

JAMES A ROBERTSON AND ASSOCIATES
EFFECTIVE STRATEGIC BUSINESS SOLUTIONS



**Why Information Technology
In Managed Healthcare
Does Not Deliver What Is Expected
And How To Fix It**

4th Annual Managed Healthcare Congress

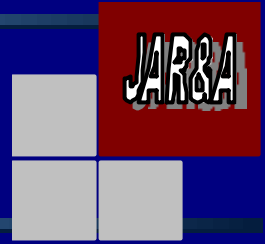
MANAGED HEALTHCARE
***New Approaches To Reducing Costs And
Improving Quality***

Dr James Robertson
Chief Executive Officer
James A Robertson and Associates

<http://www.jar-a.com>

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MANAGED HEALTHCARE WHAT IS IT?



Is

MANAGED HEALTHCARE
about cost and quality?

OR

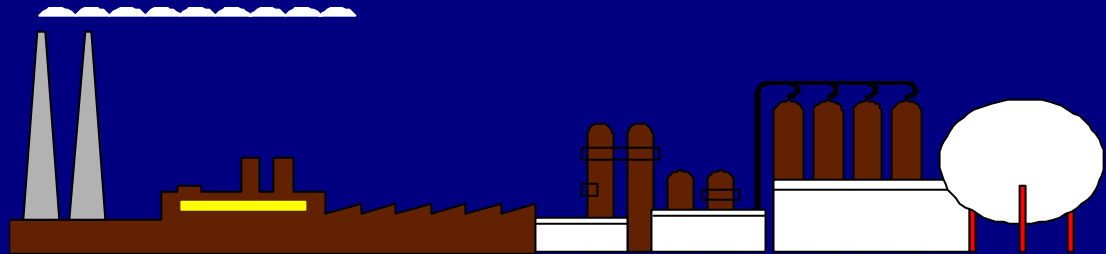
about HEALTH?

Some thoughts about the role that Information Technology SHOULD play, why it does not and what can be done to deliver on the potential

A HUGE OPPORTUNITY STATISTICAL HEALTH MANAGEMENT

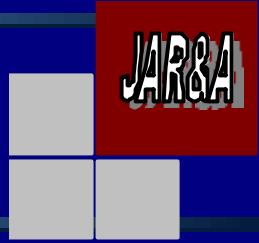
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Human beings are far less diverse than aircraft or factories



There is a huge body of statistical process control and maintenance management computerized method that could be profitably used in managing HEALTH -- why is this not happening?

CONTEXT: INFORMATION TECHNOLOGY AN INDUSTRY CHARACTERISED BY FAILURE



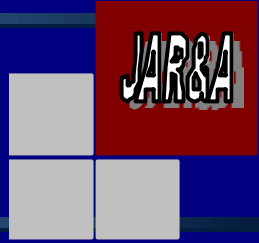
1. **Seventy percent of I.T. investments fail TOTALLY**
2. Another twenty percent fail to fully satisfy the original business requirement
3. *"19 out of 20 E.R.P. implementations do not deliver "what was promised"*
4. *"Most organisations are not making better decisions than they did five years ago."*



Financial Mail

Gartner

I.T. AN INDUSTRY CHARACTERISED BY FAILURE WHY DATA ENGINEERING IS CRITICAL



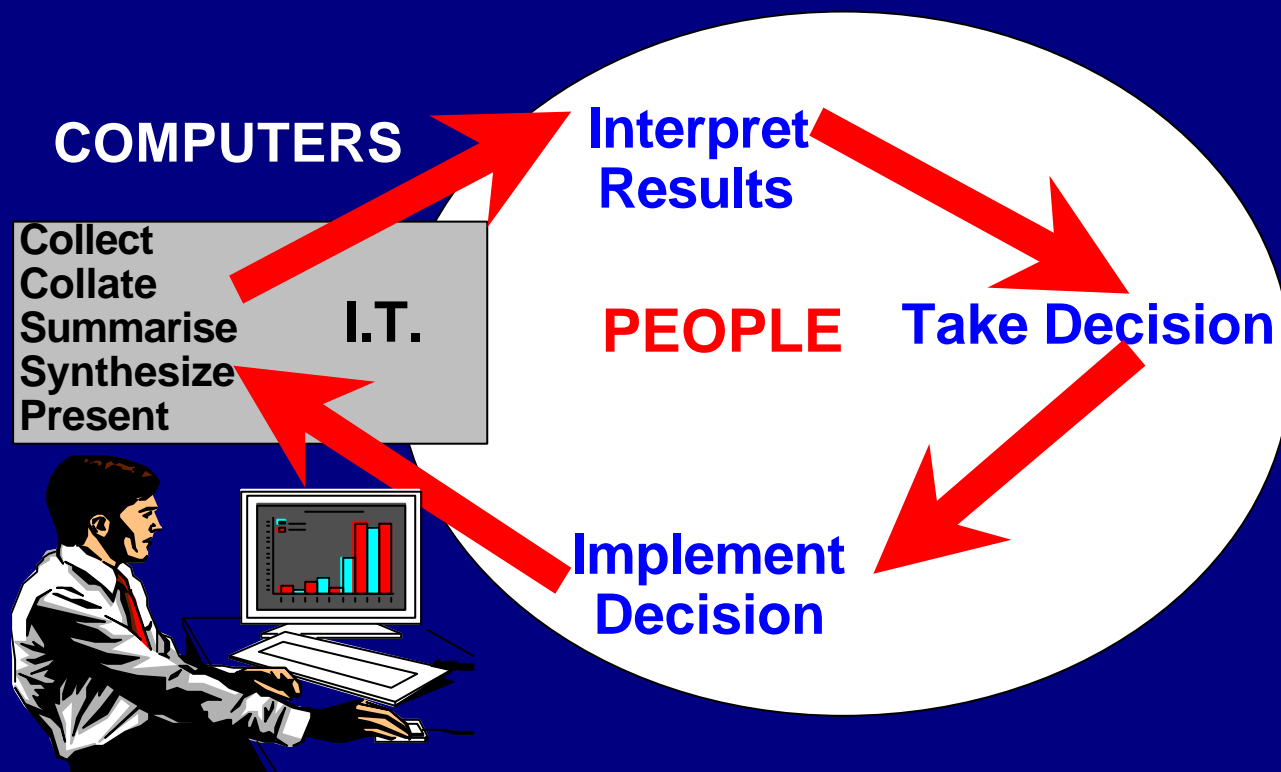
"Attendees of Gartner's Business Intelligence Summit in London last month were not surprised to hear that most enterprises are still failing to use business intelligence (BI) strategically. Gartner's survey of over 1300 CIOs returned some unimpressive findings about the state of BI implementations: Gartner's vice president of research summed up the situation nicely by saying: "Most organisations are not making better decisions than they did five years go."

BUSINESS INTELLIGENCE

Article published in Computer Business Review
Africa May 2005 published by Network Times.

UNLOCKING CORPORATE DATA

The role of computers and the role of people



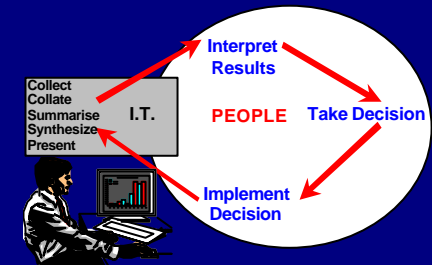
DATA ENGINEERING

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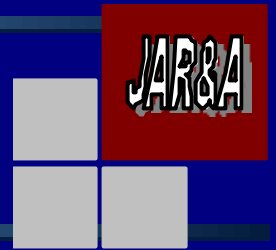


→The definition of information content

- ✓ in a way that is structurally (taxonomically) fundamentally meaningful to human beings who understand the business
- ✓ and the translation of this content into structured codes which faithfully and accurately reflect human understanding in a way that the computer can manipulate
- ✓ with minimal human intervention
- ✓ so that the computer system appears to be intelligent



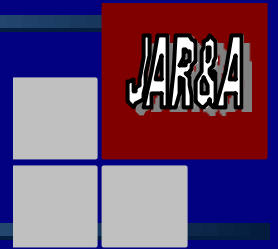
CAUSES OF INFORMATION TECHNOLOGY INVESTMENT FAILURE



1. Information technology mythology (30%)
2. Lack of executive custody and inappropriate policies (20%)
3. Lack of strategic alignment (15%)
4. Lack of an engineering approach (12%)
5. Poor data engineering (10%)
6. People / soft issues (8%)
7. Technology issues (5%)

MANAGING I.T. FOR SUCCESS

MANAGEMENT COMPONENTS (% FOR SUCCESS)

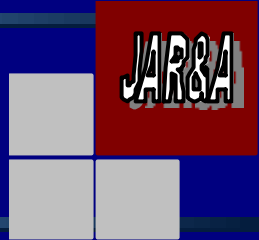


1. Executive Custody (25%)*
2. Strategic Solution Architecture (18%)* Outcome
3. Strategic Alignment (16%)* Journey
4. Business Integration and Optimization (14%)
5. Project Management (12%)
6. Data Engineering (10%)
7. Technology Components (5%)

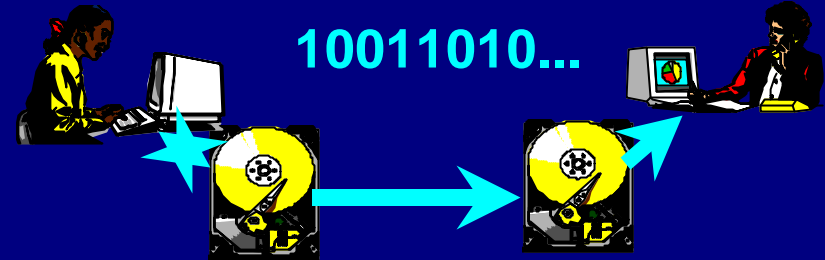
* First 3 = 59%

THE BIGGEST I.T. OPPORTUNITY?

SOME IMPORTANT PRINCIPLES

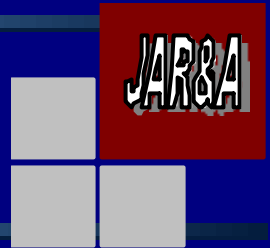


1. Computers can only add 0's and 1's
2. People only understand plain language
3. Getting data onto the disc
 - Versus getting decision support INFORMATION to management
4. Computers add items easily - detail is no problem
 - Embed the finest level of granularity (greatest detail) available in codes
5. Computers cannot analyse in more detail or structure than is in the data
 - Structured taxonomy MUST be applied when the data is captured
 - OR
 - Must be contained in the software -- huge limitations on this!
6. Maximum use of validation tables in the software

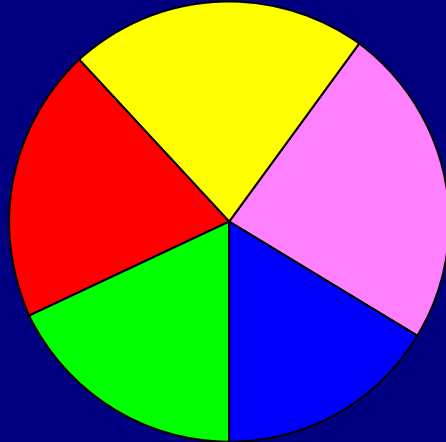


DATA ENGINEERING / TAXONOMY

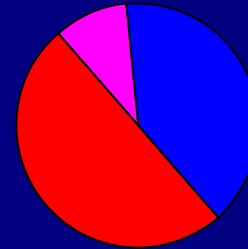
Vital Concept -- Data Hierarchy



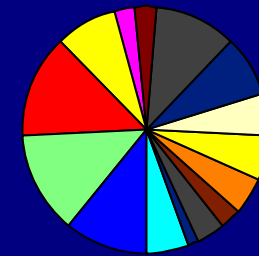
Presentation and interpretation



<5 = too few



> 10 = too many



5 TO 10 SLICES OPTIMUM

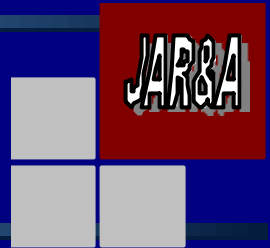
ABSTRACT THINKING / MANAGEMENT

The average person can manage 7 plus or minus 2 distinct areas or concepts

Design the information structure accordingly at every level

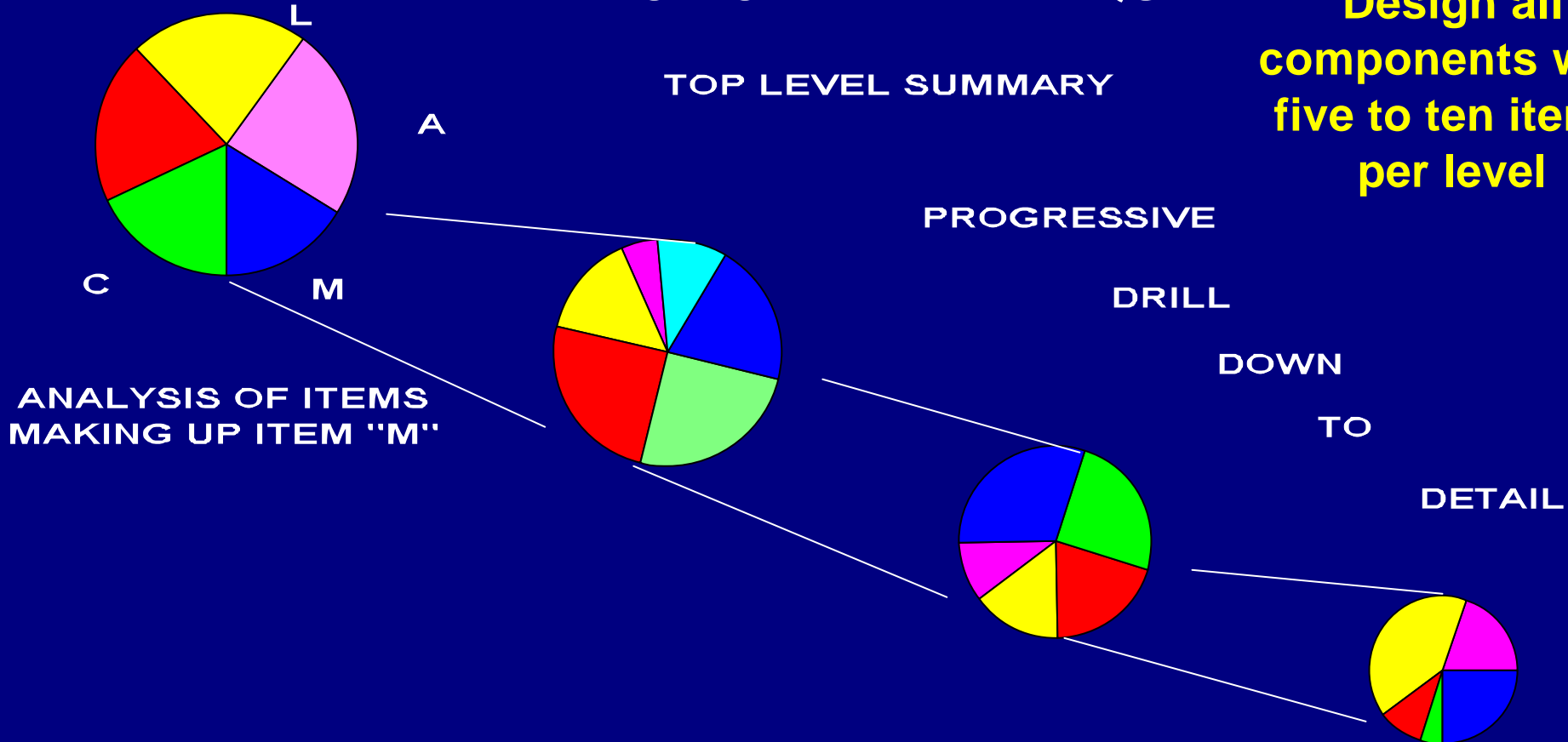
DATA ENGINEERING / TAXONOMY

Vital Concept -- Hierarchy



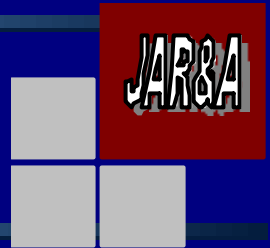
HIERARCHICAL DATA ENQUIRY

Design all components with five to ten items per level



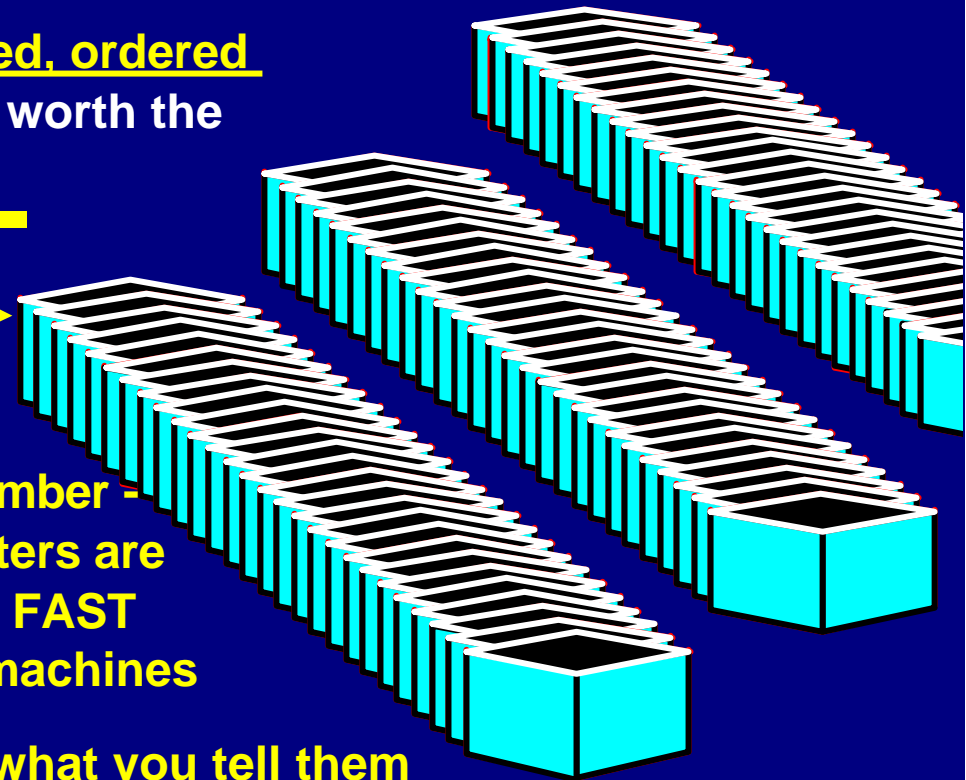
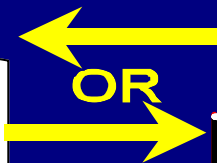
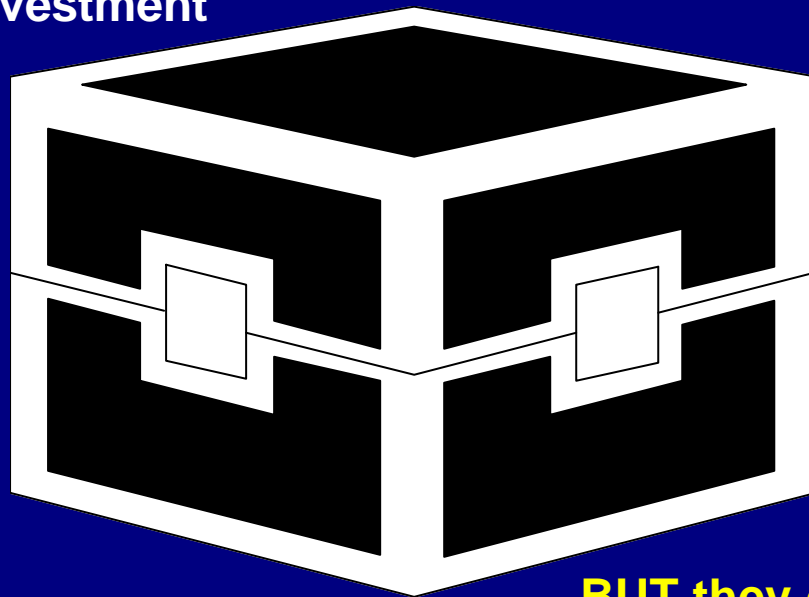
DATA ENGINEERING / TAXONOMY

Vital Concept -- Detail



Computers (and humans) find it easy to add or combine things,
NOT to separate them -- consider wood screws in a hardware store

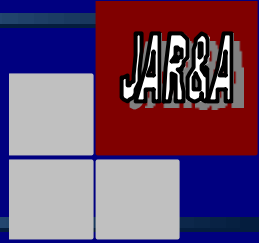
Embed the greatest available level of structured, ordered detail -- may require software modifications -- worth the investment



Remember -
computers are
VERY FAST
adding machines

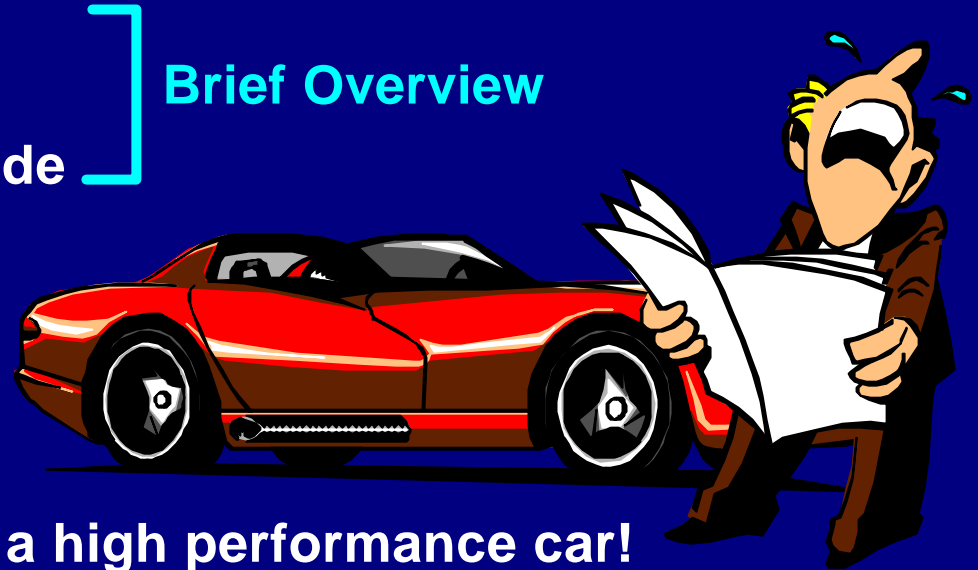
BUT they only do what you tell them

THE BIGGEST I.T. OPPORTUNITY IN HEALTHCARE?



1. ICD10 Diagnosis code
2. CPT4 Clinical procedure code

Brief Overview



Like water in the petrol tank of a high performance car!

Humans are superintelligent compared to computers --
look at the codes the way a dumb computer sees them

CLINICAL DATA ENGINEERING / TAXONOMY

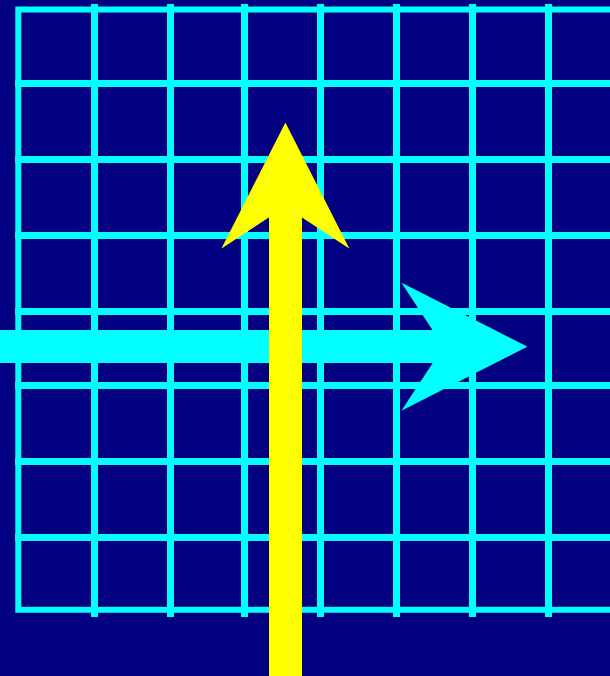
Cubic Clinical Data Model



Core clinical data has a location axis -- anatomic site
AND a "dysfunction" axis, similar to matrices that occur in other data

DYSFUNCTION AXIS
What Is Clinically
Wrong

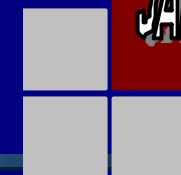
It is very important to
rigorously distinguish
between the axes --
choice of words is
VERY important



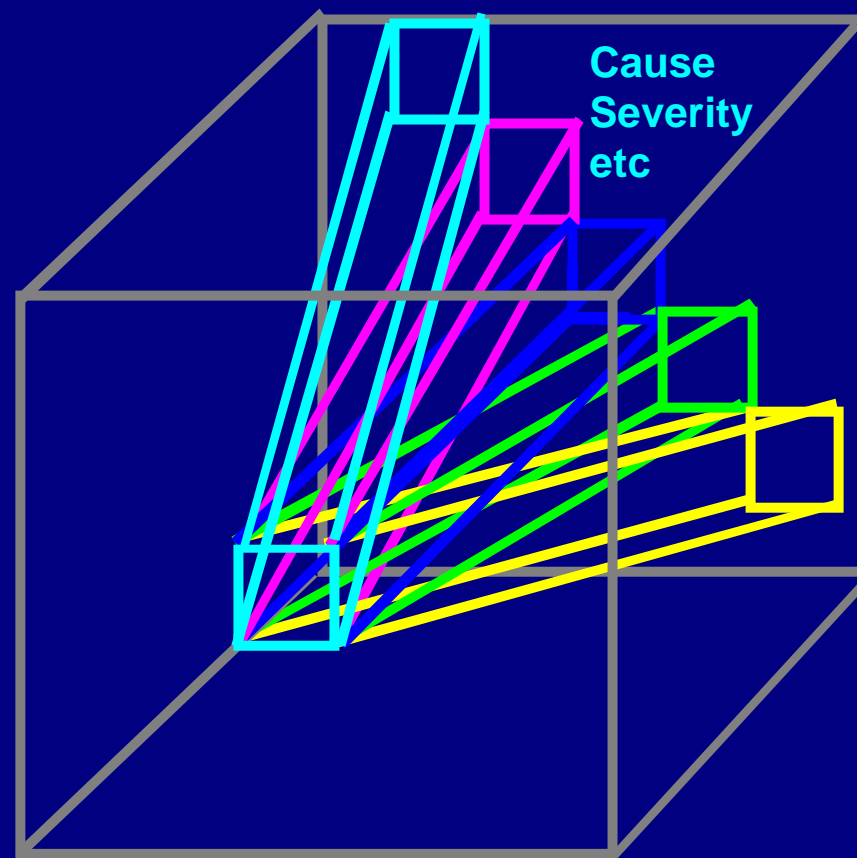
LOCATION AXIS
Body Part or System Being Considered

CLINICAL DATA ENGINEERING / TAXONOMY

Conceptual Anatomic Site (Location) Code

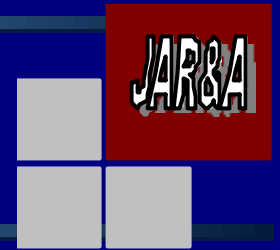


CS....	CIRCULATORY SYSTEM
DS....	DIGESTIVE SYSTEM
EM....	EAR & MASTOID PROCESS
ES....	ENDOCRINE SYSTEM
EA....	EYE & ADNEXA
LS....	LYMPHATIC SYSTEM
MS....	MUSCULOSKELETAL SYSTEM
MSM...	MUSCULO SYSTEM
MSS...	SKELETAL SYSTEM
MSSL..	LOWER LIMB - APPENDICULAR
MSSN..	NON - APPENDICULAR
MSSU..	UPPER LIMB - APPENDICULAR
MSSUAL	Arm Lower
MSSUAU	Arm Upper
MSSUHA	Hand
MSSUWR	Wrist
...	
ZN....	NON-SITE SPECIFIC



UNLOCKING CLINICAL DATA

GIVE HEALTH PRACTITIONERS REAL INFORMATION



THE SOLUTION

Create a family
of

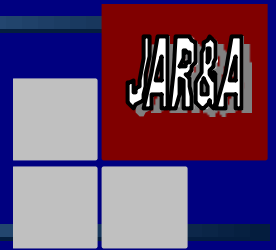
logically discrete

highly structured codes

that are simple to understand

thereby liberating the huge processing power of
computers in support of HEALTH

ACKNOWLEDGEMENTS AND DEDICATION



I would like to acknowledge
the contributions and inputs of all my
clients, associates, staff and family without whom
the work on which these ideas are based would not have been possible

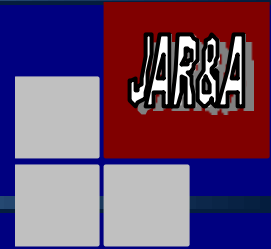
Particularly my father and mother, Angus and Thelma, whose love and support
for all my endeavours made it possible for me to gain this knowledge

This presentation is dedicated to
The Glory of The Eternal Creator
who is the source and reason for our existence

*Psalm 136:5 "To Him who by wisdom made the heavens,
for His mercy endures forever;"*

UNLOCKING CLINICAL DATA

GIVE HEALTH PRACTITIONERS REAL INFORMATION



QUESTIONS ?



<http://www.jar-a.com>

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