



GNU Health: Integrating Social Medicine and Health Informatics

Luis Falcón, MD



Luis Falcón

President, GNU Solidario

Author of GNU Health

falcon@gnuhealth.org

Education

- Computer Scientist
- Physician
- Genomics & Medical Genetics

Activism

- Social Medicine
- Animal Rights



GNUHealth

THE LIBRE DIGITAL HEALTH
ECOSYSTEM

GNU40 - GNU Hacker's Meeting
Biel, Switzerland, Sept 27 2023

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



GlobalExposome



GNU40 - GNU Hacker's Meeting
Biel, Switzerland, Sept 27 2023

The GNU Health project
Luis Falcón (CC-BY-SA-4.0)

GNU Solidario around the globe



HEADQUARTERS



HEALTH INSTITUTIONS



ACADEMIC INSTITUTIONS



REGIONAL OFFICES



ANIMAL RIGHTS



HUMANITARIAN MISSIONS



GNU Health ecosystem components



GNU Health is part of the GNU Operating System

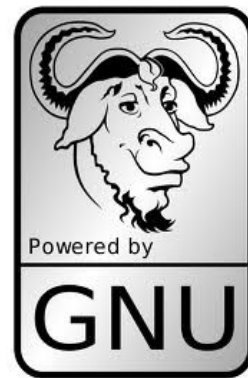
Official GNU Package

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.

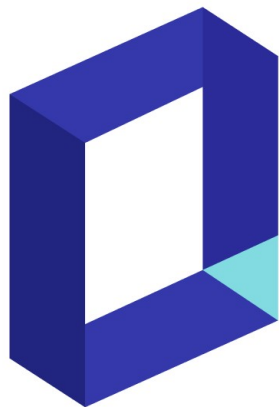


GNU40 - GNU Ha
Biel, Switzerland, S

#SocialMedicine

The GNU Health project
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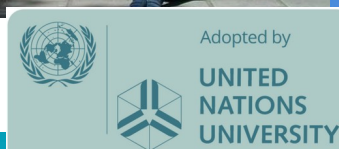
GNU Health declared Digital Public Good



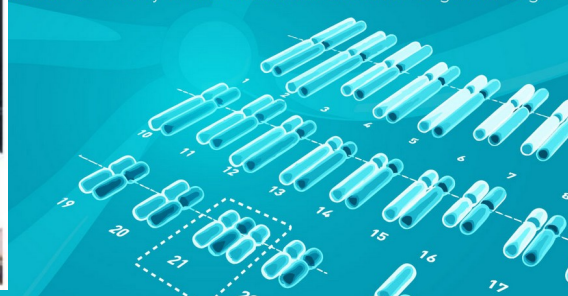
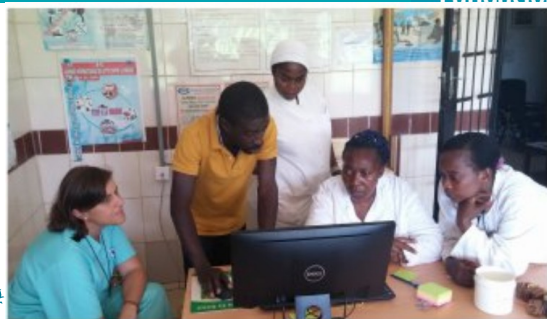
Digital
Public
Goods
Alliance



Chosen by Research Institutions, Hospitals, Labs around the globe



Fundación Jérôme Lejeune Argentina adopts GNU Health
research on Trisomy 21 and intellectual disabilities of genetic origin



GNUHealth and the World Health Organization (WHO)

GNUHealth
The Free/Libre Health and Hospital Information system



Standards: ICD10, ICD11, ICF, ICPM..

Malaria, Tuberculosis and HIV modules

WHO Essential Medicines

Neglected Tropical diseases (Chagas, denga, ...)

Pediatric growth charts

Immunization schedules



Training session to WHO officials



GNU Health implementation with WHO at Bafia general hospital



GNU40 - GNU Hacker's Meeting
Biel, Switzerland, Sept 27 2023

The GNU Health project
Luis Falcón (CC-BY-SA-4.0)

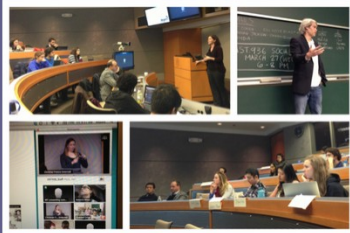
Academia



HST.936: Global Health Informatics to Improve Quality of Care

The 2015 iteration of our course will focus on **Public Health Emergencies and Humanitarian Crises**.

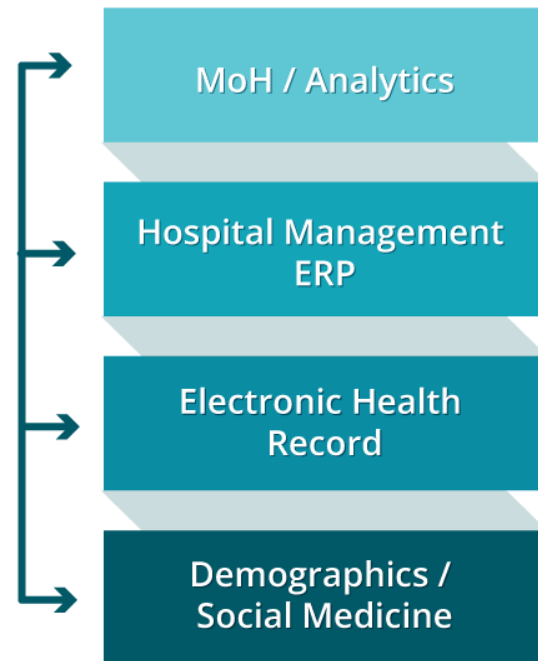
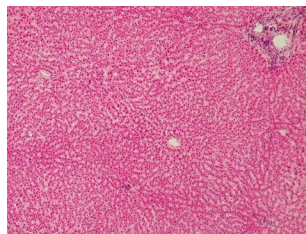
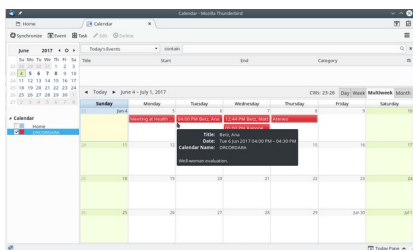
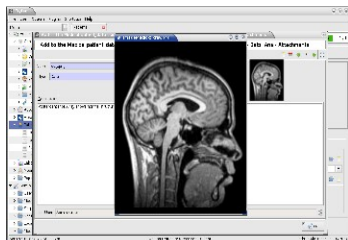
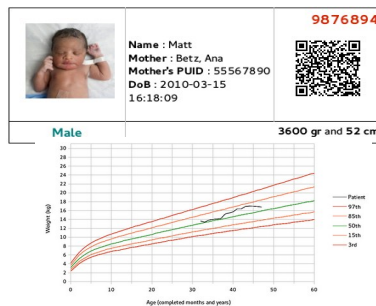
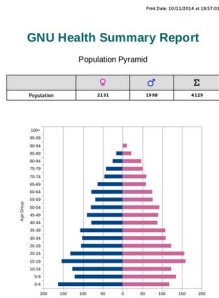
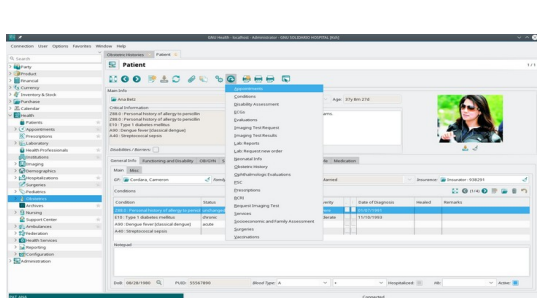
Classes begin: February 6, 2015
Fridays 9am – 11am ET (GMT -5)
Room: 09-057




Harvard / MIT, Boston, United States

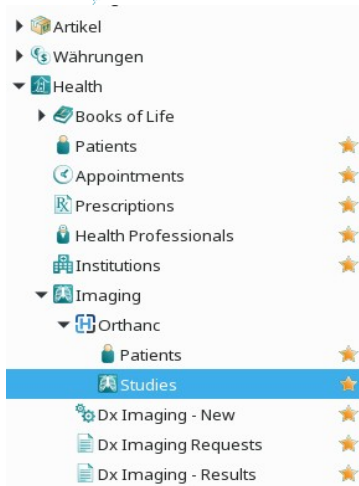


GNUHealth HMIS component



GNUHealth

Integration with Orthanc DICOM Server



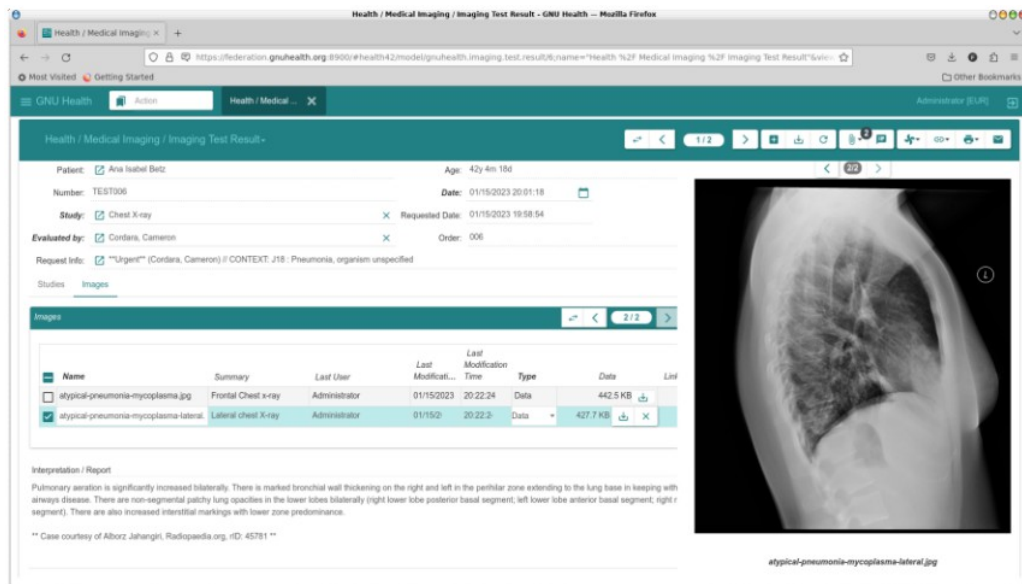
ORT H ANC

The screenshot displays the Orthanc DICOM Server web interface. The top section shows patient and study details: Patient: PHENIX, Date: 27.09.2005, Referring Physician: CHIR-PED^CHIR-PE, UUID: 49974143-ec23cb52-6b2a1c46-14d5daa0-0822ce1a, Server: Orthanc_Demo, Description: CT2 TÊTE, FACE, SINUS, Institution: HUG, ID: 1361, URL: [globe icon], and Test: [empty field]. Below this, there is a table of instances. The table has columns for Instance, SOPInstanceUID, and TemporalPositionIdentifier. The instances are listed as follows:

Instance	SOPInstanceUID	TemporalPositionIdentifier
Instance: 1	1.3.46.87098.11.8.8.11.4.2.8.8745.5.396.20612011448357001	TemporalPositionIdentifier: 1
Instance: 2	1.3.46.87098.11.8.8.11.4.2.8.8745.5.396.20612011448356700	TemporalPositionIdentifier: 1
Instance: 3	1.3.46.87098.11.8.8.11.4.2.8.8745.5.396.20612011448355700	TemporalPositionIdentifier: 1
Instance: 4	1.3.46.87098.11.8.8.11.4.2.8.8745.5.396.20612011448355000	TemporalPositionIdentifier: 1
Instance: 5	1.3.46.87098.11.8.8.11.4.2.8.8745.5.396.20612011448354900	TemporalPositionIdentifier: 1
Instance: 6	1.3.46.87098.11.8.8.11.4.2.8.8745.5.396.20612011448353900	TemporalPositionIdentifier: 1
Instance: 7	1.3.46.87098.11.8.8.11.4.2.8.8745.5.396.20612011448352900	TemporalPositionIdentifier: 1
Instance: 8	1.3.46.87098.11.8.8.11.4.2.8.8745.5.396.20612011448351900	TemporalPositionIdentifier: 1

At the bottom of the instance list, there are buttons for 'Send to DICOMweb server', 'Transfer accelerator', and 'Orthanc Web Viewer'. The 'Orthanc Web Viewer' button is highlighted in yellow. To the right of the instance list, there is a large image of a CT scan of a human head, showing the skull and internal structures. The image is labeled 'TYPE: BRANUS' and 'IRM cérébrale, neuro-crâne'. The URL 'WWW.706406' and 'Zoom: 3.24x' are visible at the bottom of the image.

Desktop and Web access



Health / Medical Imaging / Imaging Test Result - GNU Health - Mozilla Firefox

https://federation.gnuhealth.org:8000/health42/model/gnuhealth.imaging.test_result?name="Health %2F Medical Imaging %2F Imaging Test Result"&view=

Host Visited Getting Started Other Bookmarks

GNU Health Action Health / Medical ... Administrator [N/P]

Health / Medical Imaging / Imaging Test Result-

Patient: Ana Isabel Betz Age: 42y 4m 18d
Number: TEST006 Date: 01/15/2023 20:01:18
Study: Chest X-ray X Requested Date: 01/15/2023 19:58:54
Evaluated by: Cordara, Cameron X Order: 006
Request Info: "Urgent" (Cordara, Cameron) / CONTEXT: J18 : Pneumonia, organism unspecified

Studies Images

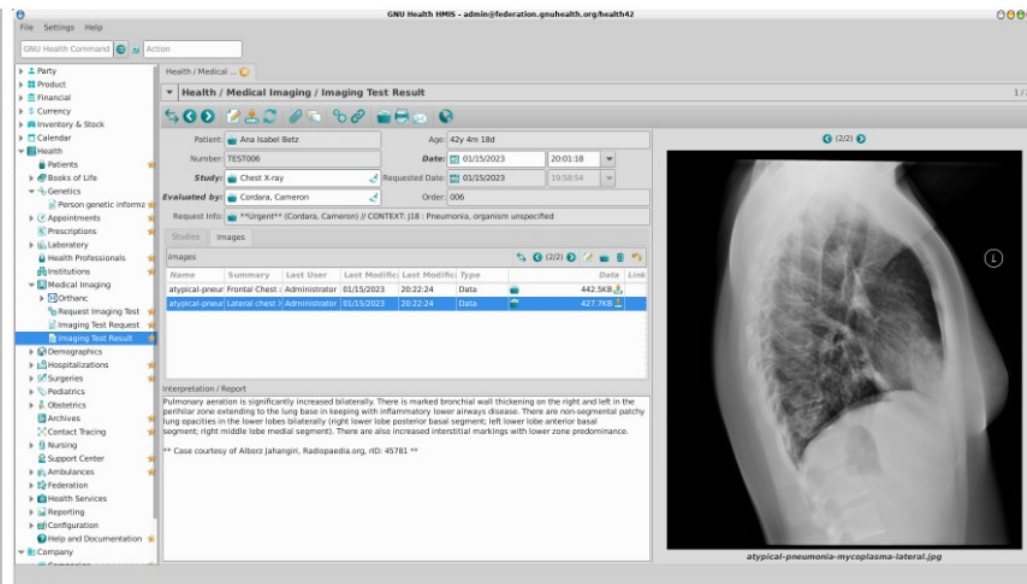
Images

Name	Summary	Last User	Last Modification Time	Type	Data	Link
atypical-pneumonia-mycoplasma.jpg	Frontal Chest x-ray	Administrator	01/15/2023 20:22:24	Data	442.5 KB	Download
atypical-pneumonia-mycoplasma-lateral	Lateral chest X-ray	Administrator	01/15/2023 20:22:24	Data	427.7 KB	Download

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 r segment). There are also increased interstitial markings with lower zone predominance.

** Case courtesy of Alhorz Jahangiri, Radiopaedia.org, ID: 45781 **



GNU Health HMS - admin@federation.gnuhealth.org/health42

File Settings Help

GNU Health Command Action

Health / Medical ...

Patient: Ana Isabel Betz Age: 42y 4m 18d
Number: TEST006 Date: 01/15/2023 20:01:18
Study: Chest X-ray Requested Date: 01/15/2023 19:58:54
Evaluated by: Cordara, Cameron Order: 006
Request Info: "Urgent" (Cordara, Cameron) / CONTEXT: J18 : Pneumonia, organism unspecified

Studies Images

Name	Summary	Last User	Last Modified	Last Modified Time	Type	Data	Link
atypical-pneumonia-mycoplasma-lateral	Lateral chest X-ray	Administrator	01/15/2023	20:22:24	Data	427.7 KB	Download

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 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 Alhorz Jahangiri, Radiopaedia.org, ID: 45781 **

Health / Medical Imaging / Imaging Test Result - GNU Health - Mozilla Firefox

Health / Medical Imaging × +

https://federation.gnuhealth.org:8900/#health42/model/gnuhealth.imaging.test.result/6;name="Health %2F Medical Imaging %2F Imaging Test Result"&view

Most Visited Getting Started

GNU Health Action Health / Medical ... X Administrator [EUR]

Health / Medical Imaging / Imaging Test Result

1 / 2

Patient: Ana Isabel Betz Age: 42y 4m 18d

Number: TEST006 Date: 01/15/2023 20:01:18

Study: Chest X-ray X Requested Date: 01/15/2023 19:58:54

Evaluated by: Cordara, Cameron X Order: 006

Request Info: **Urgent** (Cordara, Cameron) // CONTEXT: J18 : Pneumonia, organism unspecified

Studies Images

Images

2 / 2

Name	Summary	Last User	Last Modification Time	Type	Data	Link
<input type="checkbox"/> atypical-pneumonia-mycoplasma.jpg	Frontal Chest x-ray	Administrator	01/15/2023 20:22:24	Data	442.5 KB	Download
<input checked="" type="checkbox"/> atypical-pneumonia-mycoplasma-lateral.	Lateral chest X-ray	Administrator	01/15/2023 20:22:24	Data	427.7 KB	Download X

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 r segment). There are also increased interstitial markings with lower zone predominance.

** Case courtesy of Alborz Jahangiri, Radiopaedia.org, rID: 45781 **

atypical-pneumonia-mycoplasma-lateral.jpg

GNU Health HMIS - admin@federation.gnuhealth.org/health42

File Settings Help

GNU Health Command Action

Health / Medical ...

Health / Medical Imaging / Imaging Test Result 1 / 2

Patient: Ana Isabel Betz Age: 42y 4m 18d
 Number: TEST006 Date: 01/15/2023 20:01:18
 Study: Chest X-ray Requested Date: 01/15/2023 19:58:54
 Evaluated by: Cordara, Cameron Order: 006
 Request Info: **Urgent** (Cordara, Cameron) // CONTEXT: J18 : Pneumonia, organism unspecified

Studies Images


Images (2/2)

Name	Summary	Last User	Last Modific	Last Modific	Type	D
atypical-pneur	Frontal Chest	Administrator	01/15/2023	20:22:24	Data	442.5K
atypical-pneur	Lateral chest	Administrator	01/15/2023	20:22:24	Data	427.7K

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 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 **



atypical-pneumonia-mycoplasma-lateral.jpg

Strong reporting engine

The screenshot displays the GNU Health Hospital Management interface. The left sidebar shows a navigation menu with categories like Health, Patients, Books of Life, Genetics, Appointments, Prescriptions, Laboratory, Health Professionals, Institutions, Imaging, Orthanc, Request Imaging Tr, Imaging Test Requi, and Imaging Test Result. The main window shows the 'Health / Imaging / Imaging Test Result' section for patient Ana Isabel Betz. It includes fields for Patient, Age, Number, Date, Test, Requested Date, Evaluated by, Order, and Request Info. Below this is a table of images with columns for Name, Summary, Last User, Last Modified, and Type. The 'Interpretation / Report' section contains a detailed text report about pulmonary aeration and bronchial wall thickening. To the right of the main window, there is a separate window showing a patient's information and a detailed interpretation report for a chest X-ray.

GNU Health Hospital Management

File Settings Help

GNU Health Command Action

Health / Imaging ...

Health / Imaging / Imaging Test Result

Patient: Ana Isabel Betz Age: 42y 4m 18d

Number: TEST006 Date: 01/15/2023 20:01:18

Test: Chest X-ray Requested Date: 01/15/2023 19:58:54

Evaluated by: Cordara, Cameron Order: 006

Request Info: **Urgent** (Cordara, Cameron) // CONTEXT: J18 : Pneumonia, organism unspecified

Studies Images

Name	Summary	Last User	Last Modified	Last Modified	Type
atypical-pneur Frontal Chest		Administrator	01/15/2023	20:22:24	Data 442
atypical-pneur Lateral chest		Administrator	01/15/2023	20:22:24	Data 427

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 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 **

Resources:

Frontal Chest x-ray
In GNU Health you can add multiple images to the same study.
Case courtesy of Alborz Jahangiri, Radiopaedia.org, rId: 45781

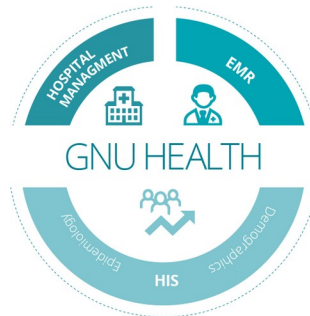
Lateral chest X-ray
In GNU Health you can add multiple images to the same study.
** Case courtesy of Alborz Jahangiri, Radiopaedia.org, rId: 45781 **

atypical-pneumonia-mycoplasma.jpg

Standard and Interoperable



GNUHealth



Pioneered HL7 FHIR in 2014

Can use JSON, XML, and any open formats

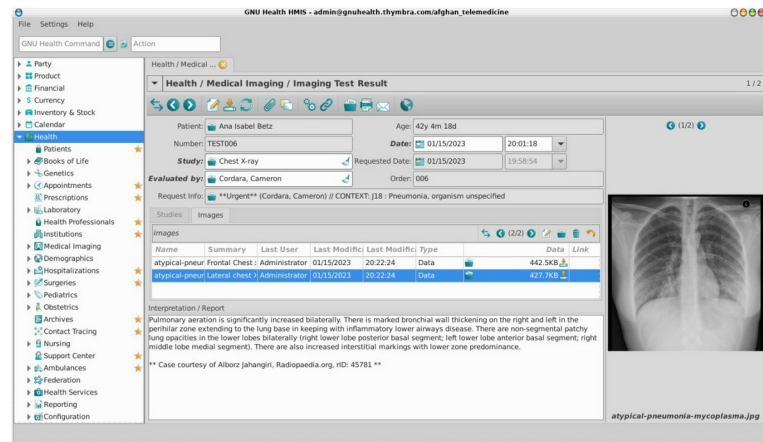
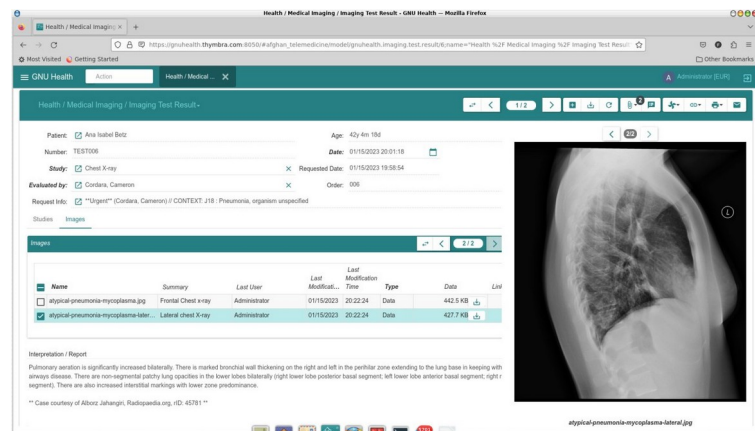
Medical coding: ICD10, ICD11, ICPM, ICF ...

Can interact with other systems such DHIS2

Great interface engines to connect to software and hardware

```
-<feed>
  <title>Search results</title>
  <updated>2023-05-09T19:47:06.269810Z</updated>
  <id>http%3Alocalhost%3A5000/Observation</id>
-<author>
  <name>GNU Health</name>
</author>
-<entry>
  <title>GRA# value for Betz, Ana Isabel on 2023/03/30</title>
  <id>http://localhost:5000/Observation/349</id>
  <updated>2023-03-30T17:32:17.814173Z</updated>
  <published>2023-03-30T17:32:17.814173Z</published>
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    <Observation>
      <name>
        <coding>
          <display value="GRA#">
        </coding>
      </name>
      <issued value="2023-03-30T17:32:17"/>
      <status value="temporary"/>
      <reliability value="ok"/>
    </identifier>
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      <value value="/Observation/349"/>
    </identifier>
    <subject>
      <reference value="/Patient/1"/>
      <display value="Betz, Ana Isabel"/>
    </subject>
    <referenceRange>
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        <value value="2.0"/>
        <units value="10^3/uL"/>
      </low>
      <high>
        <value value="7.5"/>
        <units value="10^3/uL"/>
      </high>
      <meaning>
        <system value="http://hl7.org/fhir/referencrange-meaning"/>
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      </meaning>
    </referenceRange>
  </Observation>
</content>
</entry>
</feed>
```

Access information from Multiple devices



Integration with MyGNUHealth



MyGNUHealth 2.0 released at #GNU40!



MyGNUHealth

THE GNU HEALTH PERSONAL HEALTH RECORD

MyGNUhealth 2.0 was released at GNU40 during the GNU Hacker's Meeting Biel, Switzerland, Sept 27 2023

Integration into the GNU Health Federation



The screenshot shows the 'MyGNUHealth 2.0rc2' Network Settings window. It includes fields for 'https', 'federation.gnuhealth.org', '8443', and 'ESPGNU770RG'. A 'Test connection' button is present, along with a 'Sync with Federation' checkbox and an 'Update' button.



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



GNUHealth
FEDERATION

www.gnuhealth.org

Chosen as real time epidemiological observatory



Cancer and Neurodegenerative diseases Research

GNU Health - admin@localhost/genetics - Administrator - GNU SOLIDARIO HTAL [Euro]

Window Help

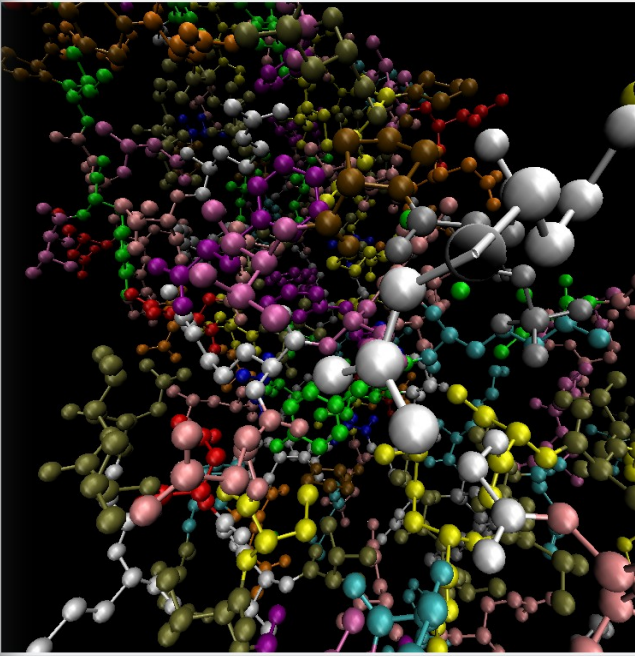
Variant Phenotypes

Variant Phenotypes 17 / 40

BRCA1

Gene & Protein	Variant	Phenotype
BRCA1 (P38398):breast cancer 1, early onset	VAR_007778: p.Thr102Sile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007781: p.Val1047Ala	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007782: p.Pro1150Ser	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007796: p.Ala1708Glu	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007799: p.Met1775Arg	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020679: p.Glu10Lys	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020680: p.Glu23Lys	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020683: p.Asp7491Yr	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020690: p.Ser1187Ile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020691: p.Gln1200His	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020692: p.Arg1204Ile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020693: p.Lys1207Asn	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020695: p.Ser1217Tyr	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_063212: p.Met1775Lys	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_075666: p.Arg1699Trp	DI-02602:Breast cancer
BRIP1 (Q9BX63):BRCA1 interacting protein C-t	VAR_020896: p.Pro47Ala	DI-02602:Breast cancer
BRIP1 (Q9BX63):BRCA1 interacting protein C-t	VAR_020900: p.Met299Ile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007757: p.Cys61Gly	DI-01655:Ovarian cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020702: p.Cys1697Arg	DI-01655:Ovarian cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_075666: p.Arg1699Trp	DI-01655:Ovarian cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020679: p.Glu10Lys	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020680: p.Glu23Lys	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020690: p.Ser1187Ile	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020691: p.Gln1200His	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020695: p.Ser1217Tyr	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020696: p.Phe1226Leu	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020697: p.Arg1243Gly	DI-01559:Breast-ovarian cancer, familial, 1
BRIP1 (Q9BX63):BRCA1 interacting protein C-t	VAR_023700: p.Gln255His	DI-01603:Fanconi anemia complementation gr
BRIP1 (Q9BX63):BRCA1 interacting protein C-t	VAR_023702: p.Ala349Pro	DI-01603:Fanconi anemia complementation gr
BRIP1 (Q9BX63):BRCA1 interacting protein C-t	VAR_023703: p.Trp647Cys	DI-01603:Fanconi anemia complementation gr
BRIP1 (Q9BX63):BRCA1 interacting protein C-t	VAR_023704: p.Arg707Cys	DI-01603:Fanconi anemia complementation gr

VMD 1.9.4a12 OpenGL Display



lrm: vmd -- Konsole <2>

File Edit View Bookmarks Settings Help

Info Angles: 0 Dihedrals: 0 Improper: 0 Cross-terms: 0
Info Bondtypes: 0 Angletypes: 0 Dihedraltypes: 0 Improptypes
Info Residues: 224
Info Waters: 3
Info Segments: 1
Info Fragments: 5 Protein: 2 Nucleic: 0
0

Data aggregation from institutions and individuals

GNU Health - admin@localhost/genetics - Administrator - GNU SOLIDARIO HTAL (Euro)

Variant Phenotypes 17 / 40

Variant Phenotypes

BRCA1

Gene & Protein	Variant	Phenotype
BRCA1 (P38398):breast cancer 1, early onset	VAR_007778: p.Thr1025Ile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007781: p.Val1047Ala	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007782: p.Pro1150Ser	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007796: p.Ala1708Glu	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007799: p.Met1775Arg	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020679: p.Glu10Lys	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020680: p.Glu23Lys	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020683: p.Asp749Tyr	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020690: p.Ser1187Ile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020691: p.Gln1200His	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020692: p.Arg1204Ile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020693: p.Lys1207Asn	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020695: p.Ser1217Tyr	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_063212: p.Met1775Lys	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_075666: p.Arg1699Trp	DI-02602:Breast cancer
BRIP1 (Q9BX63):BRCA1 interacting protein C-terminus	VAR_020896: p.Pro47Ala	DI-02602:Breast cancer
BRIP1 (Q9BX63):BRCA1 interacting protein C-terminus	VAR_020900: p.Met299Ile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007757: p.Cys61Gly	DI-01655:Ovarian cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020702: p.Cys1697Arg	DI-01655:Ovarian cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_075666: p.Arg1699Trp	DI-01655:Ovarian cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020679: p.Glu10Lys	DI-01559:Breast-ovarian ca
BRCA1 (P38398):breast cancer 1, early onset	VAR_020680: p.Glu23Lys	DI-01559:Breast-ovarian ca
BRCA1 (P38398):breast cancer 1, early onset	VAR_020690: p.Ser1187Ile	DI-01559:Breast-ovarian ca
BRCA1 (P38398):breast cancer 1, early onset	VAR_020691: p.Gln1200His	DI-01559:Breast-ovarian ca
BRCA1 (P38398):breast cancer 1, early onset	VAR_020695: p.Ser1217Tyr	DI-01559:Breast-ovarian ca
BRCA1 (P38398):breast cancer 1, early onset	VAR_020696: p.Phe1226Leu	DI-01559:Breast-ovarian ca
BRCA1 (P38398):breast cancer 1, early onset	VAR_020697: p.Arg1243Gly	DI-01559:Breast-ovarian ca
BRIP1 (Q9BX63):BRCA1 interacting protein C-terminus	VAR_023700: p.Gln255His	DI-01603:Fanconi anemia o
BRIP1 (Q9BX63):BRCA1 interacting protein C-terminus	VAR_023702: p.Ala349Pro	DI-01603:Fanconi anemia o
BRIP1 (Q9BX63):BRCA1 interacting protein C-terminus	VAR_023703: p.Trp647Cys	DI-01603:Fanconi anemia o
BRIP1 (Q9BX63):BRCA1 interacting protein C-terminus	VAR_023704: p.Arg707Cys	DI-01603:Fanconi anemia o

Connected

VMD 1.9.4a12 OpenGL Display

MyGNUHealth 2.0rc1

HOME Menu

Date 26 9 2023 Time 12 35

Genotyping test

Domain & Context medical genetics

rs397508635	CFTR	P13569
p.Ser13Phe	VAR_000101	LP/P

Cystic fibrosis (CF) [MIM:219700]

specific natural variant information by entering the reference seq ID . Once it finds a match on the information is automatically shown. Some of the information shown contains the gene symbol, acid change, natural variant ID, the category (likely benign or pathogenic) and the MIM identifier.

Relevance important Private page: ☒

Save

MyGNUHealth 2.0rc1

HOME Menu

Personal key

Sign in

MyGNUHealth

The GNU Health Personal Health Record

Collaboration: GNUHealth Federation

Collaboration

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

The **person** is an active player in the system of health

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

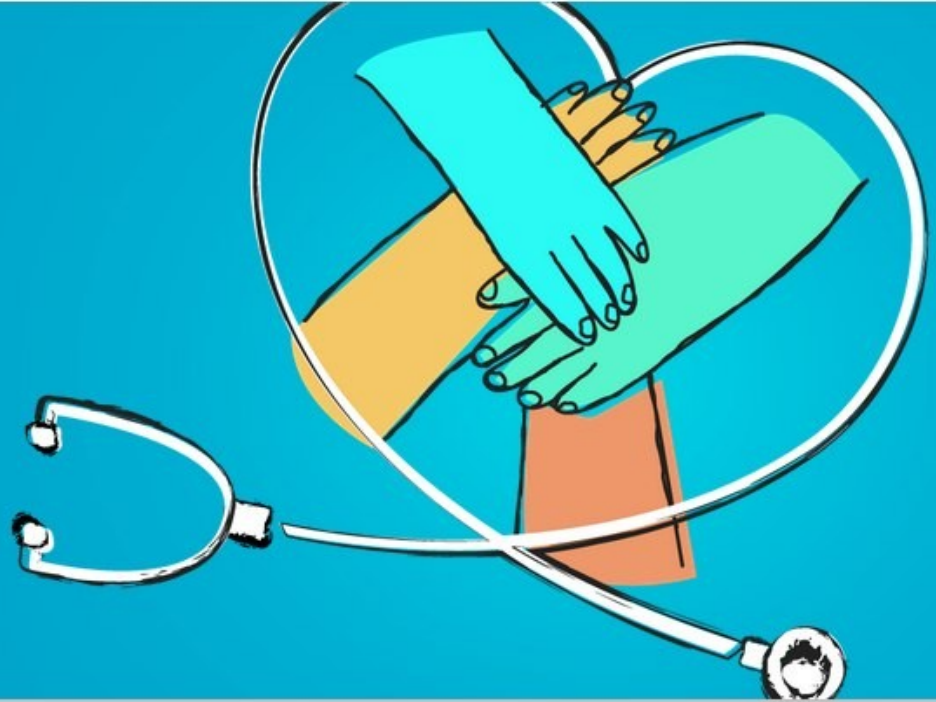
GNUHealthCon 2023 - Hanover

GHCon2023

VIII International GNU Health Conference
September 29th - 30th
Leibniz University Hannover, Germany
#GHCon2023



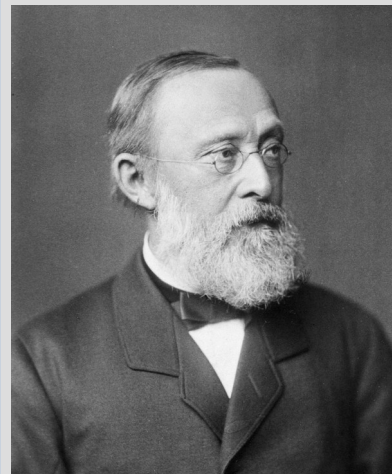
ORT HANC



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

 www.gnuhealth.org

 info@gnuhealth.org

 [@gnuhealth@mastodon.social](https://mstdn.social/@gnuhealth)



Happy Hacking!