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Big Data in Health Sciences An India Prospective

Government Industry Dialogue
24th Nov 2013

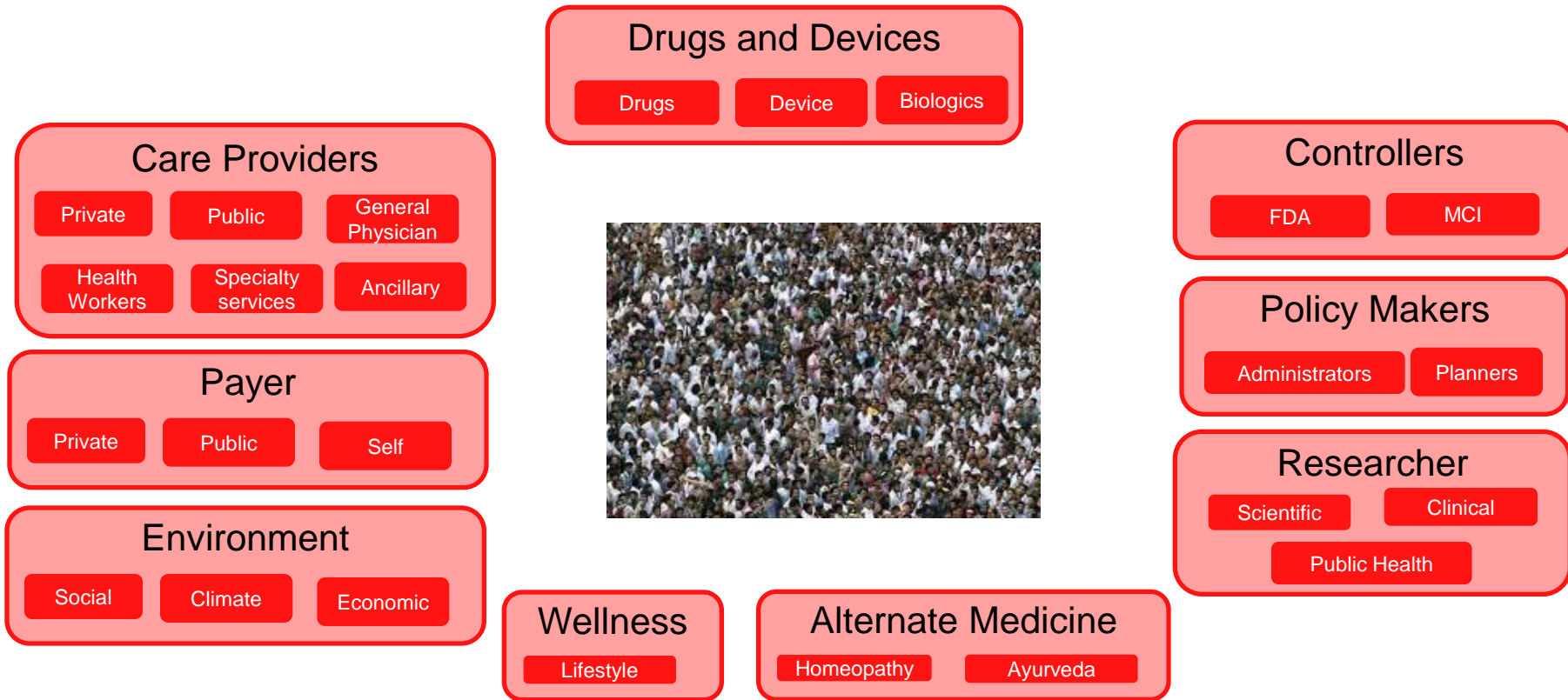




Views presented are Individual views only

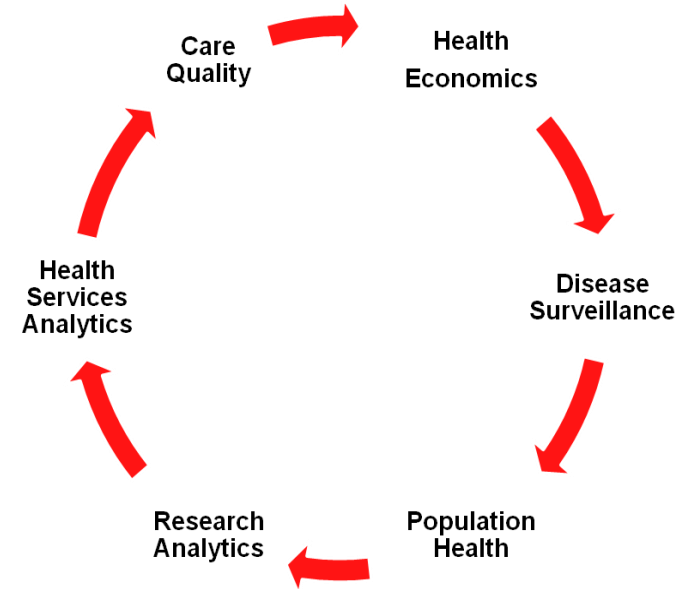
Healthcare Ecosystem

Stakeholders and Influencers



The “questions” in healthcare are fundamentally information challenges

What works	→	Validated evidence
Why it works	→	Mechanism of action
Who it works for	→	Precision Care
What works best	→	Comparative effectiveness
When it should be used primarily	→	Best practices guidelines



The “questions” in healthcare are fundamentally information challenges

Should Indian population be administered Gardasil vaccine?

What works



Evidence of efficacy and safety
Is there a disease burden

Why it works



Who it works for



Patient stratification
(Risk based /Ethnicity/ Affordability)

What works best



Is there an alternative

When it should be used primarily

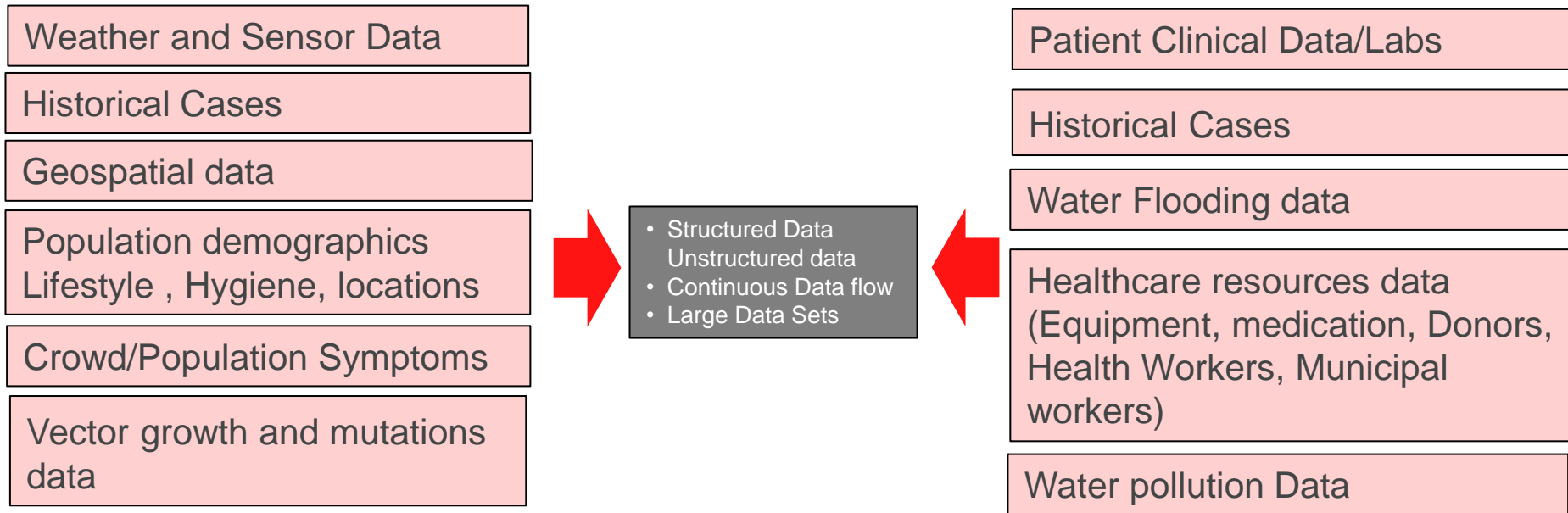


Cervarix vs. Gardasil

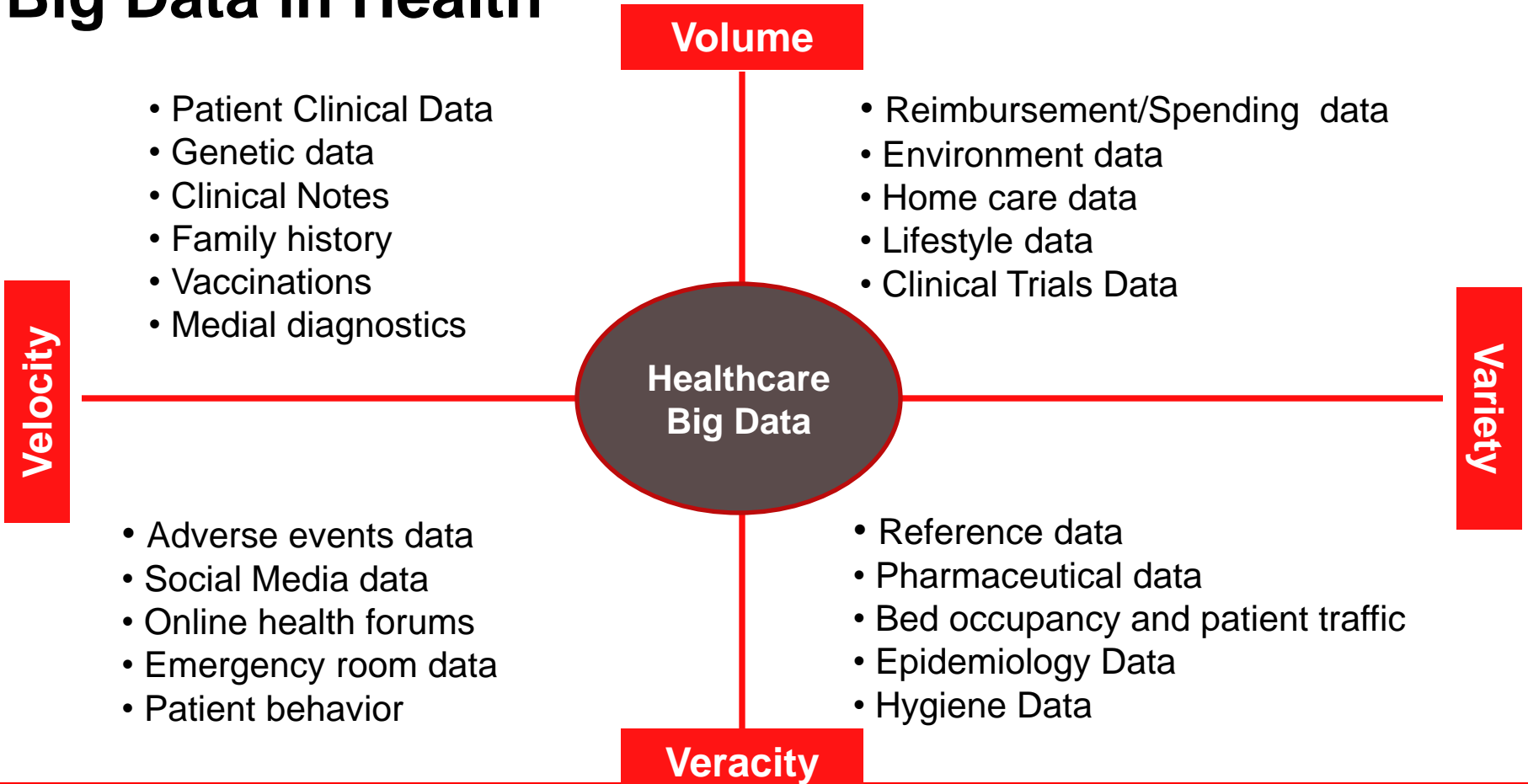
- Trials Data
- Post Marketing data
- EMR/EHR Data
- Outcomes
- Patient registries

The “questions” in healthcare are fundamentally information challenges

What are the likely high risk vector borne diseases by Geographical area.
What measures have possibly a high rate of success in containing these epidemics



Big Data in Health



Few Big Data Use Cases in Healthcare

Translational research

Evidence based medicine

Disease Surveillance

Patient safety

Health Economics

Patient Behavior

Strategic Planning

Predictive analysis

Patient Engagement

Real world outcomes

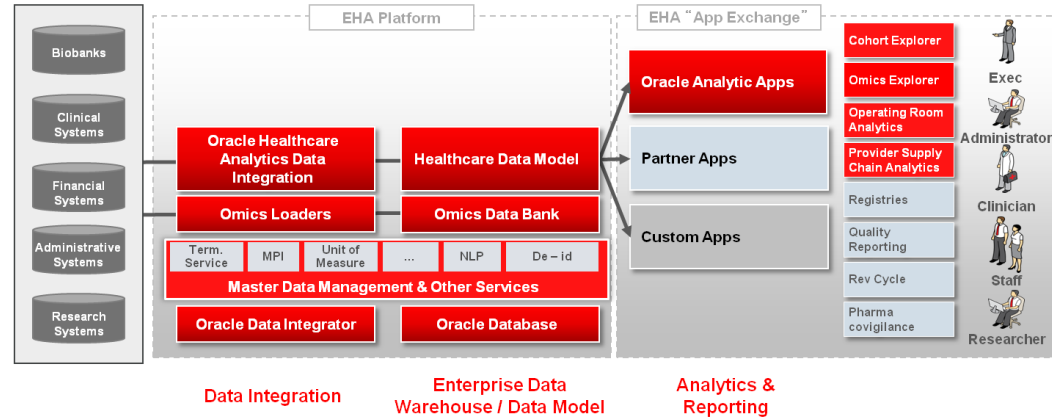
Medical Research

Operational optimization

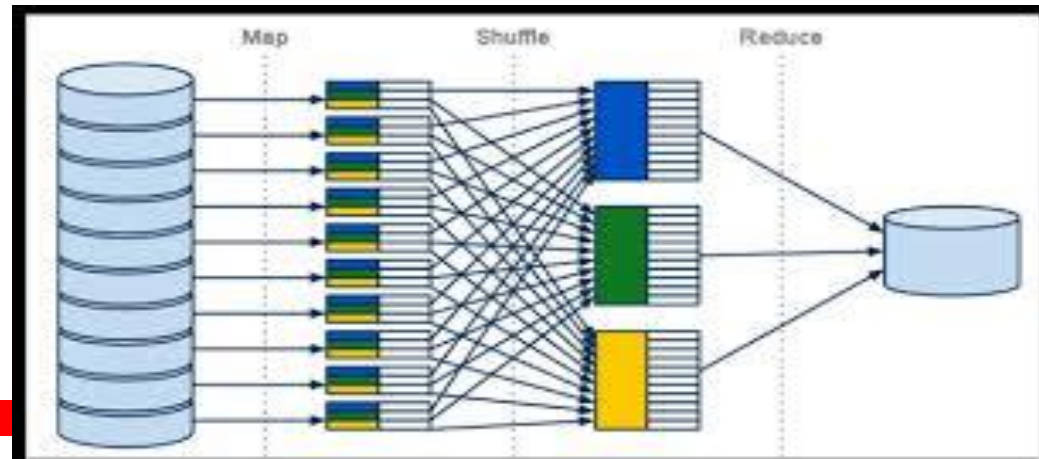
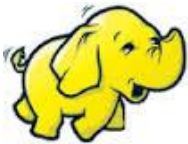
Technologies and Architectures

Big data in Healthcare

Traditional Data Warehouse



Hadoop



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Big Data Roadmap for India

Strengthen Data Capture

- Digitize Primary sources of Data
 - *Capture Once use multiple times*
 - *HIEs, EMRs, Insurance etc as data*
- Multi Agency Collaboration

Establish Data Management practices

- Centralized Data Management
 - *Multi source data Management policies and procedures*
- Multiple repositories and Channels
 - *Data Grids*
 - *Data Banks*

Data and Information Dissemination

- By Role context and authority
 - *Multi source data Management policies and procedures*
 - *Privacy and Confidentiality*
- Dissemination of Data
 - *Data and Tools or results*

Governance and Collaboration

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