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NepalEHR ecosystem and roadmap for integrated healthcare delivery



- Open-Source Health Care Information System
- Follows Nepal Government HMIS Protocol
- Clinical Module (OpenMRS)
- Lab Management System (OpenELIS)
- PACS
- OpenERP
- DHIS2 (Government Reporting)





General

Print

General OPD

Consult



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Chest-PA
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1 Image

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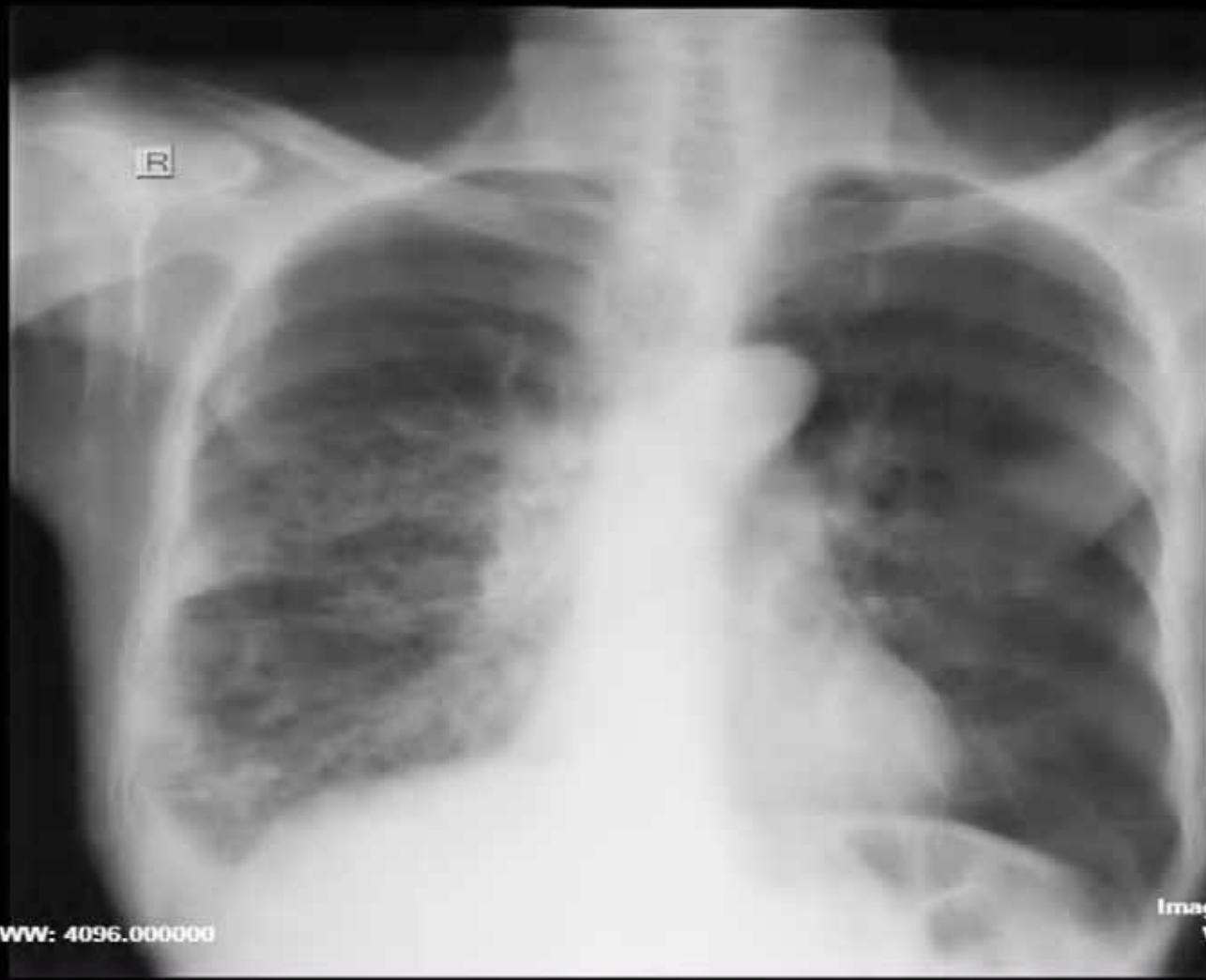
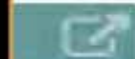


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0:01 am
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Lab Results	
Accession at 11 Sep 17 2:08 am	
HCV (Blood)	Negative
Blood Sugar Random (60 - 140) mg/dL	95.0
ANC (Blood)	
Haemoglobin (Blood) (11 - 16) gm%	10.1
HIV (Blood)	Negative
HBsAg (Blood)	Positive
VDRL(TPHA) (Blood)	Non-Reactive
Blood Group	AB positive
ANC (Urine)	
Colour (Urine)	Yellowish
Transparency (Urine)	Clear
pH (Urine)	Acidic
Pus (Urine)	1-2
RBCs (Urine)	nil
Epithelial Cells	1-2
Albumin (Urine)	Nil
Sugar	Nil
Oxalates (Urine)	nil
Phosphates (Urine)	nil
Urates (Urine)	nil
Uric acid (Urine)	Nil
Casts	nil
Yeast Cells (Urine)	nil

Motherhood	
ANC	
11 Sep 17	
Visit Month	4th month
ANC Visit	1st (per protocol), 1st (early course)
Completed 4 ANC visits per protocol	No
History of Abortion	No
Present Live Children	1
Gravida	3
Parity	2
Last menstrual period	29 May 17
2073/02/16	Pabitra Budha 2:08 am
Expected delivery date	07 Mar 18
2074/11/23	Pabitra Budha 2:08 am
TD Given	2+ TD
Albendazole given	Yes
Number of IFA Tablets given	60
Blood transfusion provided	No
Blood transfusion quantity	0
Diagnosis	
High Risk Pregnancy Diagnosis	Hepatitis B
Gestational Diabetes Screening	NA
HIV	
HIV counseling	Yes
HIV test	Yes
HIV test date	11 Sep 17
HIV test result received	Yes
HIV Result	Negative
Partner HIV status	Unknown
Syphilis NOS	
Syphilis counseling	Yes
Syphilis tested	Yes
Syphilis result	Negative

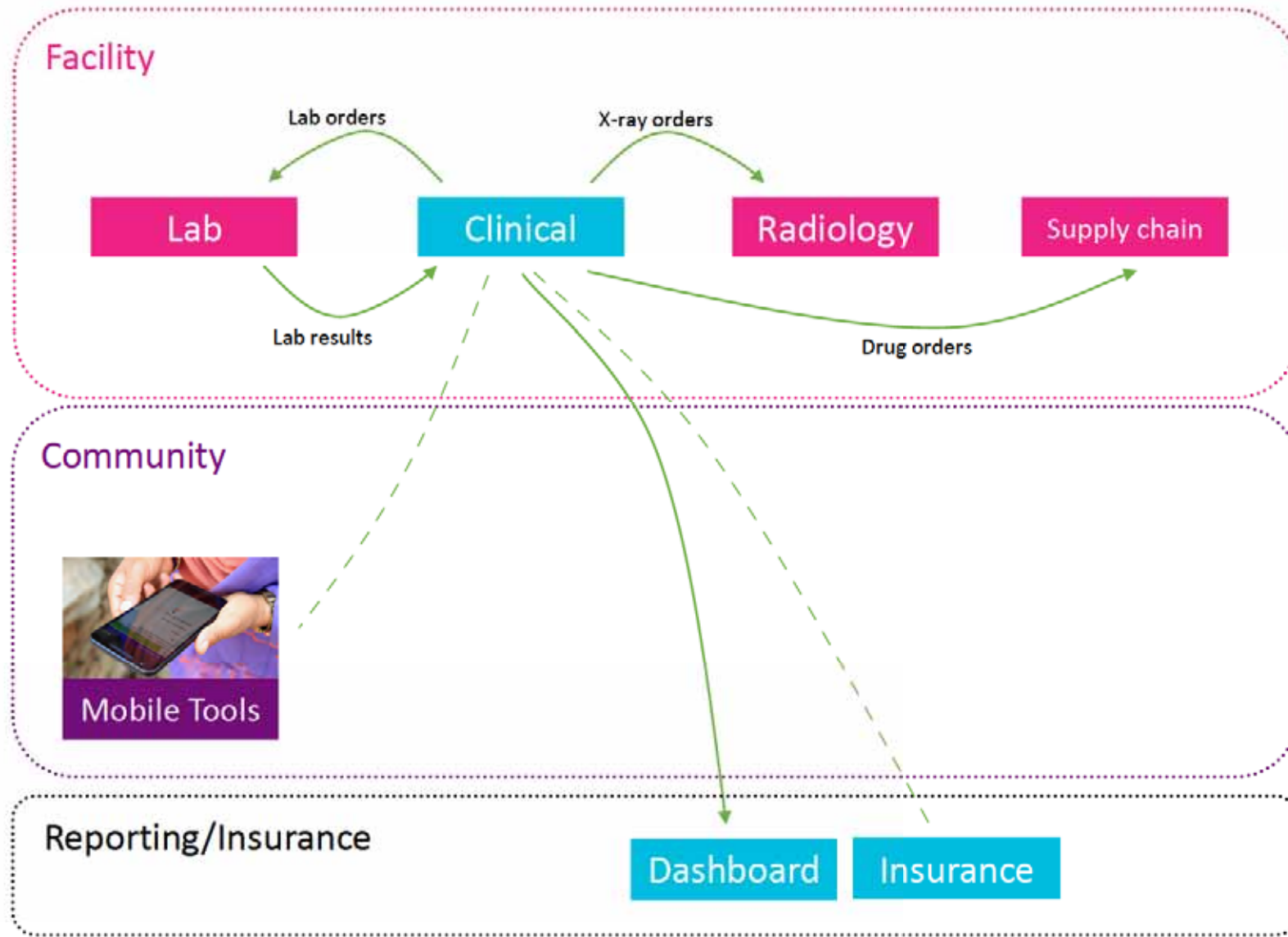


Hospitalizations due to COPD in last 3 months *	Yes	No	🔍
- Signs of COPD exacerbation			
Increased Shortness of Breath	Yes	No	🔍
Increased Cough	Yes	No	🔍
Change in amount or character of sputum	Yes	No	🔍
Meets Criteria for COPD Exacerbation (2 out of 3 signs) *	Yes	No	🔍
- Signs of COPD complication			
Bilateral lower limb swelling	Yes	No	🔍
Dyspnea while supine	Yes	No	🔍
Altered mental status	Yes	No	🔍
Fever	Yes	No	🔍
- Medication Side Effects			
Add note if other side effects			
salmeterol	Tremor	Palpitations	None
Theophylline ⓘ	Tremor	Palpitations	Nausea
	None		
Smoking status *	Current Smoker	Former Smoker	Non-smoker
Co-Morbidity	DM	TB	HTN
	Other		
Pulmonary Exam	Normal	Accessory muscle use	Silder
	Decreased Air Movement	Wheez	Crpitus
	Bronchial Breath Sounds		
Cardiovascular exam	Normal	JVP Elevated	Parasternal heave
	Loud P2	Lower Extremity Edema	
Reviewed Treatment Recommendations For STABLE Patients? ⓘ	Yes	No	🔍
Reviewed Treatment Recommendations For ACUTE EXACERBATION? ⓘ	Yes	No	🔍
Sent to chronic disease counseling *	Yes	No	🔍

Programs

Name	Nepali Month		Comments (-)		Status
01 Reporting Status Dataset	Mangh ▼ 2075 ▼	Download	<input type="text"/>	Submit to HMIS	
02-1 Immunization Dataset	Mangh ▼ 2075 ▼	Download	submit	Submit to HMIS	Complete
02-2 Community Based Integrated Management Of Neonatal And Childhood Illnesses (CBIMNCI) 2-59 months	Mangh ▼ 2075 ▼	Download	submit	Submit to HMIS	Complete
02-2 Community Based Integrated Management Of Neonatal And Childhood Illnesses (CBIMNCI) less than 2 months	Mangh ▼ 2075 ▼	Download	submit	Submit to HMIS	Complete
03-1 Nutrition Dataset Newly Registered	Mangh ▼ 2075 ▼	Download	submit	Submit to HMIS	Complete
03-2 Nutrition Acute Malnutrition	Mangh ▼ 2075 ▼	Download	submit a	Submit to HMIS	Complete
06 Safe Motherhood Program	Mangh ▼ 2075 ▼	Download	submit	Submit to HMIS	Complete
07-Family Planning Program	Mangh ▼ 2075 ▼	Download	submit	Submit to HMIS	Complete
09 Leprosy Dataset	Mangh ▼ 2075 ▼	Download	submit	Submit to HMIS	Complete
11 Tuberculosis Control Program	Mangh ▼ 2075 ▼	Download	submit	Submit to HMIS	Complete

The Integrated NepalEHR ecosystem



- Patient registration
- Consultation templates
- Drug orders/dispensing
- Lab orders/results
- Bed Management
- Clinical consultation
- ADT
- Sales/purchase orders
- Inventory management
- Asset management
- PACS
- Govt Reporting
- Household survey
- Clinical decision support
- Biometrics

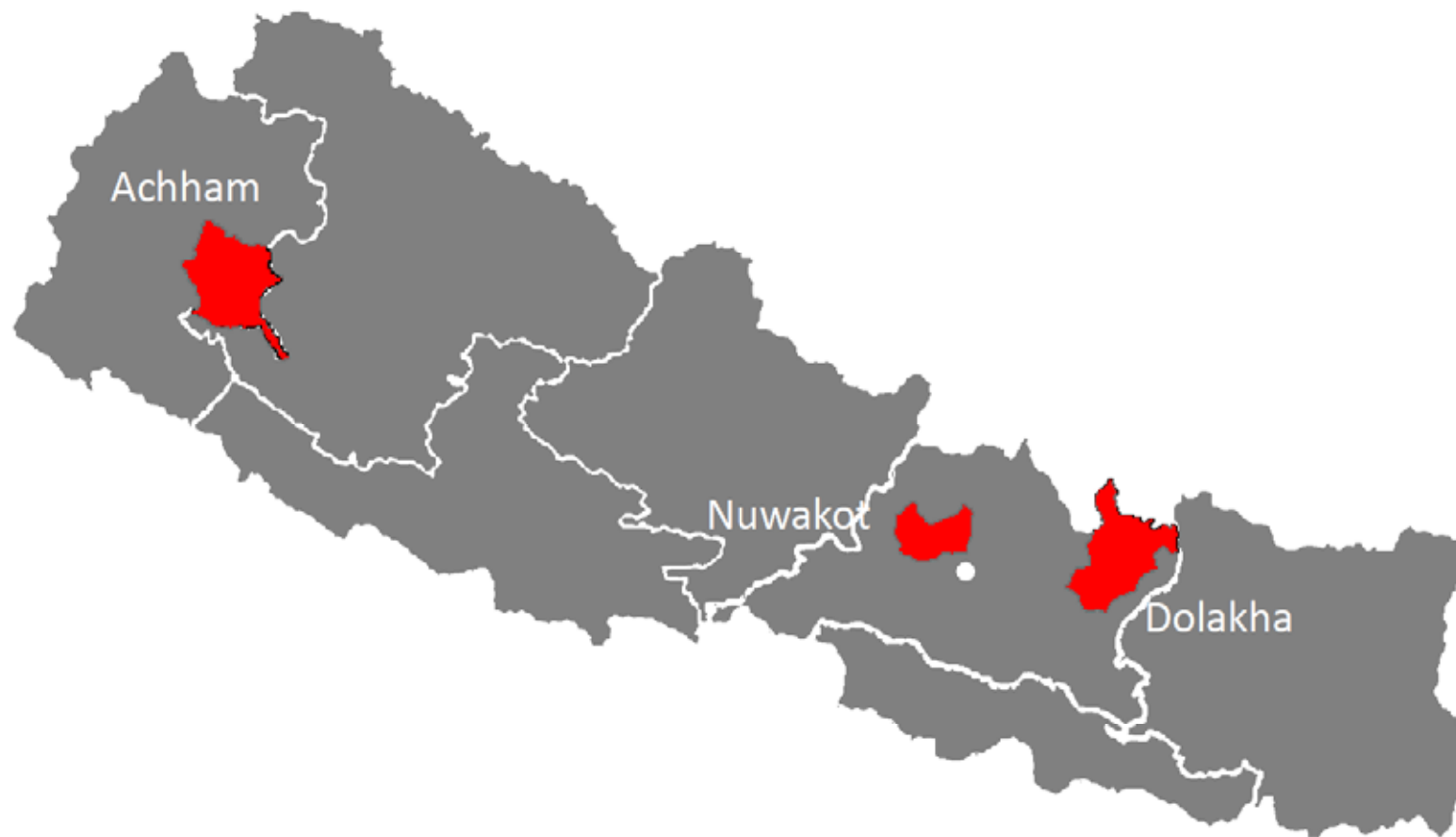
2015



2016



2018



Road map 2019/2020

- Commcare <> OpenMRS Integration
- Billing/Insurance module
- Analytics Dashboard (MetaBase)
- Inpatient Module
- Shared Health Records
-

Implementation success

- User experience metrics
 - % uptime per month
 - # of EHR support tickets
 - Care to wait ratio
 - # of days required for month-end reporting
 - % of available HMIS programs using EHR
 - # of data issues identified in HMIS reports
- Breadth of population impact
 - # of facility/community based users
 - % of community based users integrated with facility
 - % of users trained
- Affordability
 - Time taken to train and certify users

How to Get NepalEHR?

- www.github.com/nepalehr
- www.nepalehr.org
- Cost Implication-Hardware
 - Minimum Core2Duo Processor, 8 GB RAM.

Q&A

