

# PMRI Terminologies UK National Health Service Experience

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## Outline

- Context
  - NHS terminology development history
- Typology of terminologies
- Criteria for selection
  - Technical properties
  - Business aspects.

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## NHS environment

- Diversity and instability
  - > 300 new Primary Care Trusts (PCTs)
  - 28 new Strategic Health Authorities
  - New contractual arrangements for family doctors
- General Election in 3 - 4 years
- Government commitment to NHS IT
- Aggressive targets around 2005
- Review of implementation approach
  - Centralist management
  - Ruthless standardisation
  - Procurement through 2 - 5 suppliers.

## NHS terminology development

- 1980s - multiple schemes appeared
  - Read Codes, Egton, OXMIS
- 1988 - professional endorsement of Read Codes
- 1990 - Read codes purchased by NHS
- 1992-95 - Clinical Terms v3 (Read Codes)
- 1996-98 - inquiries into Read Codes
- 1998 - review of terminology options
- 1999 - agreement with CAP to develop SNOMED CT
- 2002 - first release, evaluation & foundation programmes.

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## Review of terminology options (1998)

- Option 1 - don't use a standard terminology
- Option 2 - continue to use Read Codes
- Option 3 - use off-the-shelf alternative (e.g. SNOMED)
- Option 4 - collaborate with SNOMED
- Option 5 - collaborate with someone else.

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## High level terminology implementation goals

- Nation-wide roll out
- Multi-purpose use
  - Direct and indirect care
- Multi-professional uptake
  - Doctors, nurses, allied health
- Multiple environments
  - Primary care, hospitals, community
- Extensibility
  - Patient access, Social care.

*Information for Health (1998)*

*Building the Information Core (2001)*

## Strategic targets

- “By April 2003 - clinical information systems start to use SNOMED Clinical Terms”
- “Users/suppliers are advised not to develop new Read Code based systems from April 2003”

*Building the Information Core*

*Section 4.8*

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## Functional requirements

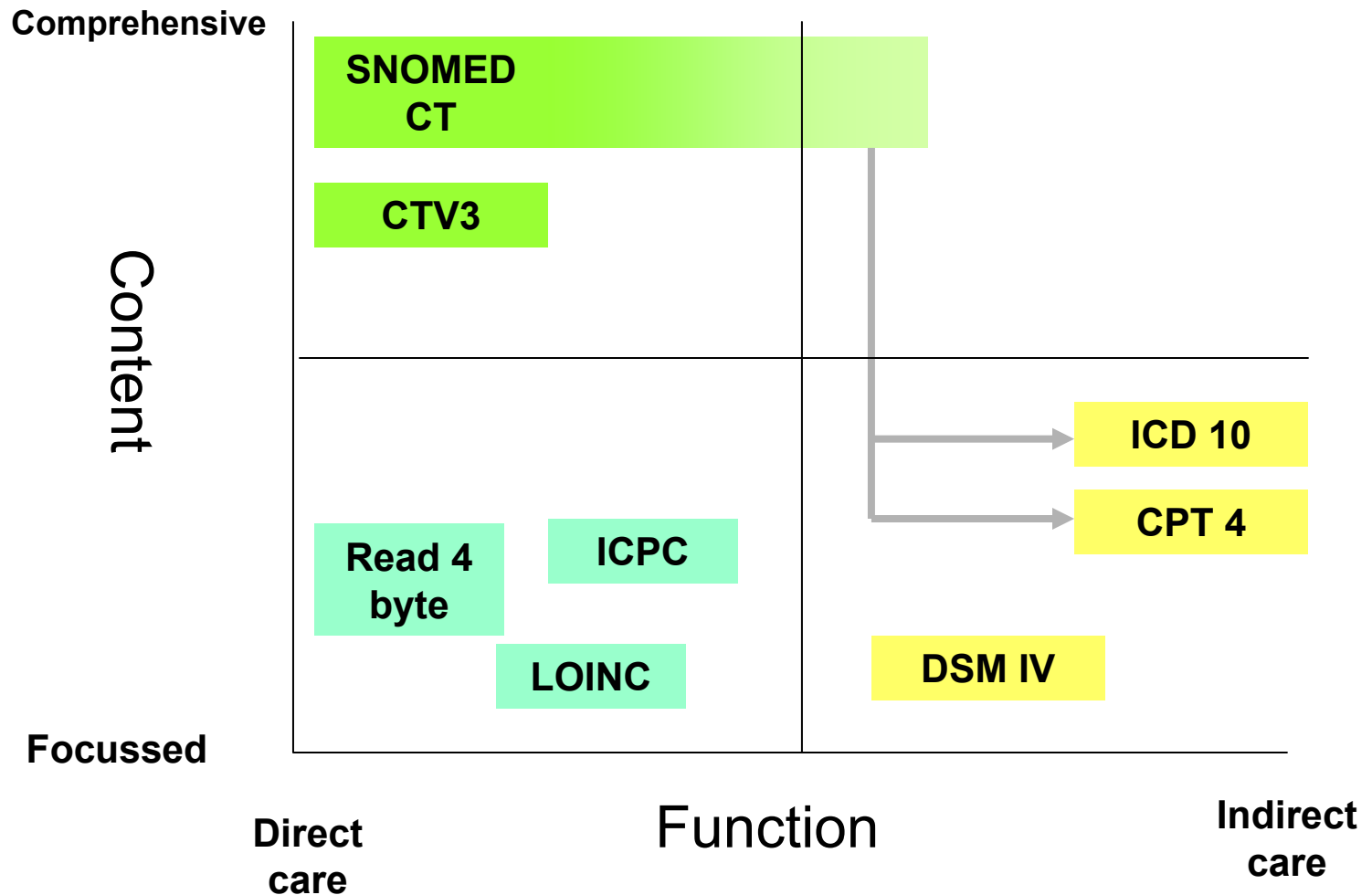
- Documentation in the **EPR/EHR**
- Decision support
- Clinical audit
- Reporting
- Summaries
- Administrative & management information
- Epidemiology
- Billing
- Resource management.

Direct

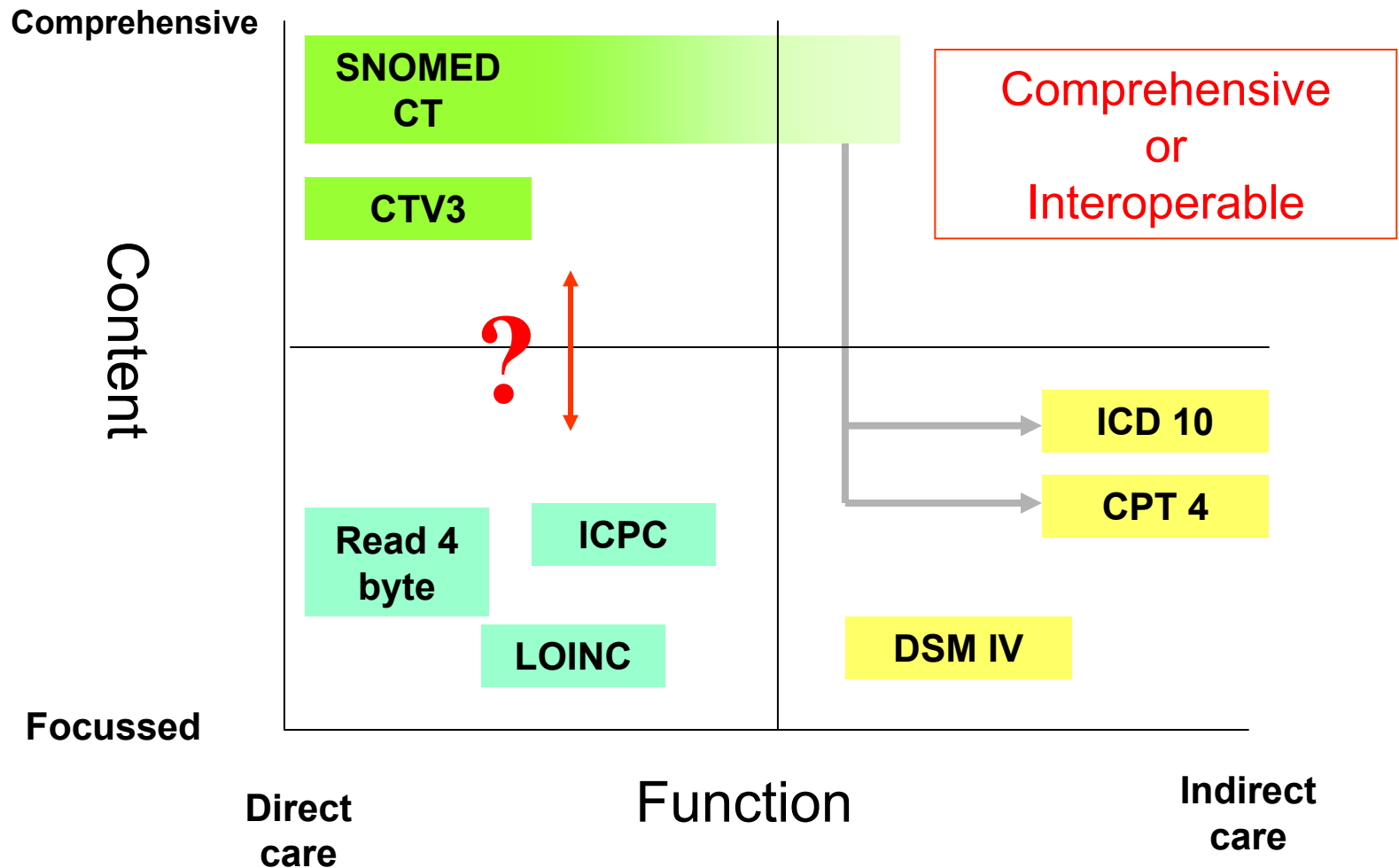
Indirect



# Typology of terminologies



# Typology of terminologies



## Arguments for comprehensive

- Single provider organisation
  - Unambiguous problem-owner
  - Single focus for change requests & user support
- Inherent interoperability
  - Avoids overlapping (duplicated) content
- Supports uniformity of file and code structures
  - Strong point for vendor community
- Economies of scale in:
  - Provision of education and support
  - Maintenance (especially QA) and distribution
  - Cross mapping to classifications.

## Arguments against comprehensive

- Monopoly (or oligopoly) concerns
- May be unresponsive to changing requirements
- May be too large - subsets required
- May constrain specialist requirements by uniform structure
- Difficult to establish wide editorial input.



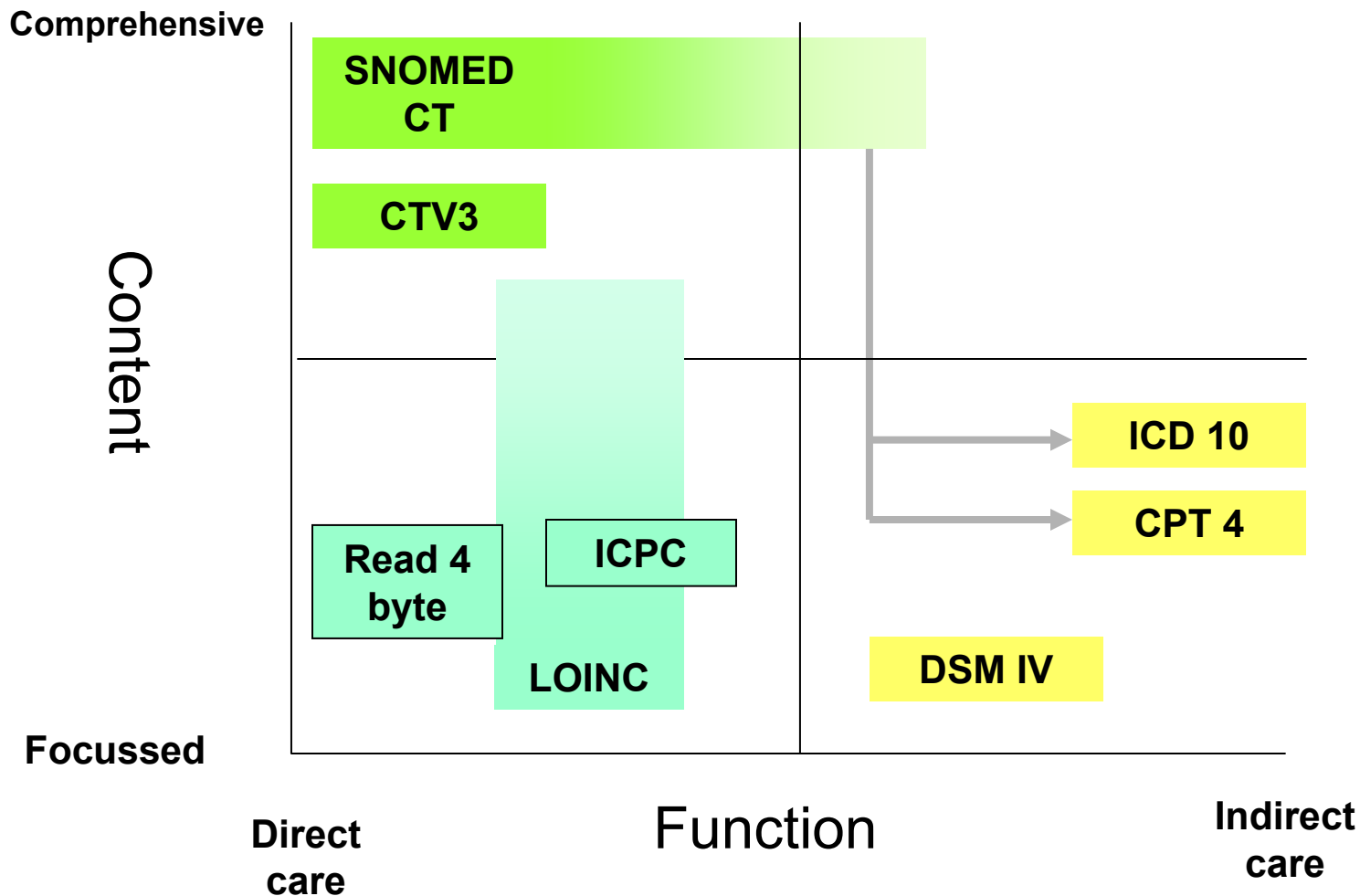
## Arguments for interoperable

- Schemes closer to user purposes and expertise
- Often strong sense of professional ownership and commitment
- Enables rapid adoption of suitable existing schemes
- More responsive to change requests.

## Arguments against interoperable

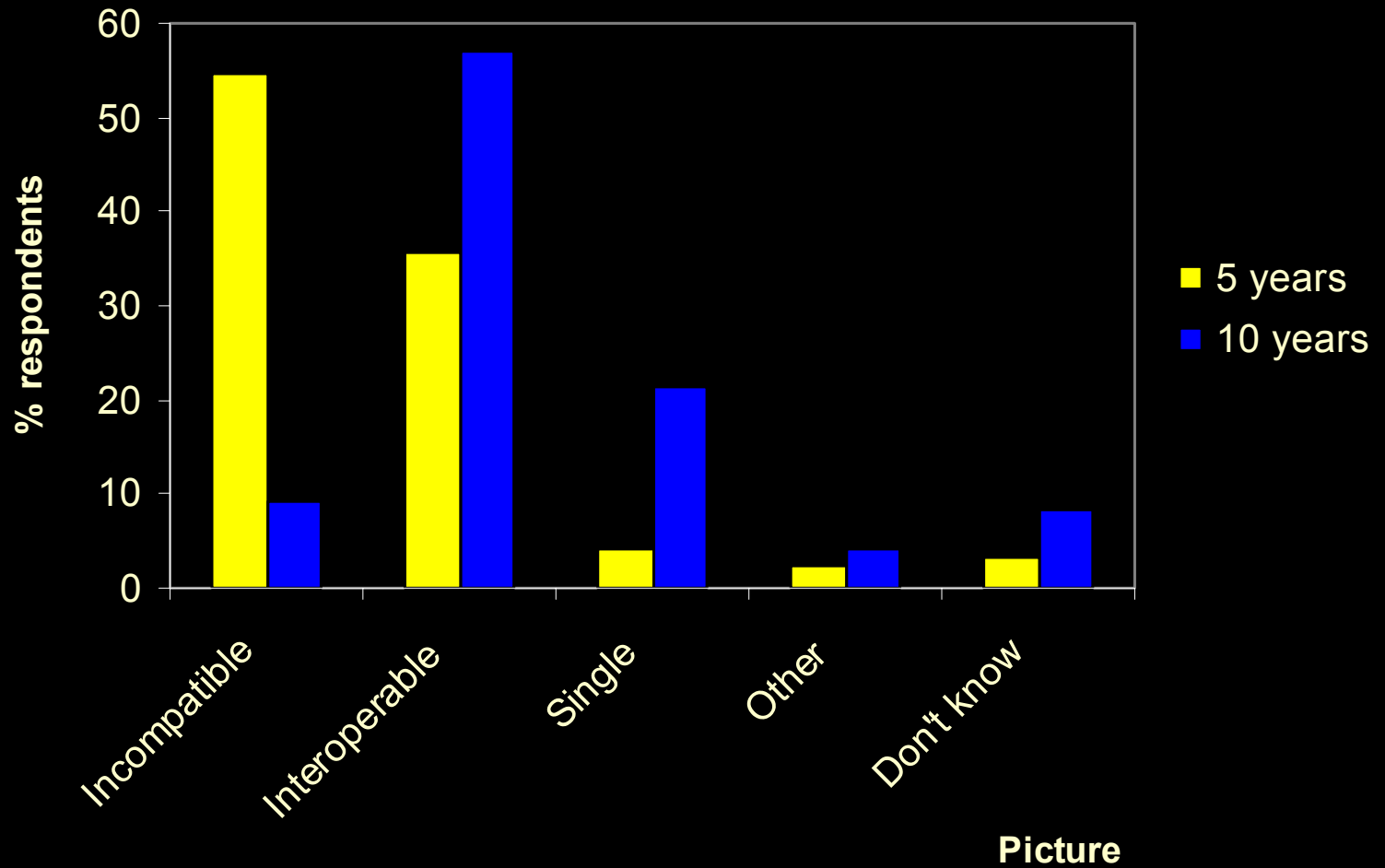
- Overhead in managing interoperability
  - Structural properties
  - Release synchronisation (including changes)
- Tendency for scope creep towards comprehensiveness
  - Compounds interoperability issues.

# Typology of terminologies



# Predictions

## Global picture in 5 and 10 years



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  - **Technical properties**
  - **Business aspects.**

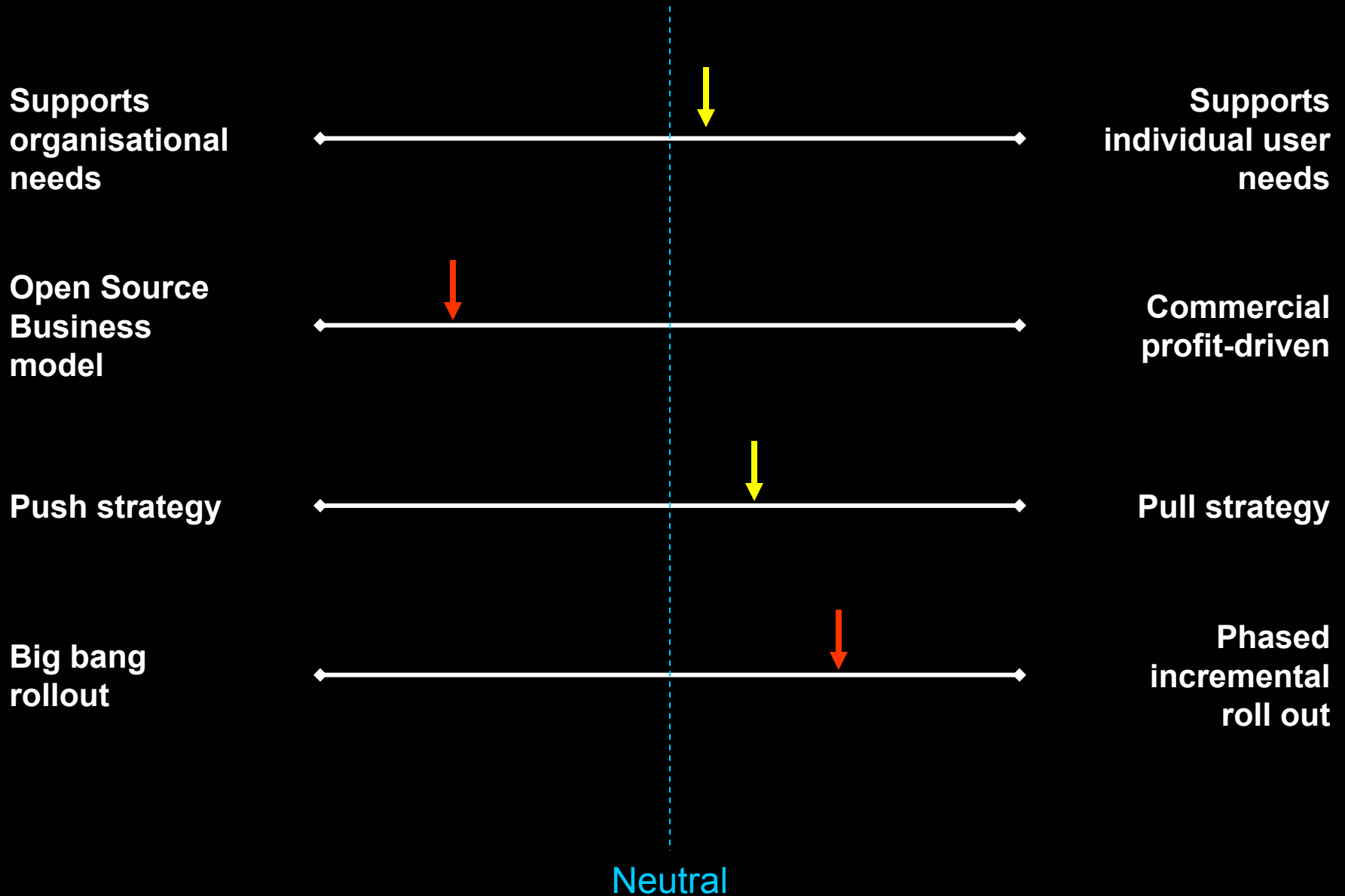
## Technical properties

- Mostly non-controversial
- Well-rehearsed desiderata backed up by academic and standards work:
  - Cimino (1989, 1997)
  - CEN
  - ISO
  - GALEN
- Many advanced technical features appear superfluous for users' short- to medium-term requirements.

## Business aspects

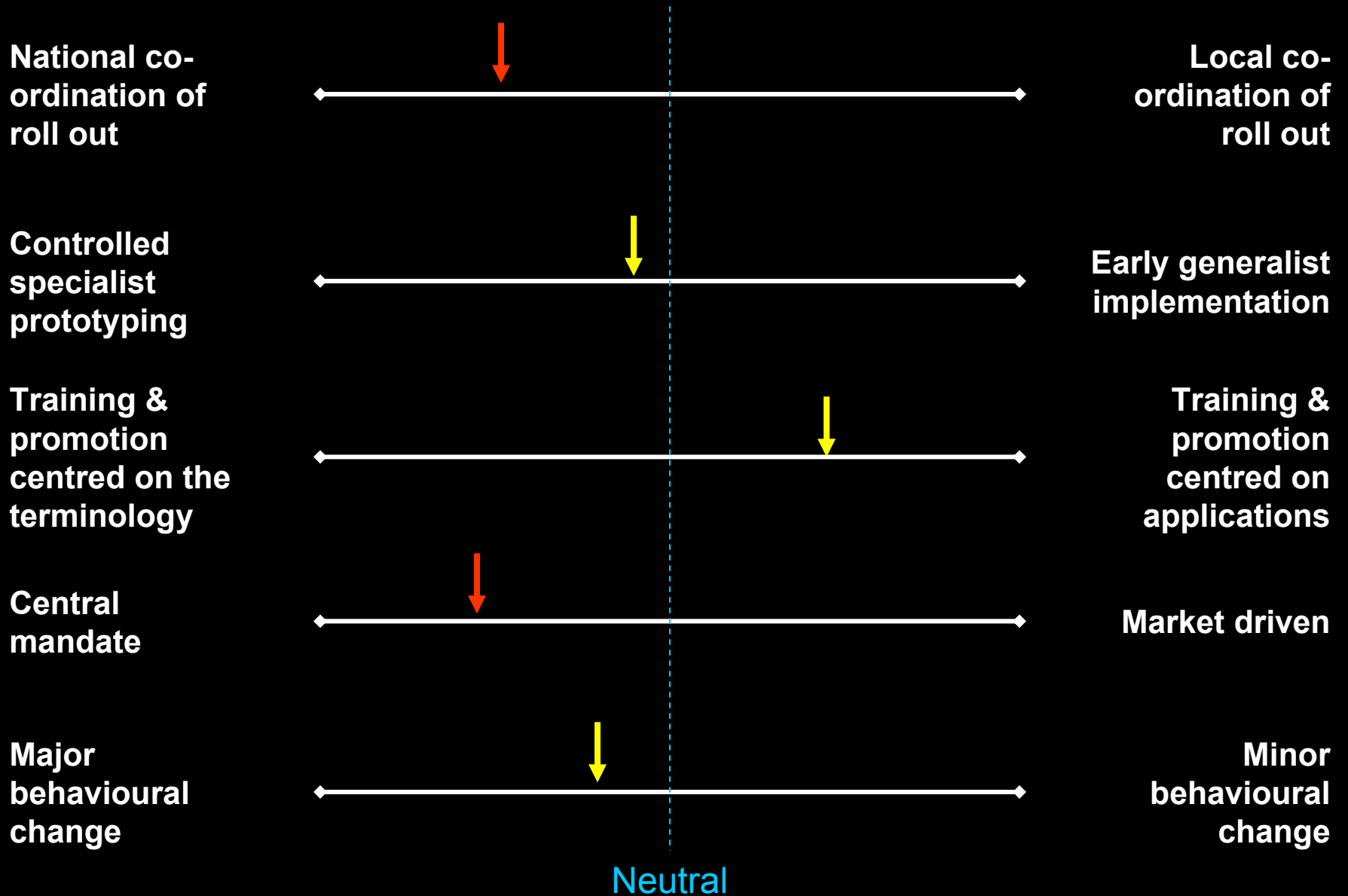
- Market forces - supply and demand
- Financial structure
- Long-term viability of provider.

# Critical success factors - 1





# Critical success factors - 2



## Market forces - supply and demand

- Little real demand from end users:
  - Need the product AND willing to pay
  - Reflected in limited commercial supply of large comprehensive schemes
- Lack of clarity about scope, purpose & benefits:
  - Perception of central rather than local benefits
- Commercial business model non-viable
  - Intellectual property is only valuable if people are willing to pay.

## Financial structure

- General criteria are mutually exclusive:
  - Timely updates
  - Flexible and adaptive
  - **Relatively inexpensive**
- Any new endeavour needs \$20 - 30m capital
- Plus guaranteed income stream (hard money)
  - Circa \$15m per annum on current projections for a global scheme
- And . . . needs to be non-commercial.

## Long-term viability of provider

- Switching costs potentially high
- So any low-viability model is high risk
- Open contributorship model:
  - Subscriptions to cover costs
  - National level support
  - Core product as “public good” within the subscribing community
  - Extensions to core, and subsets for local needs.

## Summary

- Since 1992, the NHS has remained committed to using a single comprehensive scheme, now SNOMED CT
- Provision of extension, subset and mapping mechanisms addresses many of the counter-arguments
- Global business model needs to be:
  - Open, contributory and non-predatory
  - Underpinned by central (government) support
- Terminology is not an end in itself
  - Needs to add value to something else.



# *Information Authority*

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Helping to Modernise the NHS

NCVHS August 2002