

Architectural Issues in RHINs



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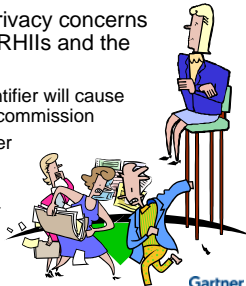
Benefits of Electronic Clinical Collaboration

<ul style="list-style-type: none"> ■ <u>Region</u> quality of care patient safety reduced administrative costs reduced clinical costs public health 	<ul style="list-style-type: none"> ■ <u>Nation</u> quality of care patient safety reduced administrative costs reduced clinical costs public health knowledge creation and dissemination more efficient research more effective research better information for policy
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Privacy: A Blessing, a Curse, and an Architectural Fact of Life

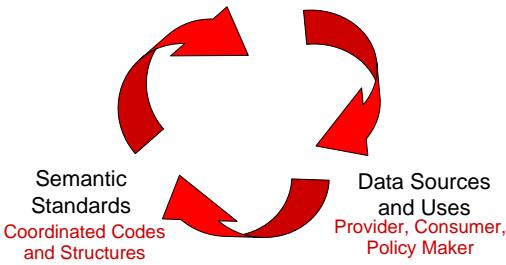
- There is ample evidence to demonstrate that patients' privacy concerns have merit
- Compromises to assuage privacy concerns will place limits the utility of RHINs and the NHII for many years.
 - Lack of a national patient identifier will cause some errors of omission and commission
 - Providers will want control over the release of data to other providers not known to them
 - Patients will want control over the release of data



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Information Ecology

Secure Web Services? Technological Infrastructure Privacy Infrastructure

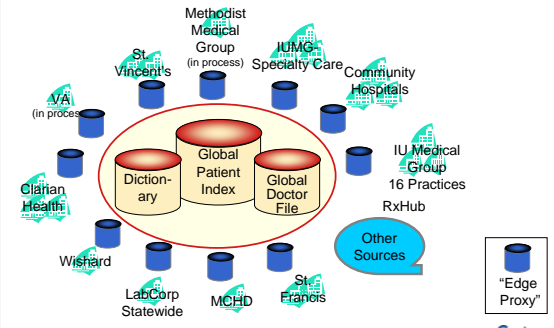


Semantic Standards
Coordinated Codes and Structures

Data Sources and Uses
Provider, Consumer, Policy Maker

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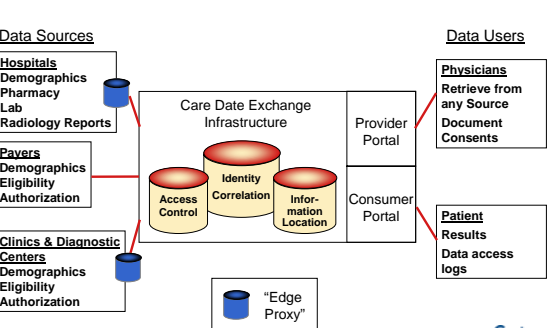
Indiana Network for Patient Care Architecture



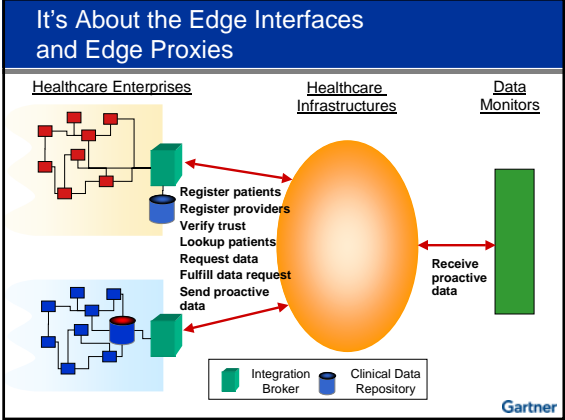
Source: INPC

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Santa Barbara County, CA: A Similar Architecture for an RHII



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Structured vs. Textual Data

<p><u>Discrete data fields</u></p> <ul style="list-style-type: none"> ■ Coded designations for each, e.g., serum potassium ■ Supports: trending, decision support, aggregation for "evidence based medicine", public health surveillance, etc. ■ Mostly available from direct instruments and after-the-fact coding 	<p><u>Natural language or images</u></p> <ul style="list-style-type: none"> ■ Dictated text or worse, handwritten notes ■ Intended for interpretation by a human ■ The primary format for most medical record data with long-term value ■ Increasingly "semi-structured"
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The Big Questions: Will doctors create structured data through improved user interfaces? Will computers comprehend natural language with the certainty required for decision support?

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