GNU Health: Integrating Social Medicine and Health Informatics

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Education
- Computer Scientist
- Physician
- Genomics & Medical Genetics

Activism
- Social Medicine
- Animal Rights
GNU Solidario

Non-for-profit organization
Works globally
Focused on Social Medicine
Fights for the right of human and nonhuman animals
The organization behind GNU Health
Promotes Libre Software and Open Science
Projects by GNU Solidario
GNU Health is part of the GNU Operating System

Official GNU Package
International project
Open Documentation
Relies on Free / Libre technology
Friendly community
GNUHealth is the Leading Libre Hospital and Health Information System

Welcome to GNU Health, the Libre digital health ecosystem, where Social Medicine meets state-of-the-art health informatics.
GNU Health declared Digital Public Good
Chosen by Research Institutions, Hospitals, Labs around the globe
GNUHealth and the World Health Organization (WHO)

Standards: ICD10, ICD11, ICF, ICPM..
Malaria, Tuberculosis and HIV modules
WHO Essential Medicines
Neglected Tropical diseases (Chagas, denge, ...)
Pediatric growth charts
Immunization schedules

Training session to WHO officials

GNU Health implementation with WHO at Bafia general hospital
GNUHealth HMIS component

MoH / Analytics
Hospital Management ERP
Electronic Health Record
Demographics / Social Medicine
Integration with Orthanc DICOM Server
Desktop and Web access
Interpretation / Report

Pulmonary aeration is significantly increased bilaterally. There is marked bronchial wall thickening on the right and left in the perihilar zone extending to the lung base in keeping with airways disease. There are non-segmental patchy lung opacities in the lower lobes bilaterally (right lower lobe posterior basal segment; left lower lobe anterior basal segment; right upper segment). There are also increased interstitial markings with lower zone predominance.

** Case courtesy of Alborz Jahangiri, Radiopaedia.org, rID: 45781 **
Pulmonary aeration is significantly increased bilaterally. There is marked bronchial wall thickening on the right and left in the perihilar zone extending to the lung base in keeping with inflammatory lower airways disease. There are non-segmental patchy lung opacities in the lower lobes bilaterally (right lower lobe posterior basal segment; left lower lobe anterior basal segment; right middle lobe medial segment). There are also increased interstitial markings with lower zone predominance.

** Case courtesy of Alborz Jahangiri, Radiopaedia.org, rID: 45781 **
Strong reporting engine
Pioneered HL7 FHIR in 2014
Can use JSON, XML, and any open formats
Medical coding: ICD10, ICD11, ICPM, ICF ...
Can interact with other systems such DHIS2
Great interface engines to connect to software and hardware
Access information from Multiple devices
Integration with MyGNUHealth
MyGNUHealth 2.0 released at #GNU40!
Integration into the GNU Health Federation

Every person is a node in the GNU Health Federation

- Uniquely identified
- The person (node) is a member of the public health system
- Information shared and updated in realtime with their health professional

Privacy: Person is in control of what to share
GNU Health Federation
Chosen as real time epidemiological observatory
### Cancer and Neurodegenerative Diseases Research

**Variant Phenotypes**

<table>
<thead>
<tr>
<th>Gene &amp; Protein</th>
<th>Variants</th>
<th>Phenotypes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRCA1</td>
<td></td>
<td>Ovarian cancer, Breast cancer</td>
</tr>
<tr>
<td>BRCA1</td>
<td></td>
<td>Breast cancer, Familial</td>
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<tr>
<td>BRCA1</td>
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*GNU Health project by Luis Falcón (CC-BY-SA-4.0)*

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The GNU Health project by Luis Falcón (CC-BY-SA-4.0)
Data aggregation from institutions and individuals
Information gathered from participating institutions across the globe. Statistics, validation,...

Open Science: Researchers and Scientists from around the world will be able to participate.

Improve quality of care
From Medical imaging, laboratory and genomics to Socioeconomic and lifestyle information.

Using GPL license saves millions of euros and boosts collaboration for the betterment of our health systems.

The person is an active player in the system of health.
GHCon 2023
VIII International GNU Health Conference
September 29th - 30th
Leibniz University Hannover, Germany
#GHCon2023
GNU Health is a social project, with a bit of technology behind.

Santiago del Estero, Argentina, 2006
(Initial project)

"Medicine is a social science, and politics is nothing else but medicine on a large scale"

Rudolf Virchow

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Happy Hacking!