



Nascent

Pediatric Personal Health Record

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Introduction

- Central to managing health and preventing medical error
- Need for standardized, interoperable, private, secure method to store & access all health information
- The Nascent PHR solution



What is a PHR?

- Patient centric tool
- Integrated view of longitudinal health info
- 60% of adults said they would support an online PHR



Characteristics-

Should allow patients to:

- Receive data from all providers who participate in their healthcare
- Enter their own data in journal or diary format
- Designate read access to the ePHR
- Upload designated portions of the ePHR to interested stakeholder systems
- Provide a log of information shared and information entered into the PHR, including an audit trail of who has entered, accessed or modified the information
- Have access to the privacy policy of the PHR host



Questions

Content

- Terminology & standards
- Data auto-transferred
- Audit trail
- Can patient correct, add, delete?

Ownership & Use

- Who owns the information?
- Patient privacy & non-sale of information
- Information used for insurance eligibility or employment?

Questions

Access & security

- Who has access & how is it controlled?

Portability

- If patient is no longer employed/insured, PHR still usable?
- How to transfer PHR

Cost

- Fee to set up?
- Fees associated with giving access to health care providers?



Employer Sponsored

Pros:

- Reduced cost
- Link to employer sponsored health plan
- Ability to add personal information

Cons:

- Risk of leaving PHR behind after quitting
- Employer knowledge of health information complicates job security

Insurance Sponsored

Pros:

- Cost-Free

Cons:

- Inability to access PHR after changing insurers
- Potential misuse of information by insurance company



Provider Sponsored

Pros:

- All information automatically downloaded by provider

Cons:

- Patient may not include information from other providers



Independent Vendor

Pros:

- Have search functions
- Allow fax/upload from provider
- Open architecture
- Patient control of access, content, additions

Cons:

- Patient has total responsibility for updating information



Health Record Banking

Pros:

- Provider has automatic feed of new information
- Potential brick & mortar
- Patient controls access

Cons:

- Physician reservations about patient withholding information
- What happens to records of patients with no money/fragile?
- What if bank fails?

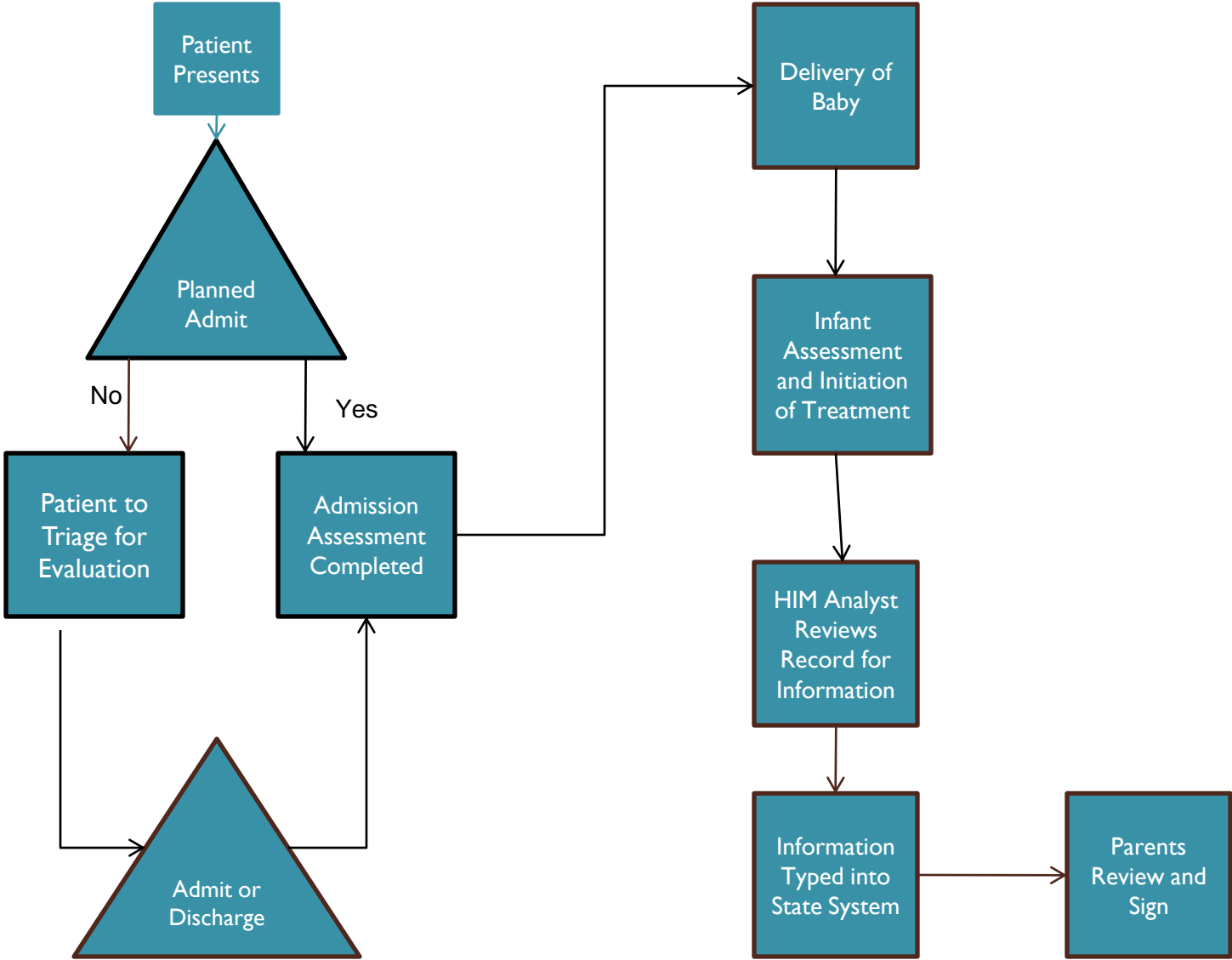


Nascent PHR Solution

Combine 2 models

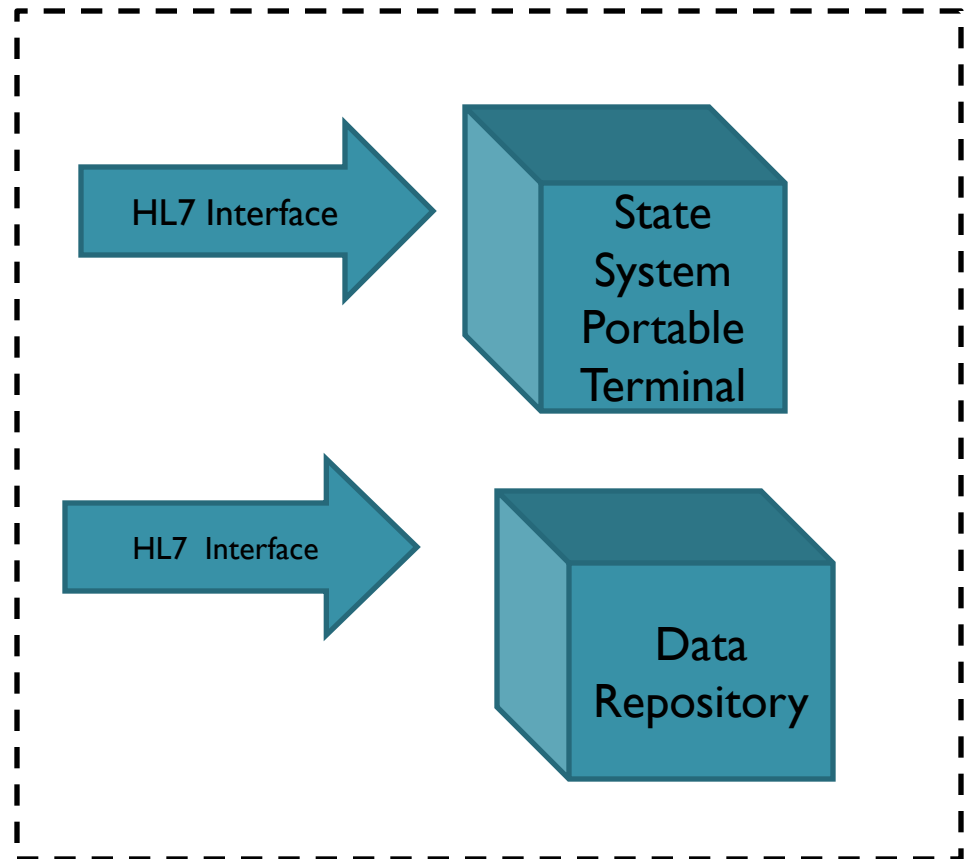
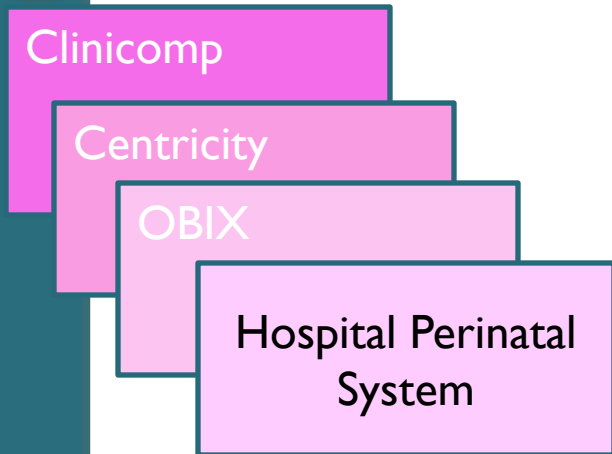
- PHR storage
- Community discussion groups
- Disease search functions
- Automatic updates
- Providers need only one interface
- HIPAA based privacy & security with audit trails
- No cost to patients

Current Process Flow



Nascent

Pediatric Personal Health Record



Patient Name: Mouse, Baby Girl
 Pediatrician: Smith
 Blood Type: A Pos
 Coombs: Neg
Id: 98765432
Location: Training Unit Hold
Feeding: Both
irth Date/Time: 05/07/08 08:26 EDT

Newborn- Maternal Info - Mouse, Baby Girl (98765432)

	5/12/2008 09:35	6/18/2008 13:19	11/5/2008 07:49	11/5/2008 08:02
INFANT ACCOUNT NUMBER			Text...	
DELIVERY INFORMATION				
DELIVERY DATE/TIME		Date...		
Sex		F		
Infant Condition		Stable		
APGAR SCORES				
1 Minute		9		
5 Minute		10		
10 Minute		10		
DELIVERY MEASUREMENTS				
Birthweight (Gms)		3500		
Birthweight (Lbs)				
Birthweight (Oz)				
Length (Cm)		48.3		
Length (In)		19.00		
Gestational Age at Delivery		40.2		
ID Band Number		Text...		
MEMBRANE STATUS				
ROM Date/Time Baby A		Date...		
Amniotic Fld Color		Clear		
Amniotic Fld Odor		Normal		
DELIVERY DATA				
Delivery Presentation		Cephalic		
Method of Delivery		Vag		
Forceps		N/A		
Vacuum Extraction				
VBAC		N/A		
Reason for C/S				
Other Reason for C/S				
Labor Anesthesia				
Delivery Anesthesia		Multi...		
Medications in Delivery		Text...		
Intrapartum Mat Complications		Multi...	Multi...	
Other Complications				
MATERNAL INFORMATION				
Pediatrician		Text...		
Delivery Provider		Text...		
CNM				
Feeding Preference		Both		
Circumcision				

Infant Birthdate and Time Annotation

Valid date format: M/d/yyyy
Valid time format: H:mm

Date:

Time:

Initial Info **Patient Progress** **Summary** **Data Review**

Lists

Patient Name: Mouse, Baby Girl
 Pediatrician: Smith
 Blood Type: A Pos
 Coombs: Neg
Id: 98765432
Location: Training Unit Hold
Feeding: Both
Birth Date/Time: 05/07/08 08:26 EDT

Newborn- Flowsheet - Mouse, Baby Girl (98765432)

	5/12/2008 09:50	6/18/2008 13:19	11/5/2008 08:05
NEWBORN DATA			
Pediatrician			
Birthdate/Time		Date...	
Age (days)			
Gestation Age		40.2	
Sex		F	
Race			
Birthweight (Gms)		3500	
Birth Length (Cm)		48.3	
Blood Type			
Rh Type			
Coombs		Neg	
Problems Identified			
NEWBORN ASSESSMENT			
Weight (Gms)			
Weight (Lbs)			
Weight (Oz)			
Length (Cm)			
Length (In)			
Temp			
Temp Route		Axil	
Pulse			
Pulse Rhythm		Regular	
Resp			
Resp Quality		Regular	
SBP/DBP			
Skin Color		Pink	
Skin Condition		Multi...	
Cord		Multi...	
Cord Care		Multi...	
Cord Blood			
Eye Condition		Multi...	
Eye Care		Multi...	
Circumcision Condition			
Circumcision Care			
FEEDING			
Type of Feeding		Both	
Amount			
Length of feeding			

PT-ATTENDDOC **Annotation**

Multiple paragraphs of text are permitted

TEXT

Initial Info
 Patient Progress
 Summary
 Data Review

Patient Name: Mouse, Baby Girl	Pediatrician: Smith	Blood Type: A	Pos	Coombs: Neg
Id: 98765432	Location: Training Unit	Hold	Feeding: Both	irth Date/Time: 05/07/08 08:26 EDT

Newborn- Discharge Summary - Mouse, Baby Girl (98765432)

MATERNAL DATA			
Mother Name	Mouse, Minnie		06/18/08 13:19:00
Mother's ID	987654321		05/09/08 12:32:00
G/P/T/P/AS/AI/L	1/0/0/0/0/0/0		06/18/08 13:19:00
Room No.	Hold		06/18/08 13:19:00
Blood Type	A		06/18/08 13:19:00
Rh Type	Positive		06/18/08 13:19:00
Street Drug Use	Negative		05/12/08 09:35:00
Intrapartum Complications	None		06/18/08 13:19:00
Chickenpox	Non Susceptible		06/18/08 13:19:00
Hepatitis B	Negative		06/18/08 13:19:00
Rubella	Immune		06/18/08 13:19:00
Gonorrhea	Negative		06/18/08 13:19:00
Herpes	Negative		06/18/08 13:19:00
VDRL	Nonreactive		06/18/08 13:19:00
Group B Strep	Negative		06/18/08 13:19:00
TB Exposure	Nonreactive		06/18/08 13:19:00
Delivery Provider	SHIN		06/18/08 13:19:00
Method of Delivery	Vaginal		06/18/08 13:19:00
Forceps	N/A		06/18/08 13:19:00
VBAC	N/A		06/18/08 13:19:00
GA by Dates	40.2	Wks.	06/18/08 13:19:00
Labor Complications	None; Meconium		06/18/08 13:19:00
INFANT DATA			
Pediatrician	Smith		06/18/08 13:19:00
Birth Date/Time	05/07/08 08:26 EDT		06/18/08 13:19:00
Blood Type	A		05/07/08 08:30:00
RH Type	Positive		05/07/08 08:30:00
Coombs	Negative		05/12/08 09:50:00
DISCHARGE DATA			
Birth Wt.	3500	Gms.	05/09/08 12:53:00
Recorded by	masonk		

Initial Info Patient Progress Summary Data Review

DC Summary

Lists
 IP User
 IP MD

Help F2-Home F3-Select Pt F4-Create Pt F5-Transfer F6-Discharge F7-Change Info F8-Change ID F9-Chalkbd F10-MB Chalkboard F11-OnCall F12-Logoff

Patient Name: Mouse, Baby Girl **Pediatrician:** Smith **Blood Type:** A Pos **Coombs:** Neg
Id: 98765432 **Location:** Training Unit Hold **Feeding:** Both **irth Date/Time:** 05/07/08 08:26 EDT

Infants Export Chart - Mouse, Baby Girl (98765432)

	5122008 09:11	5122008 09:35	5122008 09:37	5122008 09:50	6182008 13:19	11/5/2008 08:11
PT-MBLNK						
Patient Name						
PT-ADMITDATE						
Infant Birthdate and Time					Date...	
Gestational Status					Term	
Infant Cord Vessels					3	
Admission Birthweight, NB					3500	
Length cms compute NB					48.3	
Infant Length cms						
Fetal Presentation					Cephalic	
Method of Delivery					Vag	
Placenta Delivery Time NB					Date...	
Forceps					N/A	
Vacuum Extraction						
VBAC					N/A	
Infant Sex					F	
Admission weight						
Discharge weight						
Infant Condition					Stable	
Gestational Age at Deliv					40.2	
Apgar Score 1, NB					9	
Apgar Score 5, NB					10	
Apgar Score 10, NB					10	
Infant Complications					Multi...	
Other Infant Complications						
Coombs	Neg	Neg	Neg	Neg		
Infant Blood Type						
Infant Rh Type						
Maternal Feeding Preference					Both	
Mother's Circumcision						
Mother's Adoption Requested					No	
Mother's Pediatrician					Text...	
Hepatitis, Rcvd Vaccine						
Discharge To						
Home Visit by RN						
Age in Days						
Head Circumference						
Chest Circumference						
Discharge Hematocrit						
PKU						

PT-ADMITDATE **Annotation**

Valid date format: M/d/yyyy
 Valid time format: H:mm
 !!!Record date and time patient admitted to unit!!!

Date: 11 / 5 /2008

Time: H : mm

Initial Info **Patient Progress** **Summary** **Data Review**

Infants Export

DELIVERY PERSONNEL

Delivery Provider**

Nurse Midwife**

Anesthesiologist**

Anesthetist**

Scrub Nurse**

Circulator**

Resident**

Maternal Complications

None

Precipitous Labor (<3hrs)

Placenta Previa

Abruptio Placentae

Placental Infarction

Premature Rupture of Membranes

Chorioamnionitis

Abnormal Cord Length

Uterine Inversion

Other Maternal Complications

Labor Summary

Vaginal Delivery

C/Section Delivery

Exported data**

Delivery - Baby A - Mouse, Minnie (987654321)

Delivery Anes

None

Local

Epidural

Spinal

General

Pudendal

Intrathecal

DELIVERY INFORMATION

Delivery Time** 5 / 7 / 2008 8 : 26

Forceps** N/A

Deliv Type** Vaginal

Scalp pH

Born en Rte** No

VBAC** N/A

Vacuum Extract

PRESENTATION/POSITION

Presentation** Cephalic

Cephalic Position N/A

Vertex Position Left Occipital Posterior

Breech Position N/A

PLACENTA INFORMATION

Placenta Delivery Time** 5 / 7 / 2008 8 : 30

Placenta Delivery Spontaneous

Placenta Status Delivered

APGAR Scores

Enter APGARs

*1 Min** 9

*5 Min** 10

*10 Min** 10

INFANT INFORMATION

GA(wks)** 40.2

Gest Stat** Term

Outcome Liveborn

Condition** Stable

Infant Sex** Female

ID Band No. 123456789

MR No.

WEIGHT/LENGTH

Birthwt(gms)** 3500

*Wt(lb) 7

*Wt(oz) 11

Lgth(in)** 19.00

*Cm 48.3

CORD INFORMATION

No.Cord Vessels** 3

Infant Cord pH (Ven)

Nuchal Cord N/A

Infant Cord pH (Art)

Other Nuchal

Cord Blood Taken N/A

(#) True Knot

Banking/Donate Info

Suction

None

Mouth

Nose

Pharynx

Complications

Assessment

Exported data**

*Computed values

OK

Name: **Mouse, Minnie** ID: 987654321 Attend: Dr. Haddad Location: Training Hold EGA: 24.3 Allergies: SBS: Neg CP

Adm/Disch Interdisciplinary Labor Delivery Care Plans MAR/I&O Lab Results Summary

Deliv Summary Recovery Intraop Surg Recovery Birth Certificate Infant Transfer

FM Full FM Split

Select Active

Help F2-Home F3-Select Pt F4-Create Pt F5-Transfer F6-Discharge F7-Select FMS F8-Active Beds F9-Stored Strip F10-Chalkbd F11-OnCall F12-Logout



Nascent PHR – How It Works

- Information will initially be collected upon the mother's admission to the hospital for delivery, or at the Physician's Group where she is seen for pre-natal examinations.
- Additional information added after the birth allows for the simultaneous creation of a PHR and the generation of a SSN# and birth certificate.
- Adds pertinent historical medical information and any significant maternal complications to the child's record.
- Nationwide free PHR with web-access for all individuals.
- Interoperable with all standardized EMRs.
- Individual PHR access assignable by ID as needed to Drs Offices, Labs, Hospitals, Outpatient Clinics, schools, etc.

AD SPACE HERE

Welcome To Nascent PHR

INDIVIDUAL LOGIN:

User Name:

Password:

HOSPITAL/GROUP LOGIN:

User Name:

Password:



My Records



Ask a Doc



Growth and Development



Immunization Schedules



Parent Chat

AD SPACE HERE

AD SPACE HERE

AD SPACE HERE

Nascent

Pediatric Personal Health Record

AD SPACE HERE

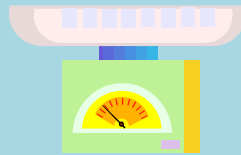
Main Menu



My Records



Ask a Doc



Growth and Development



Immunization Schedules



Parent Chat

Helpful Links:

Childhood Health Resources

AD SPACE HERE

AD SPACE HERE

AD SPACE HERE



Childs First Name

Childs Middle Name

Childs Last Name

Suffix

About the Baby...

About the Birth...

Date of Birth

Time of Birth

Sex

Plurality (single, twin, triplet)

Date Certified

Certifiers Name and Title

Attendant's Name and Title if other than Certifier



Growth and Development



Ask a Doc



Immunization Schedules



Parent Chat



My Records

My Information

Parental Information

Medical History

Immunizations

Nascent

Pediatric Personal Health Record

Mother's Current Legal Last Name

Mother's Current Legal First Name

Marital Status

Mother's Current Address

Mother's Social Security Number

Mother's Date of Birth

Mother's Education Level

About the Mother...

Father's Current Legal Last Name

Father's Current Legal First Name

Marital Status

Father's Current Address

Father's Social Security Number

Father's Date of Birth

Father's Education Level

About the Father.....



Growth and Development



Ask a Doc



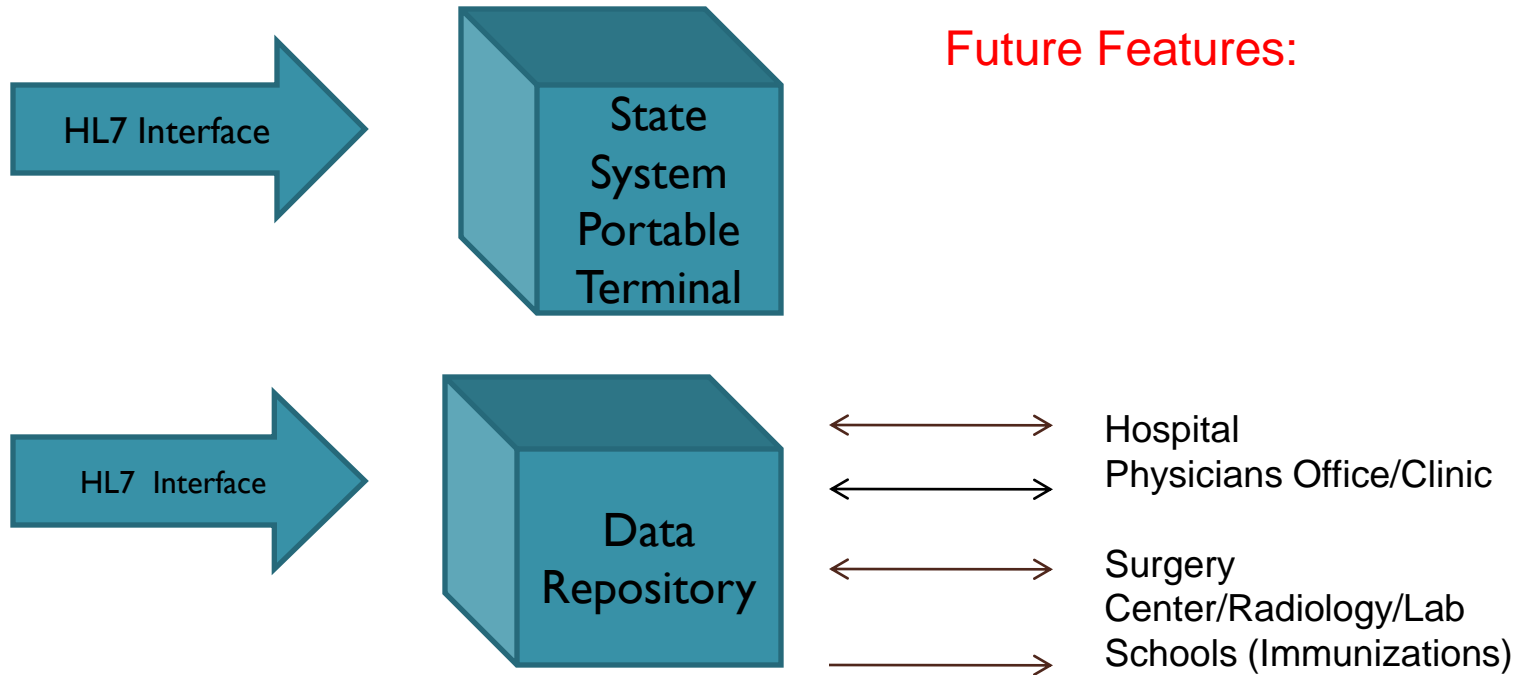
Immunization Schedules



Parent Chat

Nascent

Pediatric Personal Health Record





Nascent's Sources of Revenue

- Revenue from “Click Ads” and links.
- Web and database server space, scalability and resources from partnership with hosting company.
- Possible grants for the creation and development of a PHR product.
- Contract fees with hospitals/birthing clinics



Technology Employed



Technology

Hardware:

- The system will incorporate a series of servers, routers, printers, personal computers, workstations, modems, and storage devices.
- To handle our client's hardware needs, Nascent PHR has created a close partnership with EMC and Dell.



Technology

Software:

- The design team ensures that our product is interoperable, easily accessible, and provides both privacy & security.

Interoperability

- Nascent PHR will ensure interoperability between EHR and PHR through the representation of HL7 and other required standards. The integration of the PHR system with existing EHR system ensures that the system will perform data conversions (digital from existing EHR to digital of PHR system).
- Information can also be sent referring physicians or other healthcare providers via the fax function.



Interoperability

- Nascent PHR will provide support to test new environments.
- Configurations and system administration functions will be provided to the user in a help menu and paper document.
- The PHR will be customizable; i.e. - the user will be able to add different forms, templates, and GUI's (graphical user interface) as needed.

Accessibility

- To provide readily accessible communication for clinicians and patients, our PHR will be accessible via the web browser, or other standard technology.

Privacy & Security

- Firewall – provided by 3rd party vendors (McAfee, Norton, etc.)
- Permissions – Will be set up by site administrator and patient.
- Encryption – To protect patient information as it is transmitted.

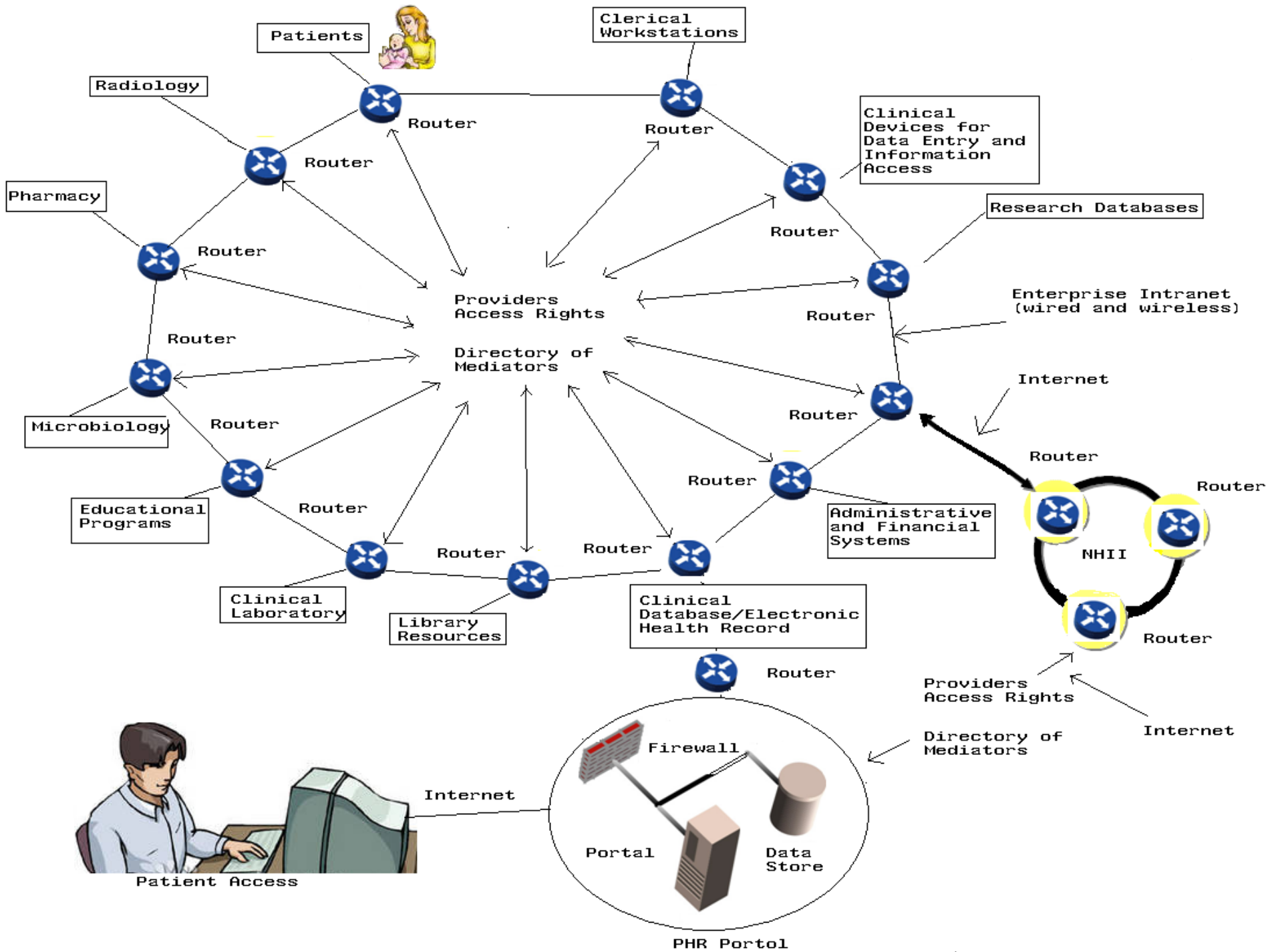


Network

- Instructions for connecting to a network will be included.
- The users of the PHR will be responsible for the maintenance of their networks after the PHR has been successfully installed.



Nascent PHR Technology Workflow





Scalability

- As the capacity of PHR transactions increases, so will the need to increase the capability of the hardware and the software supporting the industry.
- The design of this architecture will be of extreme scale, with many clusters located throughout the United States.



Scalability

- There will be constant data updates and queries sent to the clusters where the replicated PHR of interest is stored.
- Nascent PPHR is able to keep up with the constant demand through the use of Distributed Hash Table technology to create a scalable solution for the discovery and retrieval of PHRs from clusters.



Scalability

- The inherent benefits of using DHTs will only enhance our customers experience since DHTs form an infrastructure that can be used to build more complex services, such as: distributed file systems; peer-to-peer file sharing and content distribution systems; cooperative web caching; multicast; anycast; domain name services; and instant messaging.



- **Questions and Answers**