Informatics Capability Maturity Model (ICMM)

Helping healthcare leaders assess the role informatics plays in their organisation to deliver business value.

Developed by the Department of Health, Informatics Directorate
Informatics Capability Development Division
Health Informatics is the required knowledge, skills and tools you need to get... to improve health care and promote health.
Why did we develop this model?

ICMM was developed as part of the Department of Health, Informatics Directorate’s work to influence senior business leadership attitudes and behaviours towards informatics.

The aim is to encourage leaders to develop organisations that:

- Appreciate the potential role of informatics in providing business advantage.
- Treat informatics as a strategic resource.
- Make informatics investments aligned with business strategy.
- Deliver informatics enabled change effectively to optimise the business value.

We understand your pressures

Now more than ever, leaders of healthcare organisations are facing greater demands to:

- Improve productivity
- Be more competitive
- Be transparent and accountable
- Improve quality

When informatics is incorporated into the structure and mechanics of an organisation, it can help to increase performance in all of these areas.

The benefits of good informatics

Informatics plays an integral role in an effective healthcare organisation. It should be considered a strategic resource alongside finance, human resources and estates – and not viewed as a ‘back office’ function.

Well planned informatics can help your organisation:

- Provide quality information and analytics to inform business and clinical decision making.
- Streamline & automate processes and services.
- Provide safe and open access to information to educate, inform and empower patients and the public.
The Informatics Capability Maturity Model

What is the Informatics Capability Maturity Model?

The ICMM is a qualitative self-assessment tool that will help you determine how capable or mature your organisation is from an informatics perspective. Using the tool can help identify actions to improve your business performance enabled by informatics.

Who should use it?
The model is aimed at business leaders, particularly executives with influence over business strategy.

How long will the assessment take?
The model takes no more than 30 mins to read and with debate should take no more than 2 hours to assess your organisation’s maturity.

What insight will it provide?
It provides a quick and easy starting point for organisational level discussions on informatics capability, highlighting the key areas for consideration.

How will I use the results?
The results can be used to provoke senior level discussions about the need to develop informatics capability, and the benefits that strategic informatics planning can yield. The assessment will help identify the actions needed to embed informatics capability development within your business strategy.

What will I be expected to assess?
You will be asked to evaluate your organisation through five different capability dimensions:

1. Managing information
2. Using business intelligence
3. Using information technology
4. Aligning business and information
5. Managing change

Each dimension has five levels of maturity ranging from ‘basic’ (least mature) to ‘innovative’ (most mature).

The characteristics of each maturity level are described in detail, so that you can recognise your organisation and position it appropriately on the maturity scale. The five dimensions are described in more detail on the next page.
You will be asked to evaluate five key areas of your business, which the model refers to as *capability dimensions*. The dimensions are summarised below. Each dimension has five levels of maturity ranging from ‘basic’ (least mature) to ‘innovative’ (most mature). The characteristics of each maturity level are described in detail, so that you can recognise your organisation and position it appropriately on the maturity scale.

### The five capability dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
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<tbody>
<tr>
<td>Managing information</td>
<td>This dimension looks at the collection, management and sharing of quality information across an organisation. Capability in this key area means that users have access to the right information at the right time.</td>
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<tr>
<td>Using business intelligence</td>
<td>This dimension looks at an organisation’s approach to the analysis and presentation of business data to produce the information needed to inform business and clinical decision making.</td>
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<tr>
<td>Using information technology</td>
<td>This dimension looks at the innovative use of IT to enable leaner processes and the existence of seamless information flows (for example, across care pathways).</td>
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<tr>
<td>Aligning business and informatics</td>
<td>This dimension seeks to determine whether an organisation values informatics as a strategic asset, and has the capability to ensure it can be exploited to deliver against their business objectives.</td>
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<tr>
<td>Managing change</td>
<td>This dimension looks at a structured and effective approach to realising the full benefits of informatics enabled business change.</td>
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The Informatics Capability Maturity Model

Using the model: the self assessment process

The process is simple, and has just four steps:

1. **Read ICMM**
   - Understand the value of informatics for business advantage
   - Understand the value of reviewing your organisation's informatics capability

2. **Review ICMM**
   - Facilitated discussion with senior business stakeholders
   - Identify potential areas for informatics capability improvement

3. **Sponsor detailed review**
   - Collect evidence to support analysis
   - Propose capability development actions

4. **Sponsor development**
   - Develop business strategies that reflect the agreed actions
   - Review progress by reassessing using ICMM
The Informatics Capability Maturity Model

The five maturity levels

For each capability dimension there are five associated levels of maturity; they range from ‘basic’ (least mature) to ‘innovative’ (most mature). Below are the generalised characteristics of each maturity type. The characteristics have been tailored for each specific dimension, as you will see on the next page.
The Informatics Capability Maturity Model

Key principles against each dimension

**Managing information**
- ‘Information anarchy’
- Fragmented, incomplete, inconsistent information.
- Duplication of effort.

**Using business Intelligence**
- Basic reporting and analysis
- High manual effort required
- Reporting for historical purposes

**Using information technology**
- Product focussed decisions
- Standalone products
- Minimal change to business process

**Aligning business & informatics**
- Informatics is isolated
- Viewed as a ‘cost’
- No informatics involvement in business planning

**Managing change**
- Weak change leadership
- Reactive approach to managing change
- High levels of resistance

**LEVEL 1**

**LEVEL 5**
- Information regarded as a strategic asset
- Agile information environment enabling strategic agility

- Predictive analytics
- Fully embedded BI within processes, systems and workflow

- Innovation through IT
- Needs led investments
- Transformation of processes and services

- Informatics regarded as a valued asset
- Board level representation
- Fully integrated planning

- Change led by the business
- Senior sponsorship
- Robust governance
- Managed benefits
What are the benefits that accompany maturity within this dimension?

- Increased information sharing (record once, use many) reduces duplication of effort, improving efficiency and reducing risk.

- Improved information quality leading to reduced risk and better business and patient outcomes.

- More information available at the point of need, leading to improved outcomes through more informed decision making.

- Improved security of information to reduce risk.

- Increased information reliability and data quality through effective information governance.
What are the benefits that accompany maturity within this dimension?

- Improved ability to monitor key performance indicators and metrics such as national targets or patient focussed outcome measures.

- More timely decision making through solid and readily available business intelligence.

- Improved decision making through consistent and reliable information.

- Improved communication of relevant information to key stakeholders as information is available.

- Improved success in investing in strategic assets (such as IT), through strong business intelligence.
What are the benefits that accompany maturity within this dimension?

- Increased speed of information transfer, facilitates faster diagnosis and better patient outcomes.
- Improved methods of information capture and access to improve productivity.
- Improved customer service through leaner service processes supported by more timely and accessible information.
- Improved information sharing reducing inequalities caused by geographical boundaries.
- Improved analysis and reporting of information.
What are the benefits that accompany maturity within this dimension?

- Improved focus of corporate resources on the business activities where they will have the greatest positive impact.
- Improved realisation of strategic plans by ensuring solutions meet the strategic objectives.
- Enables the corporate culture, processes, capabilities and competencies to be aligned to organisational strategy.
- Reduces cost by eliminating activities that do not support the current business strategy or policy direction.
- Increased focus on the results and outcomes of activity within all levels of the organisation.
What are the benefits that accompany maturity within this dimension?

• Increases the ability of the business to realign its activities and strategy through periods of change such as new policy or a refocusing of national objectives.

• Improves the infrastructure of change providing consistent frameworks and processes which are understood by all levels within the organisation.

• Increased realisation of business benefits aligned with strategic objectives

• Increases the capacity and capability of the organisation to deal with complex and or multiple change programmes.

• Improves organisational readiness for change by understanding current capacity and capability within the workforce.
The model was produced with reference to the following research:

Managing information
Gartner Introduces the EIM Maturity Model - Newman D & Logan D, 2008

Using business intelligence
The HP Business Intelligence Maturity Model: Describing the BI journey, 2009 Hewlett-Packard Development Company

Using information technology
Based on Venkatramen model: ‘Measuring the value of information Technology’ By Han T. M. van der Zee, 2002.

Aligning business and informatics
Assessing Business-IT Alignment Maturity’ Luftman, J 2000

Managing change
P3M3 – Portfolio Management Self-Assessment, OGC 2010
P3M3 – Programme Management Self-Assessment, OGC, 2010
P3M3 – Project Management Self-Assessment, OGC, 2010