |
| Reseau PBF Communautaire: (????) not sure what that is. |
| Nom du chef de Comite de Sante : (don’t have this in our form |
| Type FOSA: |
| Code: ( which code is this?) |
| Latitude: |
| Longitude: |
| Date Created : ( which date is this? The date the form was filled?) |
| Date Modified:  |
| Population Cible: (target population) |
| Annee Population Cible: (year target population) |
| Phase PBF: ( ???) |
| Code FOSA:; |

#

# Annex 4 - WHO Recommendations for Health Information Systems for Human Resources for Health

WHO recognizes the importance and key factor that a county Human Resources for Health system represents to organize health care. By having proper information on who is your human resource it is possible to do better allocation, control and evaluation. In March 2010, the World Health

Organization’s Department of Human Resources for Health, the Global Health Workforce Alliance and the Health Metrics Network, who have called for the establishment of a Health Workforce Information Reference Group (HIRG). A technical meeting was organized in Montreaux Switzerland and the final recommendations from this meeting were:

1. “*Country HRH information systems should be a sub-component of the national health information system.*

 *It is important to look at HRH data with different lenses depending upon the source – administrative records, facility-based data and population based data – and to be transparent about the coverage, definitions and limitations for each.*

1. *Baseline data on the current HRH situation need to be identified and validated among key stakeholders to be useful and accepted for decision-making and to strengthen the existing HRH information system.*
2. *Consistent assessment and validation is required of the status and results of the HRH information system; an independent technical body could take on this role.*
3. *Agreed standards and protocols are necessary for disseminating, sharing and using different types of data sources within the overall HRH information system.*
4. *Harmonization and alignment of HRH classifications and definitions with other frameworks and classifications for social and economic data and statistics is important; this includes international standard classifications for occupation, education and industry statistics (and their national equivalents).*
5. *Harmonization and alignment of HRH indicators and information with other population an development monitoring and evaluation frameworks is important.*
6. *Capacity building of health system personnel in collection, management, analysis, interpretation and use of HRH data and information is required at every level of the system*.
7. *Routine administrative data should use unique identifiers that correspond to individual health workers within the overall information system.*
8. *While many existing data sources can be used for monitoring the health labour and educational system in countries, they may occasionally need to be supplemented with ad hoc surveys and complementary research.”[3]*
1. Select 10 digit code from MiniLoc village code list [↑](#footnote-ref-1)
2. Select 10 digit code from MiniLoc village code list [↑](#footnote-ref-2)
3. Select 10 digit code from MiniLoc village code list [↑](#footnote-ref-3)