

Indiana Health Information Exchange and Regenstrief Institute

Health Information Exchange Development in
Indianapolis

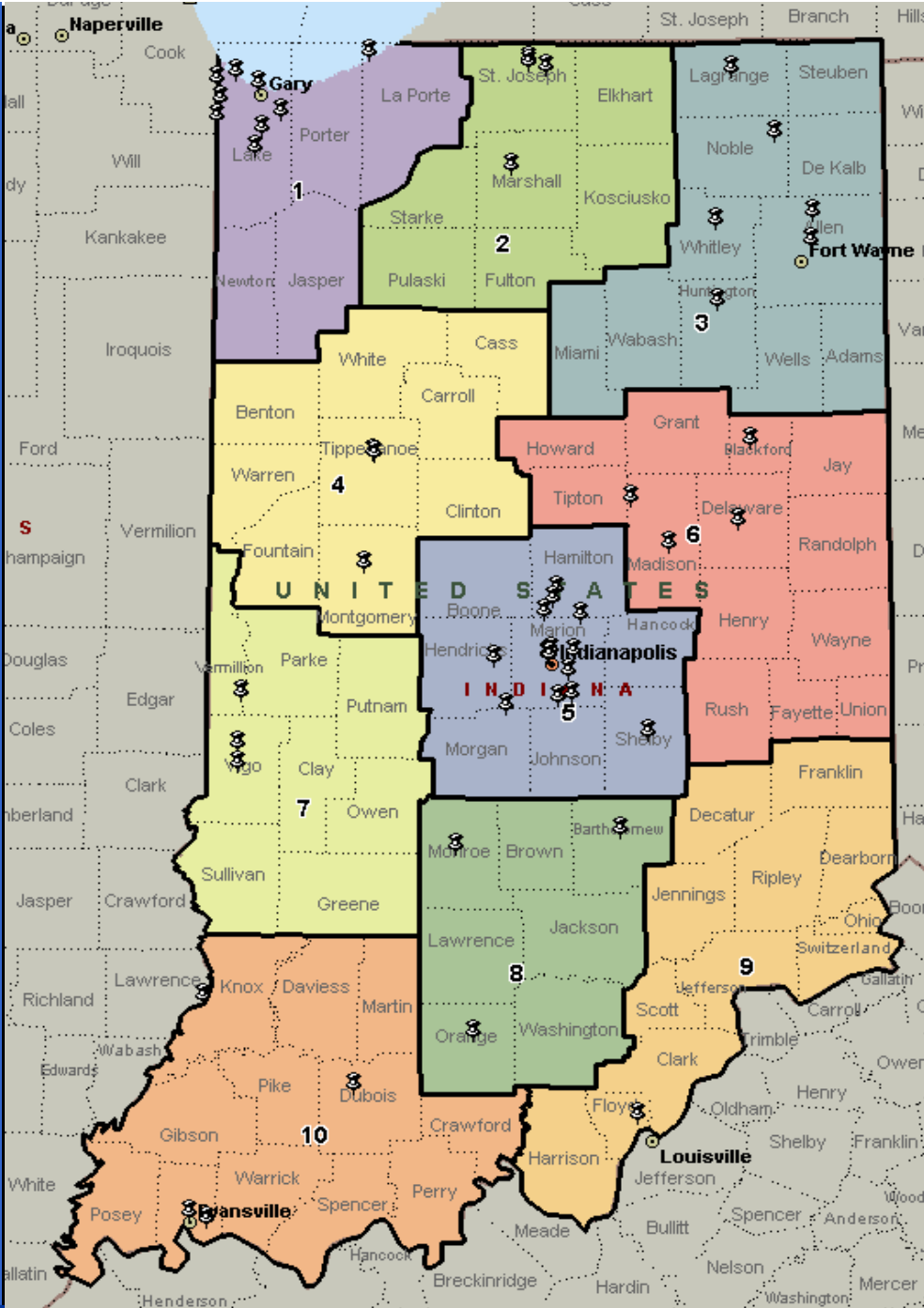
Thomas P. Penno
Chief Operating Officer
Indiana Health Information Exchange

Historical Development Flow of HIE in Indianapolis

- EHR & CPOE within the Wishard Hospital System by Regenstrief
- Restricted & limited community repository by Regenstrief – expanded over the last 10 years to include majority of hospital systems in the Marion County area as well as other sources (INPC)
- Public health initiatives both locally and statewide by Regenstrief through contracts with local and state agencies
- Clinical messaging results delivery to physicians within the Indianapolis area – Regenstrief developed utilizing existing interfaces and implemented by IHIE
- Clinical quality program developed by IHIE (still under development)

Proposed development flow of HIE in new communities in Indiana

- Public Health initiatives (PHESS)
- Community wide clinical results delivery (DOCS4DOCS)
 - Include public health results delivery like immunizations, new born screening
- Community clinical quality
- Phased in community EMR lite – INPC model
- Development of community repository



Public Health Emergency Surveillance System (PHESS)

- 53 Hospitals connected
- 5,300 ED visits per day

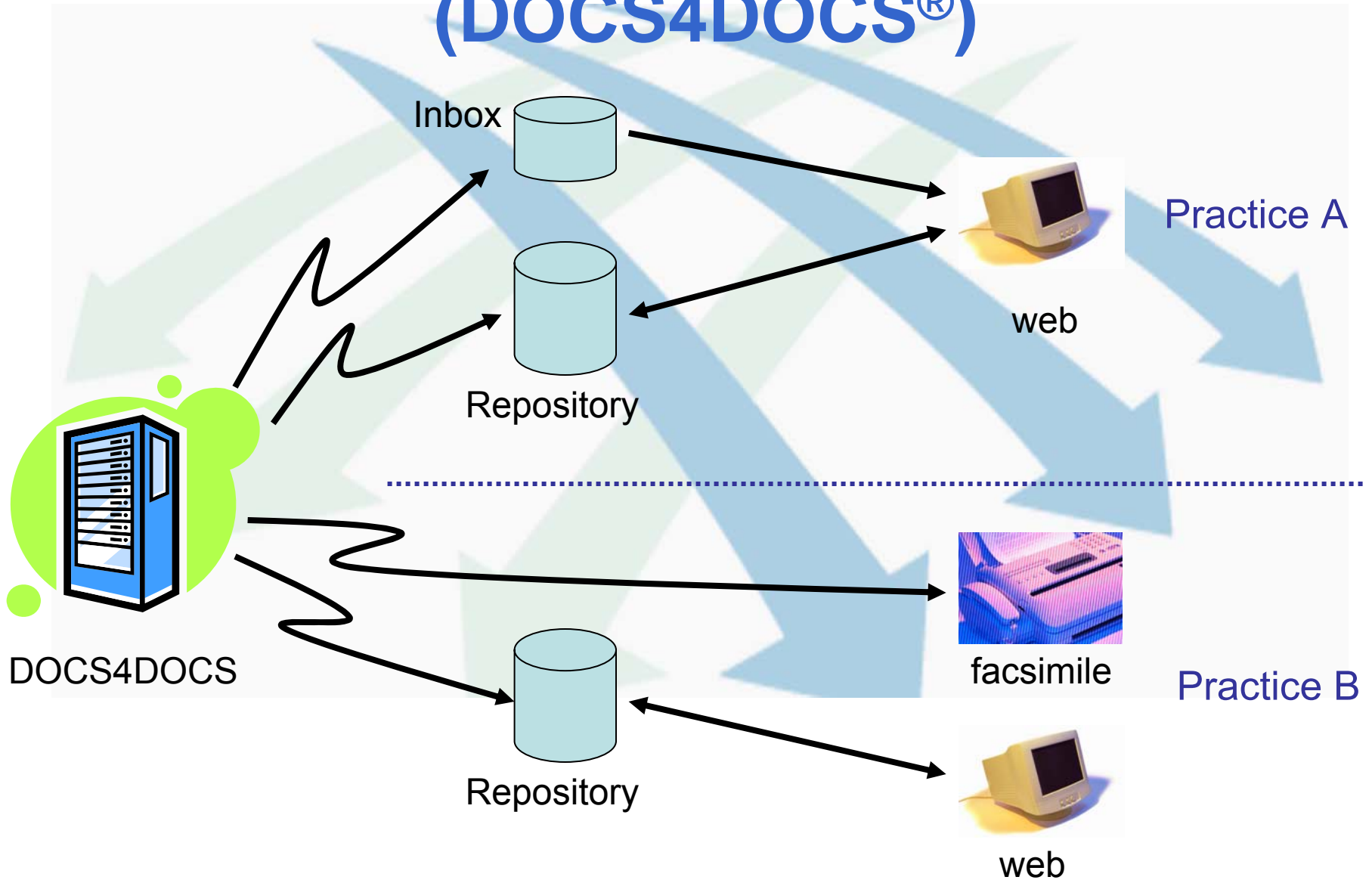


**Indiana State
Department of Health**

PHESS Mandate & Rule

- To collect Emergency Department encounter data as part of its syndromic surveillance initiative
- Monitor “primary complaint”
- This message format accommodates data elements listed in draft rule 410 IAC 1-2.4 “Electronic Reporting of Emergency Room Visit Abstract Data by Hospitals”

Clinical Messaging Delivery (DOCS4DOCS®)



DOCS4DOCS®

#2 Gross, Betsy
Dr. Cushing

DOCUMENT INBOX

General

- Inbox
- Inbox History
- Report Search
- System Messages
- Help
- Logout

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Document INBOX

Holds all new documents.

Filters:

Actions:

	Provider	MRN	Patient Name	Arrival	!	Doc Type	Doc Details
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/27 01:00 PM	!	Lab	STAT AMYLASE SERUM [Forwarded]
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/26 03:20 PM		Transcription (Clarian)	New Patient Evaluation
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/26 05:50 PM		Lab (Clarian Indiana University)	ALT SerPI QN
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/26 05:50 PM		Lab (Clarian Indiana University)	AST SerPI QN
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/19 10:50 AM		Lab (Clarian Indiana University)	Creatinine SerPI QN
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/19 10:50 AM	!	Lab (Clarian Indiana University)	Lipid Panel SerPI QN
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/19 04:50 PM	!	Lab (Clarian Indiana University)	CD4 Followup
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/20 06:20 AM		Transcription (Clarian)	Return Clinic Visit
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/19 02:10 PM		Transcription (Clarian)	Return Clinic Visit
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/26 10:40 AM		Transcription (Clarian)	Return Clinic Visit
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/25 11:21 AM	!	Lab (Clarian MW)	CBC
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/25 11:21 AM	!	Lab (Clarian MW)	Auto Diff
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/25 12:20 PM		Lab (Clarian MW)	Creatinine SerPI QN
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/25 02:30 PM	!	Lab (Clarian MW)	Vancomycin Pre SerPI QN
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/19 02:10 PM		Transcription (Clarian)	New Patient Evaluation
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/20 01:30 PM		Transcription (Clarian)	Return Clinic Visit
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/19 04:00 PM		Transcription (Clarian)	Discharge Summary
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/20 09:50 AM		Transcription (Clarian)	Return Clinic Visit
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/25 09:20 AM		Radiology (Clarian)	CT Lower Extremity With Contrast
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/26 10:30 AM		Transcription (Clarian)	New Patient Evaluation
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/19 02:10 PM		Transcription (Clarian)	Return Clinic Visit
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/26 02:20 PM		Transcription (Clarian)	Return Clinic Visit
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/19 02:10 PM		Transcription (Clarian)	Return Clinic Visit
<input type="checkbox"/>	Cushing, Herbert E.			2006 01/20 10:10 AM		Transcription (Clarian)	Return Clinic Visit

DOCS4DOCS®

General
 Inbox
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#2 Gross, Betsy
 Dr. Cushing DOCUMENT INBOX»INBOX REVIEW

INBOX Review

Navigation: Previous Next Inbox
 Actions: Mark As Seen Print Forward

Copy for: Cushing, Herbert E. Pt:



Riley Hospital
 550 N University Blvd
 Indianapolis, IN 46202

Pt: MR#: DOB: Sex: M
 Acct: Home: Work: (000)000-0000

Date: 01/19/2006 09:48:00 Accession: Location: UMDC
 Ordered by: Cushing, Herbert E

*** CD4 Followup ***

Procedure	Value	Flag	Units	Ref Range
Specimen Type	Blood			
CD3- Pan T Cell	79	H	%	64-78
CD4-Helper T	39		%	37-58
CD8-Suppress T	42	H	%	14-32
CD4:CD8 Ratio	.90			.90-4.50
Abs Lymphocyte-Flow	3280		/mm3	1400-3800
Absolute CD3	2591	H	/mm3	1000-2300
Absolute CD4	1273		/mm3	550-1600
Absolute CD8	1391	H	/mm3	200-700

ASR Comment
 This test was developed and its performance characteristics determined by Clarian Health Partners, Department of Pathology and Laboratory Medicine. It has not been cleared or approved by the U.S. Food and Drug Administration (FDA). The FDA has determined that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88) as qualified to perform high complexity clinical laboratory testing.

Test performed at Riley Hospital 550 N University Blvd Indianapolis, IN 46202

Clinical Messaging (DOCS4DOCS®)

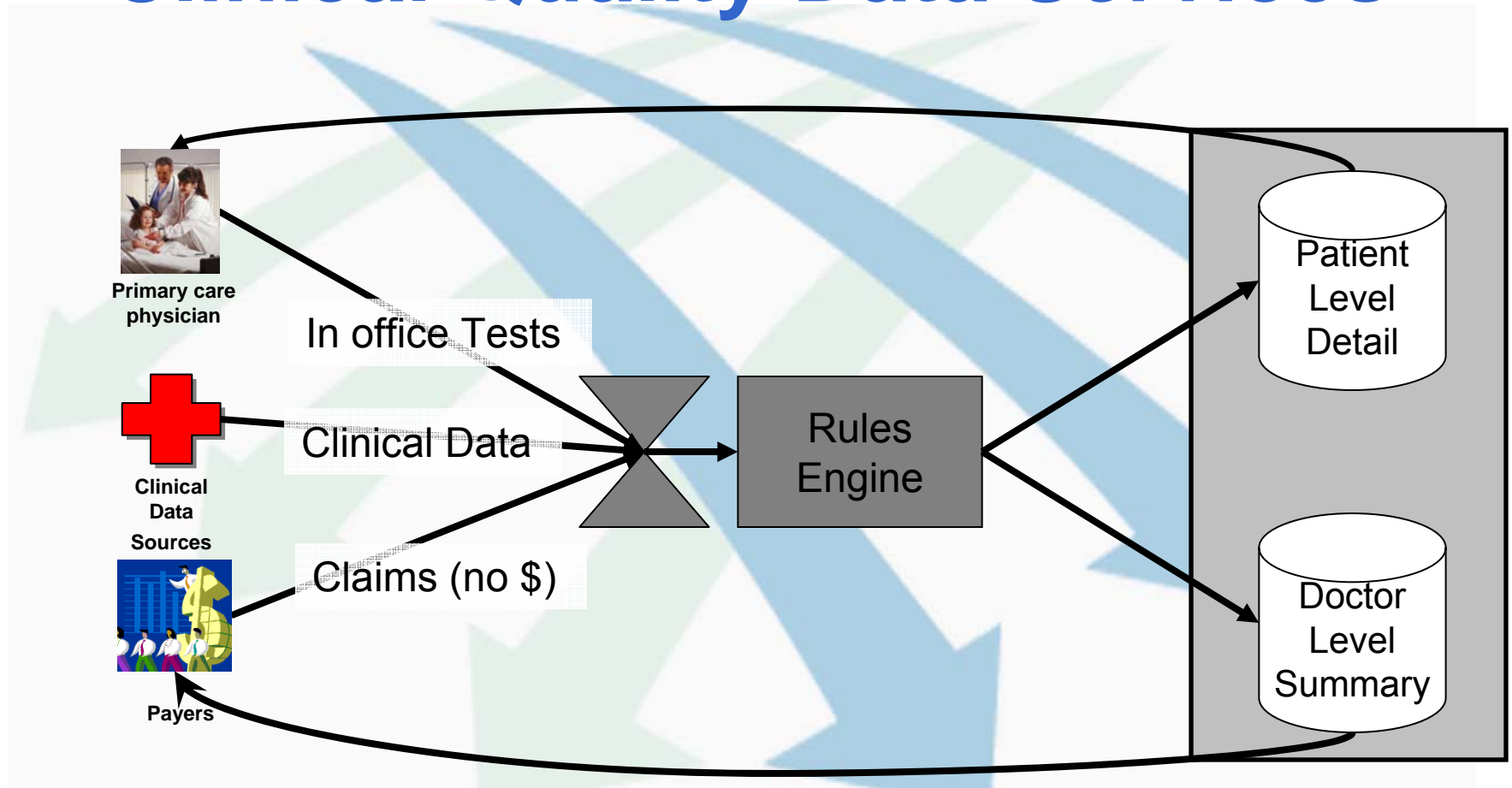
- Benefits
 - Faster, cheaper more reliable results delivery
 - Flow of structured data
 - Engaging physicians in transforming their practice
 - Less effort to maintain physician contact information
 - Provides economies of scale
 - Frees personnel to provide billable services rather than answering the phone and helping find misplaced or worse yet, undelivered, results
 - Reduces the need to create outbound interfaces as providers adopt EMRs
 - Increased provider satisfaction from a single source for their clinical results

Clinical Messaging Status

- Data sources online:
 - St. Vincent lab, rad, ADT, EKG, transcription (Nov 2004)
 - Community lab, rad, ADT, EKG, transcription (Nov 2004)
 - St. Francis lab, rad, ADT, EKG, transcription (Oct 2005)
 - Clarian Health lab, rad, ADT, EKG, transcription (Dec 2005)
 - ISDH laboratory (Jan 2006)
 - Wishard Health services lab and ADT ready for pilot (mid 2006)
- Physicians connected: 3,142 (out of 3,486)
- Messages delivered per day: ~29,000
- Expected costs savings annually : ~\$6M
- Data sources upcoming:
 - Mid America Clinical Labs (mid 2006)
 - Morgan County Hospital (mid 2006)
 - DCL Laboratories (mid 2006)
 - Northwest Radiology (Q3 2006)
- New data sources in development: ~20



Clinical Quality Data Services



Benefits

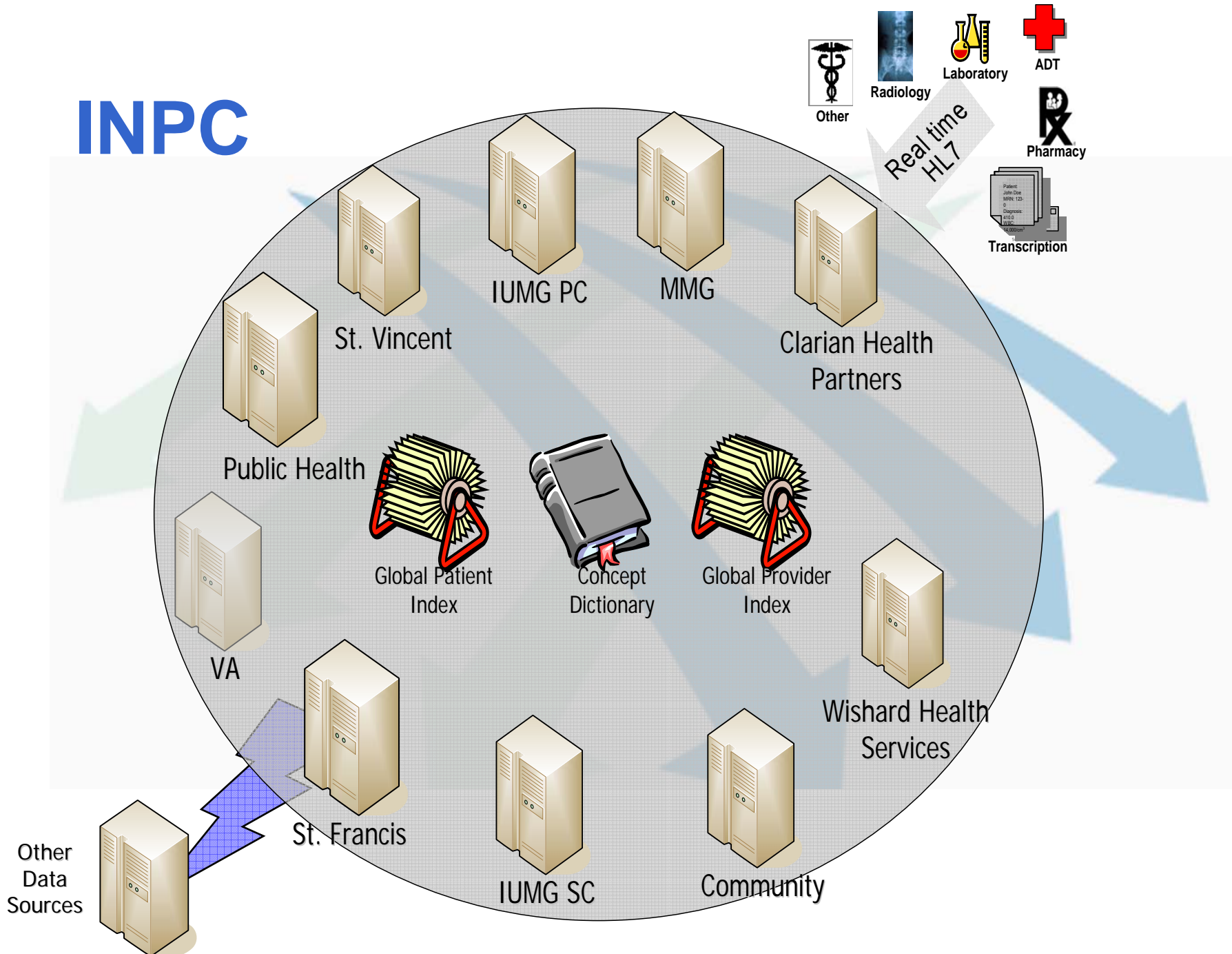
- Physicians
 - Full detail on their own patients
 - Summary comparisons
 - Overall
 - Population (commercial, Medicare, Medicaid)
- Health Plans and PHOs
 - Full detail on their own members
 - Summary information across all patients by:
 - Participating physician
 - Specialty
 - Population (commercial, Medicare, Medicaid)

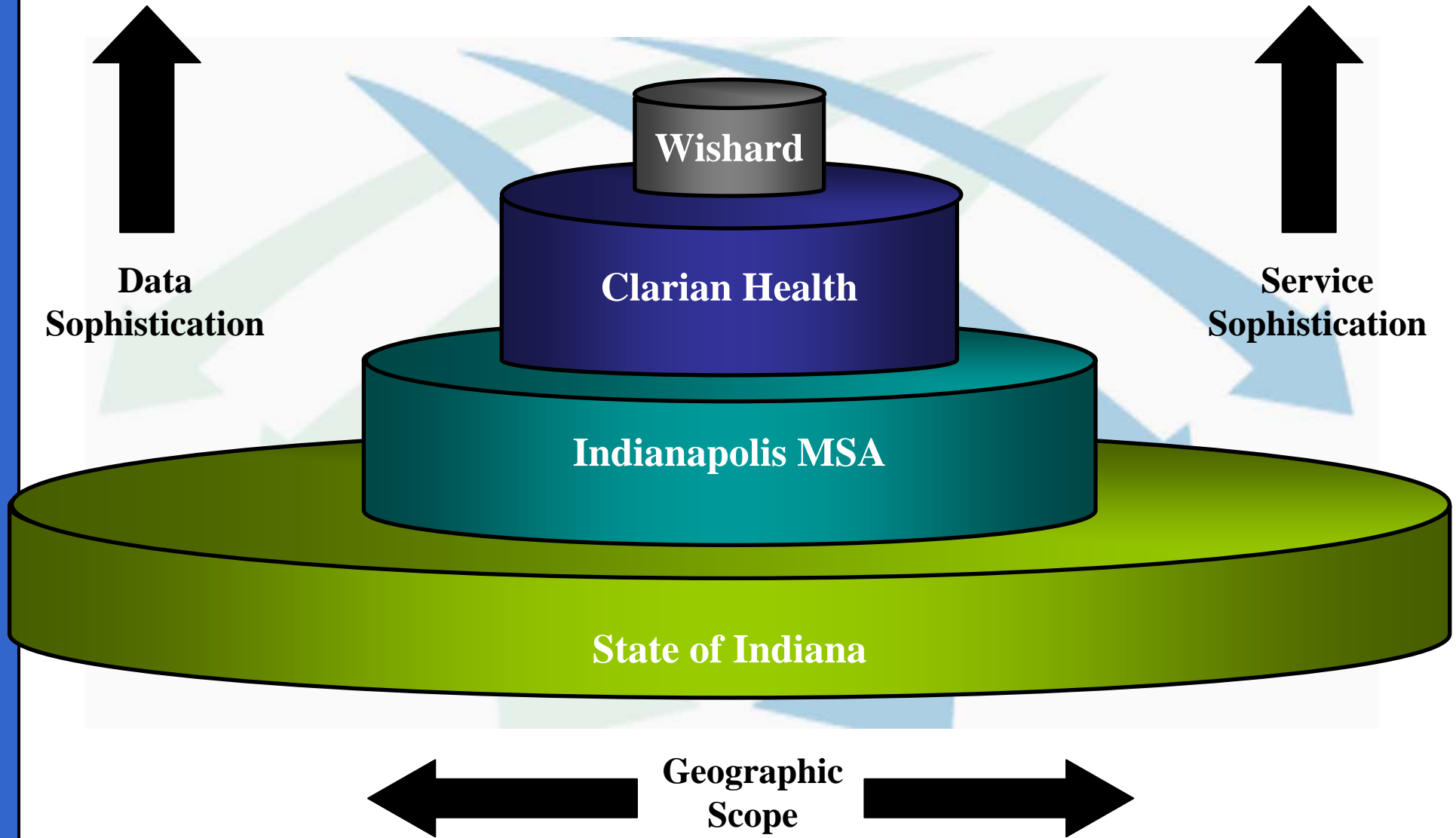
Indiana Network for Patient Care Overall Goal

Demonstrate the feasibility, benefit and sustainability of a community wide electronic medical record system in patient care.



INPC





INPC Data sources

- 24 hospitals including the 5 major hospital systems (99% of non-office care) and community hospitals
- National and regional laboratories
- Local imaging centers
- All four homeless care systems
- Public health departments (county and state)
- Approximately 1/3 of ambulatory physicians



INPC Data

- 7 million registration “events”
- 60 million orders
- 900 million coded results
- 20 million dictated reports
- 8.8 million radiology reports
- Hundreds of millions prescriptions
- 750,000 EKG tracings
- 45 million radiology images



Lessons learned in Indianapolis

- Leadership buy in
- It doesn't happen over night
- Take small steps – public health followed by clinical messaging is a good first step
- Data use - Negotiated Access to PHI