



# Zimbabwe Human Resources Information System (ZHRIS) Newsletter Issue One

## “Strengthening Information for Better Health Outcomes”

### Overview of Zimbabwe Human Resources Information System (ZHRIS)

The Zimbabwe Human Resources Information Systems (ZHRIS) is an ecosystem of information tracking human resources for health in both the public and private sectors. These systems register practicing health practitioners whose practice is regulated in the country by the respective regulatory authorities. There are eight regulatory authorities namely:

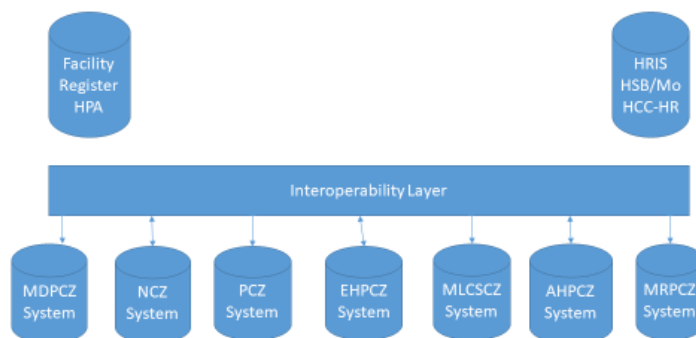
- Medical and Dental Practitioners Council of Zimbabwe (MDPCZ), which regulates all doctors and dentists in Zimbabwe.
- Nurses Council of Zimbabwe (NCZ), which regulates the nursing and midwifery practice in Zimbabwe.
- Pharmacists Council of Zimbabwe (PCZ), which regulates pharmacist practice in Zimbabwe.
- Medical Laboratory & Clinical Scientists Council of Zimbabwe (MLCSCZ), which regulates medical laboratory personnel in Zimbabwe.
- Allied Health Practitioners Council of Zimbabwe (AHPCZ), which regulates allied health practitioners.
- Medical Rehabilitation Practitioners Council of Zimbabwe (MRPCZ), which regulates medical rehabilitation practitioners in Zimbabwe.
- Environmental Health Practitioners Council of Zimbabwe (EHPCZ), which regulates environmental health practitioners in Zimbabwe.

• Health Professions Authority (HPA), which regulates all facilities that provide health care services in Zimbabwe. HPA is therefore the authority of the health facility register in Zimbabwe.

These ecosystems share practitioner data with the Health Service Board (HSB)/Ministry of Health and Child Care (MoHCC) Human Resource Information System. This symbiosis allows for tracking of practitioners in the public sector. Through these ecosystems, it is now possible to track all practitioners in both the public and private sectors, creating a powerful repository for both national and international reporting through the Health Workforce Observatory (HWO) and integration to other systems such as the District Health Information System (DHIS) and TrainSMART.

### Functional ZHRIS Design

Below is the setup of the various ZHRIS Information Systems



### What's Inside?

- Overview of Zimbabwe Human Resources Information System (ZHRIS)
  - Functional ZHRIS Design
  - Software Technologies and Design Used
- ZHRIS Achievements and Opportunities
- ZHRIS Challenges
- ZHRIS Case Study: Health Professions Authority (HPA)
  - HPA's Mandate
  - Electronic Health Registry with HPA
  - Facility Locator Map

- HPA Achievements and Opportunities
- Complementary Applications
- Strategies to Further Improve Service Delivery for HPA
- Technology Tips
- News/Upcoming Events

## Functional ZHRIS Design Continued..

In this functional design, all Councils communicate the agreed shareable data to other systems through an interoperability layer built around the Open Health Information Exchange Framework standard. The shareable data is clearly defined in an agreed and signed Data Sharing Template by the ZHRIS partners.

## Software Technologies and Design Used

HITRAC uses agile development practices in developing its various Web Applications. Agile is an umbrella term for several iterative and incremental approaches to gather requirements and proceed with software development (requirements are gathered and put to use whilst development is ongoing). The organization has business analysis and software development teams which works together in implementing the agile methodology. HITRAC is Java biased and implements this programming language on android devices and various applications. Other languages HITRAC uses are PHP, VB.net and has competency in a plethora of databases such as MySQL, SQL, and MongoDB.

## ZHRIS Achievements and Opportunities

Through ZHRIS, health workers in the public sector i.e. employed by the HSB/MoHCC are captured and tracked throughout the entire employment history. This application is now available for HSB/MoHCC head offices, 8 provinces, 6 central hospitals and 63 districts. Level of utilization of ZHRIS in these stations is now dependent on availability of Internet services. All health workers registered to practice in the country can be tracked in real time in all the eight registration authorities.

Data quality on accuracy and completeness of HRH workforce data and health facility availability has greatly improved. HRIS is capable of tracking practitioners in both public and private sectors, updating the HWO on a weekly basis.

HRH workforce distribution can be tracked in real time in cases of both internal and external migration, retirements, continuous professional development etc. Through these tools, the practitioner to population ratios can be easily calculated accurately and in real time. Distribution of health workers in the public sector can also be tracked through ZHRIS. Available skill sets and gaps can now be analysed in real time. Operations research can also be conducted. Reporting on HRH into the national repositories such as the District Health Information System (DHIS) is now possible. ZHRIS is part of the international centres of excellence on tracking HRH data.

## ZHRIS Challenges

There have been challenges on the way, though most of them have been addressed. To date, the following are some of the challenges that persist:

- Intermittent Internet connectivity especially for HSB/MoHCC provincial and district offices to access HRIS.
- Limitations on the location of servers across the HRIS ecosystems.
- Hardware shortages at MoHCC district offices.
- Stakeholders' scepticism on data security.

## ZHRIS Case Study: Health Professions Authority (HPA) HPA's Mandate

The Health Professions Authority (HPA) of Zimbabwe is a health professions regulatory body, which was established following the repealing of the Medical, Dental and Allied Professions Act (Chapter 27:08) and the disbandment of the Health Professions Council (HPC) on 30 June 2001. The Health professions Authority plays three major important roles of acting as the umbrella body for the seven health profession councils, acting as an appealing body for any dispute between health practitioners and their councils, and protection of public interest. HPA is also responsible for the regulation of all Health Institutions (Public and Private) in Zimbabwe through, Processing Applications, Registrations, Licensing, Annual Renewals, Inspections and Closing of facilities.

## Electronic Health Registry with HPA

Through the ZHRIS project, HPA now has an electronic health facility registry. As a result, HPA has strengthened its position as an authority of the health facility register in Zimbabwe. To date, all public and private sector facilities have been updated in this system. This data is now available to the public through their website.

Benefits of the electronic health facility registry:

- Real time registration of health facility details.
- Public access to fully registered facilities.
- Repository for third party systems to verify registered facilities in the country.
- It's now possible to transpose human resource skills to particular health facilities.
- Distribution of facilities against population densities can be calculated.

## Facility Locator Map

Special mention is being made on the mapping of health facilities in Zimbabwe through this registry.

HPA in collaboration with HITRAC have developed a mobile application to collect the health facility geographic coordinate systems through a Geographic Information System (GIS) tool, giving the endless possibilities of mapping and accessing health facilities in Zimbabwe. Owners of facilities can download this tool and upload their GIS data into the HPA database.

The following are the steps to follow to register:

1. Download the APK file from the HPA website ([www.hpa.co.zw](http://www.hpa.co.zw)).
2. Install it on your android mobile device.
3. Create a facility account and sign up.
4. N.B: Your device's data connection or Wi-Fi should be switched on and this process should be done whilst in your reception area for data accuracy.
5. Your current location coordinates will be auto filled in the longitude and latitude text boxes.
6. Click on SAVE to save your facility coordinates in the HPA facility database.
7. After saving your facility Geo coordinates data, you will be eligible to view the map of your facility. Click on View Map to see where your facility is located.

## HPA Achievements and Opportunities

- Health Facility Registry is now established.
- Tracking of health facilities distribution throughout the country now possible.
- Analysis of facilities against populations, settlements, and distances to nearest facility now possible.
- Information to the public on registered and functional facilities now available.
- Available geographical information systems of facilities on HPA website to enable the citizens to locate health facilities on google map.

## Complementary Applications

In a bid to further improve the level of data accuracy for HPA, HITRAC developed an android Geographical Information System (GIS) application that allows facility owners to upload and update their facility coordinates into HRIS system database directly. A detailed user manual has been availed to assist users in using the application. Users can verify their facility location before saving the coordinates data.

The GIS coordinates functionality for HPA can be accessed via HPA website ([www.hpa.co.zw](http://www.hpa.co.zw)) and all facilities are encouraged to submit their location coordinates to HPA. HITRAC is developing various applications to enhance HRIS for the ordinary citizens to be able to search for a facility by location and get directions to the facility.

## Strategies to Further Improve Service Delivery for HPA

Online Portal (Registration, Renewal and Payments – Coming Soon).

HITRAC is working with HPA to develop an online portal for health service providers to register and pay online. Facilities will no longer be required to visit HPA premises to submit registration and renewal forms, all this will be a thing of the past. The online portal under development will allow a facility owner/practitioner in charge to complete an electronic application form, attach the relevant documents, pay the required fees online and click submit. Once the application is submitted, HPA authorities will review application, produce required certificate and submit via courier to respective facility. This will shorten time spent to process application by HPA authorities, reduce time traveled to HPA by service providers to register and renew their certificates. Collection of Revenue by HPA will increase by enabling services through online portal.

## Technology Tips

HITRAC strives to advise its clients on computer security issues that may affect their computer systems. The WannaCry crypto-ransomware caught many by surprises and took over many computers across the world in May 2017. The ransomware affected Windows machines that did not apply the latest updates and patches from Microsoft. You are therefore encouraged to make sure that all computers are up-to date as attacks take advantage of vulnerabilities discovered in many systems.

You are also encouraged to regularly change your login passwords where applicable, enforce two-factor authentication such as the use of SMS codes for email logins. Do not click links or email attachments from unknown sources.

## News/Upcoming Events

- HITRAC is launching a health services finder to allow mobile users to interact with the entire ZHRIS ecosystems.
- HWO Launch: Look out for the HWO launch soon.



HITRAC Team  
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