Benefits Realisation Core Report

Guide for Victorian Public Health Services
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1. Executive Summary

This paper presents findings of the third Health Design Forum (HDF) topic, Benefits Realisation. Its purpose is to provide a clear understanding of benefits realisation concepts, tools and techniques, and some key measures that are applicable in health.

The focus of this paper is the local context, both Victorian and Australia wide. The Gartner paper on benefits realisation will look at the international situation in more detail. Some international references have been used in this paper, including “The Information Paradox” by John Thorp [FUJITSU].

The drivers for organisations to adopt benefits realisation techniques vary within the material researched, however a number of themes are common:

1. Improved business cases, with strong benefits identified for delivery, thereby increasing the chance that the business case will be approved.
2. Alignment of projects with organisational objectives.
3. Improved executive decision making.
4. Project management by benefits or value to be delivered, ensuring that beneficial projects continue and projects that will not deliver the expected benefits are either changed or terminated.
5. Assurance that the benefits expected will be delivered in actuality, through effective ICT delivery, project / program management and business change management.
6. Benefit reporting, demonstrating the value of the investment, and closing the process.

The interdependencies between change management and benefits management are another common theme, with a frequently used statement being:

“There are no benefits without change and no change without benefits”.

In Australia there is a wealth of information about benefits realisation, and guidance available to those interested. The federal government and all state and territory governments provide benefits realisation resources, with the Victoria Department of Treasury and Finance (DTF) Investment Management website being instructive and pragmatic. Overseas resources include benefits frameworks and guides from Canada Infoway, the NHS in the UK, NHS Scotland, the European Union, and the Healthcare Information Management System Society (HIMSS) for those embarking on Electronic Medical Records (EMR) implementation projects.

For benefits realisation in healthcare, the Australian Resource Centre for Healthcare Innovations publishes a range of material including a benefits realisation framework, guide, and Microsoft Excel based toolkit. These are freely available from the ARCHI website.

Allan Wattrus in “Benefits Realisation Lifecycle Management” assesses benefits realisation within the context of IT maturity, using the Capability Maturity Model Integration (CMMI) tools. His recommendation is that the CMMI should be extended to include benefits realisation at CMMI level 5 (the highest level of IT maturity). If his analysis is accurate, this presents a challenge to health organisations as the level of IT maturity is typically not high in this sector.

As a result, and again this is prevalent in the literature, it is essential that the benefits realisation approach be modified to suit the capability of the organisation and the size of the project or program. This is an activity requiring expert facilitation. Larger projects may need to engage a Benefits Realisation Manager to work within the Project/Program Management Office. Smaller projects may find that bringing an expert in to help define the benefits and write the benefits management plan will be sufficient. This also serves to align costs with the size of the project.

A framework for benefit areas suitable for use in health is included within the paper, though this remains at a high level. Based on research articles the most common focus for benefits in healthcare is the reduction of adverse events and avoidable readmissions. While there is a clear focus in the research on quantifying benefits several articles also mention the value of intangible benefits and suggest that these may be of significant value to an organisation, and should not be discounted.

The definition of project or program related benefits, their management, delivery and finally the generation of a report demonstrating the project/program value remains the responsibility of the organisation. Guidance is available from many sources, including PRINCE2 and PMM project managers, specialised benefits realisation consulting firms and from the Department of Health, Office of the CIO.
The Benefits Realisation Process

The literature varies widely in terms of the delineation of processes to achieve benefits realisation outcomes and in the body of this paper a seven stage process is described. In much of the material a very simple four stage process is used, as described in the diagram (to the right, Figure 1) from the NHS. This is based upon the standard UK government approach to benefits realisation.

More detailed processes (i.e. more steps) may be mapped into these four core elements of the benefits realisation approach.

Allan Wattrus, again in “Benefits Realisation Lifecycle Management” proposes the following benefits realisation lifecycle.

The value in this description of the lifecycle is that it incorporates two drivers for change, business need and innovation, and it builds the enabling of change into the process, which is essential to success.
The ability to review benefits and potentially improve them is also of value and reflects changes that occur within the project/program lifecycle.

**Benefits Realisation Adoption in Health**

The HIMSS EMR Benefit Survey 2012 provides a view on how benefits are being handled within the responding health services. Note that 33 responses were received, and the average hospital size was 376 beds.

The chart below describes some of the techniques used to support benefits realisation activities within the health services that responded to the survey. There does not appear to be an earlier version of this survey, so it isn’t possible to determine whether health services are making a greater commitment to benefits realisation, whether it is remaining consistent, or even deteriorating.

The chart does provide a clear message to health organisations, with a significant proportion of the hospitals surveyed adopting elements of the benefits realisation approach. This suggests that hospitals are maturing in their approach to IT and beginning to use benefits realisation techniques.

**Conclusions**

Based on the research findings:

1. Victorian health organisations should look to adopt benefits realisation techniques within their organisations for key programs and projects.
2. The benefits realisation approach used should be tailored to suit the project or program of work, and the capabilities of the respective health service, with this possibly requiring a degree of expert assistance.
3. Health organisations should focus on identifying and managing the key benefits from a project or program and not attempt to identify and track every potential benefit.
2. Introduction

In the first HDF meeting, several members highlighted that benefits realisation is not always applied effectively in healthcare IT projects, with this representing a significant project risk. The third HDF meeting confirmed benefits realisation as the subject of this next paper in the HDF research series.

It was agreed by the group that research into options for a benefits framework suitable for use in the Victorian health sector would be extremely useful, especially to those about to embark on major health IT projects. Frameworks that have been proven through actual use would form the focus of the report.

A robust approach to benefits realisation within a health IT related program of work will help to ensure that the project business case is strong, that the program is conducted in a way that focuses on delivery of benefits (scope controlled, organisation change is managed, etc.), and that benefits are measured and reported upon following completion of the program.

Consultant-driven benefits realisation often involves the quantification of benefits into dollar values. While this has its value in certain areas, this is not the focus of this paper.

The objectives of this paper are to:

- Explain benefits realisation concepts and processes.
- Identify reasons why benefits realisation techniques are used poorly or not used at all in health related projects.
- Identify local, national and international health IT projects that have performed benefits realisation well, and examine the reasons for this, the techniques used, and the measures applied. Identify areas of commonality and difference.
- Identify benefits realisation methodologies and/or tools, available to health organisations, that support an effective approach to benefits realisation.
- Identify options available to health organisations in conducting benefits realisation effectively, and in alignment with the program/project size, complexity and value.
- Identify key measures that would be applicable to health IT programs, especially those involving implementation of a major clinical system, such as a new ED or EMR system.
- The paper will not exclude consideration of benefits for IT infrastructure type projects. Some areas for focus:
  - Reducing adverse events
  - Reducing avoidable readmissions
  - Quality and safety
  - Compliance
  - Patient experience and satisfaction
  - Cost savings (return on investment)
  - Areas of benefits for users of the systems, such as increased efficiency, improved access to information, better data quality, etc.

2.1 Background

Benefits realisation is defined by the Victorian Department of Treasury and Finance [DTF] as “Benefits realisation identifies, optimises and tracks the expected benefits through to their realisation. It is a core activity and a continuous management process running throughout the investment lifecycle.

Managing Successful Programs (http://www.msp-officialsite.com/) defines benefits realisation as “measurable improvement resulting from an outcome which is perceived as an advantage by a stakeholder”.

A range of terms are used to describe benefits realisation, including benefit management, benefits realisation management, benefits realisation approach value management and others. They typically
refer to a similar set of processes, deliverables and roles, all of which contribute to an organisation’s ability to identify, manage and realise benefits from their investments.

Sapountzis, in his paper entitled “Benefits Realisation Process for Healthcare” uses the following diagram to demonstrate the relationship between benefit management, program management, change management and project management, highlighting the complexity of the relationships. The size of the segment represents the magnitude of effort, with the higher segments representing greater organisational value.

Reiss et al (2006) describe that:
- “Projects do not deliver benefits, but create deliverables
- Programs themselves rarely deliver benefits directly, but by combining projects and their deliverables they create the capabilities that will enable the desired benefits to be achieved
- The benefit management processes ensure that the capabilities created by programs are used to deliver the anticipated business benefits”.

John Thorp, in his book The Information Paradox: Realizing the Business Benefits of Information Technology [FUJITSU], reminds us of a few realities of benefits realisation:

- **Benefits do not just happen.** They don’t just automatically appear when a new technology is delivered. A benefits stream flows and evolves over time as people learn to use it.
- **Benefits rarely happen according to plan.** A forecast of benefits to support the business case for an investment is just an early estimate. It is unlikely to turn out as expected, much like corporate earnings forecasts. You have to keep checking, just as you would with a financial investment that fluctuates in value on the securities market.
- **Benefits realization is a continuous process** of envisioning results, implementing, checking intermediate results and dynamically adjusting the path leading from investments to business results. Benefits realization is a process that can and must be managed, just like any other business process.”

The use of benefits realisation techniques is flagged as closely related to IT maturity by Allan Wattrus in “Benefits Realisation Lifecycle Management” with organisations with a high degree of IT maturity typically making effective use of benefits realisation management techniques, with the converse being true. His article then focuses more closely on an investment evaluation methodology which is beyond the scope of this paper.
3. Benefits Realisation Introduction

Benefits realisation techniques began to be used in the 1970s and early 1980’s as ICT investment started to increase, and in some cases the actual business benefit seemed unclear, or even non-existent.

The Information Paradox [FUJITSU] references the four questions shown in the diagram below, as do many other benefits realisation methodologies.

![Figure 4 - The Four "ares"](image)

The Information Paradox [FUJITSU] asks:

1. “Are we doing the right things? Are we clear what benefits we are seeking? Are the end benefits in line with our organisation’s goals and priorities? Will they remain so over the life of the program?”

2. Are we doing them the right way? Will the program comply with all necessary technical and quality standards? Will it reinforce the general direction of other work in the area? Do all elements of the investment (business, technology, organization, process and people) blend well together?

3. Are we getting them done well? Have we identified all the work and have all players accepted the responsibility for their part in this work? Are there sound delivery plans and well-designed projects in the program? Is the project work achievable with the planned resources? Will there be adequate quality assurance? Can all the “soft” organization, people and process initiatives be completed in time to take full advantage of technological changes?

4. Are we getting the benefits? Do the prospective benefits justify the costs? How certain are we about the estimates of benefits? Is there broad acceptance for the program? Is there a solid business sponsor, ready, willing and able to deliver the benefits? How much could the estimates be affected by factors outside the organization’s control?”
The Information Paradox then suggests three measurements to support the above:

- **Alignment.** Alignment is a measure of the degree to which the program supports the business goals and strategic intents of the organization. Alignment looks to measurements beyond financial worth. It aims to capture these other contributors to your organisation’s success, such as those suggested by Kaplan and Norton’s *Balanced Scorecard*.

- **Financial Worth.** Financial worth is a measure of the worth of the program in purely financial terms. This could well include newer financial measures such as economic value added (EVA®).

- **Risk.** Risk is measured in terms of the fact that the program may not ultimately deliver all of the potential value, taking into account all of the contributing elements involved in the program’s Results Chain.

### 3.1 Principles

The NHS, in its Connecting for Health Benefits Realisation Plan template identifies the following fundamentals:

- **“Benefits are net positive changes in outcomes.”** The program aims to deliver a number of outcomes (desired changes in state; being either intermediary or strategic outcomes) a number of which are identified as being the “benefits” to the organisation.

- **IT is an enabler for business benefits.** ICT provides technology capabilities, but is insufficient by itself to deliver business benefits. Technology enables changes to the way people work, with new processes and new ways, and this needs to be managed as a program of business change.

- **Benefits are not automatic.** Benefits realisation is beyond project management, and requires active monitoring of the delivery of projects, the effectiveness of change and the achievement of outcomes.

- **Change management must be integrated.** Benefits cannot be delivered without business change. So there must be a strong linkage between change management and benefits realisation.

- **Benefits are long term.** Benefits will flow over a period of time as people learn to use the new technology and systems and integrate it into business processes. Benefits realisation is a long-term process extending beyond the life of component projects.

- **Benefits will change.** Benefits rarely occur as planned and the organisation has to establish a process for actively monitoring the benefits and actively managing the realisation of benefits, continuous process over the life of a program.

- **Benefits realisation requires governance.** The benefits realisation process will inform the program business case and program plan, and this needs to be synchronised. Benefits processes must be linked with program governance.”

### 3.2 Benefits Realisation Challenges

A number of reference articles discuss the challenges associated with implementing benefits realisation techniques with those by 451 Consulting, the Oxford Brookes University and the Program and Business Value Management group of most relevance. The challenges include:

1. Benefits do not occur naturally. It will typically take considerable effort to ensure benefits described in the business case are actually delivered.

2. Benefits are often overstated in the business case to ensure that the business case is approved and funding is obtained.

3. Linking to an imprecise business strategy. If the business strategy is loosely defined then it becomes easier for projects / programs to link to it, and thereby gain approval to proceed.
4. Preference for monetary benefits (i.e. positive return on investment), to the cost of potentially extremely valuable intangible benefits.

5. Perceived inability to measure the benefit. (See Douglas Hubbard's book "How to measure anything – finding the value of intangible in business", which effectively dispels this concept.)

6. Lack of support by executives if targets are not achieved, or if benefits are diminished through the project delivery cycle.

7. Failure to understand the benefits lifecycle extends past the traditional project lifecycle, often for an extended period.

8. Not differentiating between notional and harvestable benefits.

9. Double dipping of benefits between projects.

10. Not managing project scope by benefits.

11. Most of the focus in programs and projects is on time and cost (since they are easier to measure - see [Hubbard]), less on risk and quality and almost none on benefits since tracking benefits is not well understood. Consequently if a project is delivered to schedule and budget, success is declared.

12. Availability of resources with appropriate skills to perform benefits realisation tasks. It is important to recall that the benefits realisation process begins at business case development time and may extend well beyond solution implementation.

A key message from several HDF forum members is that benefits realisation techniques are sometimes not applied at all to projects. This highlights the organisational challenge that needs to be overcome to encourage, or potentially even enforce, the use of the benefits realisation approach.

With respect to the experience of the HDA, one of the key inhibitors to effective benefits realisation is that when a project is under pressure (schedule, budget), it seems that funding for the delivery of the IT components is increased (to ensure delivery) through redirection of funds that otherwise would have gone to change or benefits management.

The HDA also has experience with benefits that accrue to organisations or people not directly associated with the organisation conducting the project, this being especially common in government. Delivering benefits to patients or the community is commonly seen as desirable, implementing a project that delivers a cost benefit to another organisation may prove to be problematic.

### 3.3 Disbenefits

The Oxford Dictionary defines a disbenefit as “a disadvantage or loss resulting from something”.

Much of the literature talks about disbenefits, which is essentially a cost, even if the cost isn’t quantified. An example of a disbenefit is the implementation of a new ehealth system that provides measurable benefits in data completeness and quality, which takes users 20% more time to complete tasks than they did in the previous system. Identifying and managing the trade-off between benefits and costs/impacts is one of the main roles of the benefits realisation manager, or project manager. Making decisions about accepting disbenefits remains with the executive, such as a Steering Committee.

The literature describes two schools of thought with respect to identifying and managing disbenefits:

1. Factor significant disbenefits into the business case and manage them through the project in the same way that benefits would be managed, except that the impact is to be minimised rather than maximised.

2. Quantification of disbenefits also provides a true perspective on the cost benefit analysis.

3. In some of the literature, disbenefits are not factored into the overall cost benefit analysis, providing a more positive project/program view than would otherwise have been the case. This approach is not recommended.

Some disbenefits will be identified as the project progresses. It is important that these be factored into the overall benefits equation as the value of the project may be diminished to the point that it becomes non-viable.
4. Benefits Realisation in Australia

Based on the research conducted, Australia has a significant amount of benefits realisation guidance available, which includes information from the federal government and all state and territory governments. In Victoria the benefits realisation advice and material available from the Department of Treasury and Finance is consistent with that found elsewhere and indeed offers a pragmatic approach.

There are specific benefits realisation frameworks applicable to health, such as the framework and supporting material developed by the Australian Resource Centre for Healthcare Innovation (ARCHI), now part of the Agency for Clinical Innovation (ACI).

4.1 Benefits Frameworks and Guides

4.1.1 Victorian Department of Treasury and Finance
The Victorian Department of Treasury and Finance (DTF) website, [http://www.dtf.vic.gov.au/CA25713E0002EF43/pages/investment-management](http://www.dtf.vic.gov.au/CA25713E0002EF43/pages/investment-management), provides both guidance and deliverable templates to those wishing to adopt standard DTF investment management practices. While somewhat conceptual in its view, and also using a police force example, the framework provides a three tiered structure that links the contribution of an investment to the outcomes the enterprise is seeking.

In this example, the government is seeking to create “friendly, confident and safe communities”. The police force is therefore required to reduce crime. It is up to the executive of the police force to determine the benefit that may apply to the reduction in crime as a result of reduced time to provide forensic matches.

DTF draw a clear distinction between the approach to be taken by large projects (four benefits related deliverables), versus that to be taken by small projects (one deliverable). Regardless of the size of the project the initial process is listed below. For benefit measurement this is followed by two additional steps: Investment Review and Benefits Reporting.

As with most approaches examined through HDA research, the key deliverables include the benefit definition and the benefit management plan. Somewhat unique to DTF is the Investment Logic Map which is typically part of the business case. DTF provides a list of accredited facilitators who can help organisations to answer the following questions:

1. What evidence will be needed to demonstrate that the identified problems have been properly addressed?
   - What are the key performance indicators (KPIs)?
   - Against the KPIs, what measures will be used?
   - What is the current baseline, target values and timelines for these measures?
2. Who will be responsible for delivering the benefits?
3. How will the benefits be tracked and reported?

DTF recommend the consideration of 16 questions, to be used when selecting an investment.

<table>
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<tr>
<th>PROBLEM</th>
<th>BENEFITS</th>
<th>STRATEGIC RESPONSE</th>
<th>SOLUTION</th>
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<tr>
<td>1. Is it clear what the problem is that needs to be addressed, both the cause and effect?</td>
<td>5. Have the benefits that will result from fixing the problem been adequately defined?</td>
<td>9. Has a reasonable spread of strategic interventions been identified and packaged into sensible strategic options?</td>
<td>13. Consistent with preferred strategic option, has a reasonable spread of project options been analysed?</td>
</tr>
<tr>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
</tr>
<tr>
<td>2. Is there sufficient evidence to confirm both the cause and effect of the problem?</td>
<td>6. Are the benefits of high value to the government?</td>
<td>10. Is there evidence to demonstrate that the strategic options are feasible?</td>
<td>14. Is the recommended project solution the best value for money way to respond to the problem and deliver the expected benefits?</td>
</tr>
<tr>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
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<tr>
<td>3. Does the problem need to be addressed now and by this government?</td>
<td>7. Are the KPIs SMART and will they provide strong evidence that the benefits have been delivered?</td>
<td>11. Were the strategic options evaluated fairly to reflect their ability to respond to the problem and deliver the benefits?</td>
<td>15. Is the solution specified clearly and fully? (all business changes and assets)</td>
</tr>
<tr>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
</tr>
<tr>
<td>4. Does the defined problem capture its full extent/scope?</td>
<td>8. Have key dependencies critical to benefit delivery been considered?</td>
<td>12. Is the preferred strategic option the most effective way to address the problem and deliver the benefits?</td>
<td>16. Can the solution really be delivered (cost, risk, timeframes etc.)?</td>
</tr>
<tr>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
<td>Yes Partial No ?</td>
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DTF also provides guidance on evaluating the program, with the following questions to be answered:

1. Is the original need for this program still valid today?
2. Are the benefits expected to be delivered by the program still relevant and valuable to the organisation?
3. Are the expected benefits being delivered as planned?
4. Are there changes that can be made to improve the relevance or effectiveness of the program?

This is reflected in the diagram below.

DTF also provide guidance on reviewing the investment and benefits reporting, as mentioned above.
4.1.2 Australian Resource Centre for Healthcare Innovation

The Australian Resource Centre for Healthcare Innovation (ARCHI) offers a benefits realisation toolkit that implements the benefits realisation framework below.

The toolkit offers practical advice to health services, and indeed Departments of Health that may be supporting health services in the delivery of ehealth projects. Some key points:

1. Ensure benefits are measurable and achievable.
2. Benefits are primarily delivered through business change rather than on the technology or application(s) associated with the project.
3. Ensure sufficient resources have been allocated to delivering the organisational change covers the Business, Technology, Organisational, People, and Process (BTOPP) areas.
4. Manage benefits using best practice change management techniques. The steering committee should approve changes to benefits.
5. Identify the owners of the benefits and transfer the ownership of the benefit to the stakeholder. This empowers the stakeholder and also distributes the risk.
6. Identify obstacles to the realisation of benefits. These are not necessarily project risks, but apply purely to benefit delivery (e.g. a failure to change a business process).
7. Develop a benefit plan.
8. Develop a results/benefits/value chain.
9. Conduct the baseline measurement, i.e. determine the current state of an area where a benefit is to be delivered. For example, it may currently take an admissions clerk 15 minutes to register a new patient. A new process whereby patients are encouraged to register prior to admission, via a patient portal or similar, will in a percentage of cases reduce this time.
10. Manage benefits, and their stakeholders, throughout the project (and benefits) lifecycle.
11. Ensure benefits dependencies are delivered, e.g. stopped business processes, new business processes.
12. Conduct post-implementation measurements and update the benefits realisation register.
Figure 5 - ARCHI Benefits Realisation Process Framework
4.2 Benefit Measures

There are a number of sources of potential benefit measurement categories that may be of value to health organisations and require little additional effort to leverage for benefits realisation activities.

4.2.1 Victorian Health Service Performance Monitoring Framework

The Victorian Health Services Performance Monitoring Framework (VHSPMF) sets out the range of approaches and measures used to monitor health services and will be designed over time to ensure more consistent monitoring practices across the sector [http://www.health.vic.gov.au/hospital-performance/].

The VHSPMF identifies a range of priority performance measures that health services are required to report upon, including:

- Finance performance
- Access performance
  - Emergency care
  - Elective Surgery
- Service Performance
  - Elective surgery
  - Critical care
  - Maternity
  - Newborns
  - Quality and Safety
  - Workforce
  - Mental Health

This provides readily available and potentially useful collection of baseline measures that may be used when establishing a benefits baseline for a project or program.

Note that the Quality and Safety component has links to the NSQHS standards below.

4.2.2 The National Safety and Quality Health Service Standards

While there are flexible arrangements in place for 2013, all health services will be undertaking a program of work to gain accreditation against these mandatory standards in the future. This provides a potentially useful measurement baseline for any future project that raises a health service’s capability in any of the defined categories:

1. Governance for Safety and Quality in Health Service Organisations.
2. Partnering with Consumers.
5. Patient Identification and Procedure Matching.
8. Preventing and Managing Pressure Injuries.
10. Preventing Falls and Harm from Falls.
While not all categories are immediately identifiable as areas where benefits could be delivered through an ehealth / IT project, some certainly are, such as governance (process, IT systems), partnering with consumers (IT systems – patient portal, use of smartphones, telemedicine), medication safety (business processes, information management, IT systems), patient identification and procedure matching (business processes, information management, IT systems), clinical handover (business processes, information management, IT systems, interoperability). Recent technological advances, including some commodity items such as the Apple iPhone, also provide some support in the area of falls detection.

4.2.3 Victorian Department of Health Reporting
The Department of Health, through the Health Data Standards and Systems (HDSS) work, defines information and reporting standards to be used by Victorian Public Health Services. Again, if relevant to the project or program under consideration, this reporting data may provide a useful baseline to be used in benefits realisation activities. Some of the main data collections include:

1. Victorian Admitted Episodes Dataset (VAED)
2. Victorian Emergency Minimum Dataset (VEMD)
3. Elective Surgery Information System (ESIS)
4. Victorian Integrated Non-Admitted Health Minimum Dataset (VINAH)
5. Victorian Cost Data Collection (VCDC).

4.3 Other Resources

The Federal Government Department of Finance and Deregulation, publishes a list of service providers in the area of Project Outcome Evaluation and Benefits realisation. This document runs to 155 pages, with many of the service providers located in Melbourne. This implies that there is no shortage of consultants that could help Victorian health services with benefits realisation services. See reference [DFD].
5. Benefits Realisation Guide

The use of benefits realisation techniques provides value across the project or program lifecycle, ensuring that wise investment decisions are made initially, are monitored with respect to their benefit delivery throughout the project or program lifecycle, and are finally reported upon to demonstrate the value delivered to the organisation (sector, community) through the work completed.

Figure 6 - Benefits Realisation Cornerstones

In The Information Paradox, Fujitsu describes three cornerstones of the benefits realisation approach, as shown in the above diagram. The cornerstones are:

1. Program management.
2. Portfolio management.
3. Full cycle governance.

Three necessary conditions are also identified:

1. Activist accountability, which relates to the person who can make the benefit happen.
2. Relevant measurement, enabling management of risks and rewards, and also supporting adjustment of benefits as circumstances change.
3. Proactive management of change, without which benefits will not be delivered.


The implication of the above is that an organisation must achieve a very high level of IT maturity (CMMI Level 5) to be able to draw on these techniques effectively. Unfortunately not all health services are able to achieve or sustain this level of IT maturity. Benefits realisation techniques must therefore be tailored to suit organisational capability and the nature of the project or program.
5.1 Benefits Realisation Approach

All benefits realisation approaches used in healthcare, either locally or internationally take a pragmatic view of what can and should be done. Consolidating information from the references, we identify the following key processes:

1. **Benefits identification.** This is an initial high level view of the benefits likely to be realised from a project or program. Useful for business case development. Benefits claimed should follow the SMART approach, i.e. Specific, Measurable, Attainable, Relevant, Time-sensitive (or time bounded).

2. **Benefit reconciliation.** This typically occurs after the business case has been approved, and as project scope is finalised. Where feasible benefits should be quantified. The SMART approach continues to apply. This phase caters for situations where the full project scope is not approved, or partial funding only is provided.

3. **Identify benefits owners.** This is a fundamental step that places responsibility for benefit delivery in the hands of the respective business owners.

4. **Prepare the benefits management plan.** Typically this is the key deliverable that will enable benefits to be monitored and driven out of the project/program.

5. **Baseline the benefit measures to understand the current state.** Fundamental to have something to compare with once the project is delivered. Where existing reports provide information on current performance in a benefits area assess these reports for suitability as a baseline. Some measures include:
   a. Current costs
   b. Time to complete tasks
   c. Quality and number of errors, e.g. avoidable readmissions, or medication errors
   d. User satisfaction (survey techniques can be used).

6. **Manage the benefits through the project or program lifecycle, ensuring that benefits are delivered by the owners.** This is done by following the benefits management plan. A key concept within benefits realisation is that benefits change over time. A sign of a highly mature organisation is that when a project is no longer going to deliver the expected benefits the project is either changed or terminated. This is typically defined as being a steering committee decision in the literature.

7. **Measure and report on the benefits delivered.** Apply the same measures that were used to baseline the benefits, remembering that some benefits take a significant period of time to be realised in full.

5.2 Tailoring Benefits Realisation to Project Size

A common theme in the literature is that benefits realisation techniques that are applied to a project or program and the associated deliverables and resources must be tailored to the project/program size.

While the literature doesn’t necessarily provide techniques for tailoring the approach to benefits realisation to project or program size, with the exception of the Victorian DTF, the common theme is that a benefits realisation expert should be engaged to assist with this activity.

The project management methodologies, including PMM and PRINCE2, provide guidance on benefits management to practitioners.

5.2.1 Small Projects

For small projects several references, including [DTF] and [Brookes], recommend adoption of a lighter weight approach, based on:

1. **Rationalisation of deliverables into the benefits definition and single benefits management plan that can also be used to provide the final report.**
2. Use the skills of the project manager to manage the benefits realisation process, rather than hiring a benefits realisation specialist for the complete project lifecycle. Bringing in a facilitator to help identify the benefits and develop the benefits management plan is recommended.

3. Keep the benefits realisation relatively simple and focus on those that are realistic and will deliver the maximum value (do not ignore change management requirements).

5.2.2 Large Projects or Programs

For large projects, a full suite of benefits realisation deliverables is recommended, noting that a large project or program can be separated into a number of component parts to enable simpler, or shared, identification and management of benefits.

Perhaps of more importance is the DTF recommendation that a benefits realisation expert be employed to assist with the identification of benefits, the development of the benefits plan and the management of benefits through the project lifecycle. This role is often referred to as the Benefits Realisation Manager, and it typically exists within the Project (or Program) Management Office.

For very large projects or a program of work a benefit team may be required. The costs of this should not be underestimated when preparing the business case, especially if an external consulting firm will be engaged.

5.2.3 Electronic Medical Records Projects

For projects or programs that involve the implementation of a comprehensive EMR system within a health service there is a wealth of material available to guide benefits realisation activities.

The HIMSS EMRAM provides a function or component view of the HIMSS levels, as was described in the first HDF paper. The HIMSS paper entitled “EMR Benefits and Benefit Realization Methods of Stage 6 and 7 Hospitals” provides a summary of benefits delivered by stage 6 and 7 hospitals (diagram below)

![HIMSS EMR Benefit Survey 2012 – Realised Benefits](image)

The HIMSS document provides information on the benefits realisation techniques used by the health services, with not all organisations following a rigorous process. For example only 33% of respondents assigned individual responsibility and accountability to each area of benefit.
5.2.4 ICT Infrastructure Projects

One of the common challenges that CIOs and IT Managers face is justifying ICT infrastructure projects. Some of the benefit areas that may be of interest to those undertaking ICT infrastructure projects include:

- **Compliance.** In many ways this is the easiest justification to use, provided the business has accepted that the compliance regime applies to them.
- **Alignment with business needs.** Where the business has specific requirements (currently unsupported by ICT), or a business strategy with supporting ICT initiatives exists, these projects should gain support from the executive.
- **Cost avoidance,** such as avoiding higher maintenance costs for software as the software ages, or comes out of support.
- **Cost reduction.** An important driver, though the cost of change can be greater than the cost reduction delivered. Moving to virtualised infrastructure has been commonly driven by the thought of cost reductions. Moving to Cloud based services also falls into this category.
- **Risk reduction.** This is one of the key reasons for making changes to ICT infrastructure, especially as it ages. In engineering terms the Mean Time Between Failures (MTBF) decreases as equipment ages, thereby increasing the risk of disruption to the organisation and staff.
- **User benefits.** Better performance (user can do more in a given period of time), better user experience, latest tools.

5.3 eHealth Benefits Categories

Late in 2012 the HDA began to use the following benefits framework, developed by the National Institute of Health Informatics Canada, to assist in framing research topics with a consistent view of accepted benefit categories for health.

The table provides a high level view of potential benefit categories for organisations undertaking major ehealth, or other, programs of work. Persistent in the research is delivering the benefits of reduced adverse events, which has associated community, human and financial benefits.

There are two areas that the HDA suggests may add value to the framework below:

1. Addition of “improved effectiveness” as a benefit in the productivity section. Effectiveness being a measure of whether we are doing the right things, versus efficiency which focuses on whether we are doing things well.
2. Addition of a compliance benefit category, as this is a project/program driver typically well understood by the organisational executive.
<table>
<thead>
<tr>
<th>Class</th>
<th>Benefit</th>
<th>eHealth Interventions</th>
<th>Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productivity</strong></td>
<td>Improved Efficiency</td>
<td>Regional Picture Archiving and Communications systems (PACS), provincial and national registries, electronic Master Patient Index (eMPI), Clinical Management Systems (CMS), Pharmacy Information Networks (PIN)</td>
<td>Cost reduction, cost containment, cost avoidance, increased productivity, reduced duplication of tests/procedures</td>
</tr>
<tr>
<td></td>
<td>Support to program reform or health system change management</td>
<td>Integrated Health Information Systems (HIS), Regional PACS, regional and provincial data repositories and registries</td>
<td>Impact on success of reform or change initiative</td>
</tr>
<tr>
<td><strong>Access</strong></td>
<td>Improved service</td>
<td>Telemedicine, Wait-times Information Systems</td>
<td>Easier access to health services in remote areas, reduction in wait-times for medical and surgical procedures</td>
</tr>
<tr>
<td></td>
<td>Improved quality and access to data for research</td>
<td>EHR, provincial and national registries and repositories, systems for anonymization and pseudonimization</td>
<td>Increased availability of data, improved quality of data</td>
</tr>
<tr>
<td><strong>Quality</strong></td>
<td>Improved patient health outcomes</td>
<td>Electronic Health Records (EHR), Computerized Practitioner Order Entry (CPOE), Wait-times Information Systems (WTIS), CMS, PIN</td>
<td>Reduced mortality (specific causes), reduced morbidity (clinical events, physiologic and metabolic measures), level of disability, functional status, symptom status, quality of life</td>
</tr>
<tr>
<td></td>
<td>Improved population health outcomes</td>
<td>Public health surveillance systems, crisis communications systems, public health portals</td>
<td>Reduced mortality (specific causes), reduced morbidity (clinical events, physiologic and metabolic measures)</td>
</tr>
<tr>
<td></td>
<td>Improved safety</td>
<td>EHR, CPOE, WTIS, PIN</td>
<td>Reduction in preventable adverse events</td>
</tr>
<tr>
<td></td>
<td>Patient empowerment</td>
<td>Patient-oriented web portals, email, patient access to personal electronic health record, telehomecare.</td>
<td>Patient satisfaction surveys, rate of access to electronic services (e.g. hits on website)</td>
</tr>
<tr>
<td></td>
<td>Patient satisfaction</td>
<td>All eHealth interventions</td>
<td>Patient satisfaction surveys, level of patient inquiries and complaints</td>
</tr>
<tr>
<td></td>
<td>Enhanced accountability</td>
<td>Strong authentication, logging of system interventions (access, add, modify, delete), non-repudiation</td>
<td>Positive audit or operational review observations</td>
</tr>
<tr>
<td></td>
<td>Improved privacy and security</td>
<td>Strong authentication, role-based access control, intrusion detection systems, logging of systems events</td>
<td>Reduction in privacy and security incidents, effective response to privacy and security incidents</td>
</tr>
</tbody>
</table>
5.4 Modelling Techniques

While there are a number of benefits modelling techniques available, the Results Chain, the Benefits Dependency Network and House of Quality models will be described here.

5.4.1 Results Chain

The Results Chain provides a graphical representation of the benefits to be delivered

Outcomes: the results sought, including either intermediate outcomes in the chain, those outcomes that are necessary but not sufficient to achieve the end benefit, or ultimate outcomes, the end benefits to be harvested.

Initiatives: actions that contribute to one or more outcomes.

Contributions: the roles played by elements of the Results Chain, either initiatives or intermediate outcomes, in contributing to other initiatives or outcomes.

Assumptions: hypotheses regarding conditions necessary to the realization of outcomes or initiatives but over which the organization has little or no control. Assumptions represent risks that you may not achieve desired outcomes. Any change to an assumption during the course of the benefits realization process should force you to revise your map.

A simple results chain is shown below.

The results chain is usually developed through a series of workshops with the business sponsors and their subject matter experts. This is an area where expert facilitation may be of value. The entire program of work does not need to be represented on one results chain diagram.

The results chain is described in detail in “The Information Paradox” [FUJITSU].
5.4.2 Benefits Dependency Network

The Benefits Dependency Network provides a graphical representation of linkages between objectives and benefits and the business, organisational and IT changes required to deliver those objectives and benefits.

An example from Sheffield (UK), from the presentation “ASSIST Managing Change to Realise Benefits 110405” by Entwhistle, is shown below.

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As can be seen from the diagram above which is becoming hard to follow in the linkages to the Benefits/Outcome column, this visualisation technique is not well suited to very large projects or programs of work, where there may be many items in each category. In this situation the diagram may be developed to align with a project, or a project component.
5.4.3 House of Quality

The House of Quality typically aligns customer requirements (vertical scale) with product capabilities (horizontal scale). Defining benefits as the customer requirements enables the House of Quality to be used as a graphical representation of benefit delivery within a project or program.

Further information on the House of Quality may be obtained from [http://www.qfdonline.com/](http://www.qfdonline.com/), or from the Department of Health OCIO.

![House of Quality example](image)

5.5 Conclusion

Victorian health organisations, through the HDF, have expressed their interest in “doing benefits realisation better”, and this is supported by overseas experience with hospitals beginning to make use of benefits realisation techniques [HIMSS].

The management of projects by the benefits they will deliver, rather than by schedule and budget, seems almost irresistible in terms of its logic.

The consistency of important messages in the literature leads to a number of conclusions:

1. Victorian public health services should look to adopt benefits realisation techniques within their organisations for key programs and projects.

2. The benefits realisation approach used should be tailored to suit the project or program of work and the capabilities of the respective health service, with this possibly requiring a degree of expert assistance.

3. Health services should focus on identifying and managing the key benefits from a project or program, and not attempt to identify and track every potential benefit.
### 6. Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMT</td>
<td>Australian Medicines Terminology</td>
</tr>
<tr>
<td>ARCHI</td>
<td>Australian Resource Centre for Healthcare Innovation</td>
</tr>
<tr>
<td>ARGPm</td>
<td>Australian Regulatory Guidelines for Prescriptions Medicines</td>
</tr>
<tr>
<td>BRM</td>
<td>Benefits realisation Management</td>
</tr>
<tr>
<td>BTOPP</td>
<td>Business Technology Organisation Process People</td>
</tr>
<tr>
<td>CDA</td>
<td>Clinical Document Architecture</td>
</tr>
<tr>
<td>CMMI</td>
<td>Capability Maturity Model Integration</td>
</tr>
<tr>
<td>CPR</td>
<td>Computerised Patient Record (in Gartner report)</td>
</tr>
<tr>
<td>DHS</td>
<td>Australian Government Department of Human Services, which now incorporates Medicare Australia. Also Victorian Department of Human Services.</td>
</tr>
<tr>
<td>DH</td>
<td>Victorian Department of Health</td>
</tr>
<tr>
<td>DoHA</td>
<td>Commonwealth Department of Health and Ageing</td>
</tr>
<tr>
<td>EBM</td>
<td>Evidence Based Medicine (in Gartner report)</td>
</tr>
<tr>
<td>EHR</td>
<td>Electronic Health Record</td>
</tr>
<tr>
<td>EMPI</td>
<td>Enterprise Master Patient Index</td>
</tr>
<tr>
<td>EMR</td>
<td>Electronic Medical Record</td>
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<tr>
<td>EMRAM</td>
<td>Electronic Medical Record Adoption Model</td>
</tr>
<tr>
<td>OCIO</td>
<td>OCIO Health Design Authority</td>
</tr>
<tr>
<td>HDF</td>
<td>Health Design Forum</td>
</tr>
<tr>
<td>HDO</td>
<td>Health Delivery Organisation (in Gartner report)</td>
</tr>
<tr>
<td>HI</td>
<td>Healthcare Identifier</td>
</tr>
<tr>
<td>HIT</td>
<td>Health Information technology</td>
</tr>
<tr>
<td>HIMSS</td>
<td>Health Information and Management Systems Society.</td>
</tr>
<tr>
<td>HL7</td>
<td>Health Level 7, a widely accepted standard to support exchange of medical information, both administrative and clinical.</td>
</tr>
<tr>
<td>HS</td>
<td>Health Service</td>
</tr>
<tr>
<td>ICD10</td>
<td>International Classification of Diseases</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>IRR</td>
<td>Internal Rate of Return</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>MBS</td>
<td>Medical Benefits Scheme</td>
</tr>
<tr>
<td>NEHTA</td>
<td>National eHealth Transition Authority</td>
</tr>
<tr>
<td>NHS</td>
<td>National Health Service (UK)</td>
</tr>
<tr>
<td>NPV</td>
<td>Net Present Value</td>
</tr>
<tr>
<td>NSQHS</td>
<td>National Safety and Quality Health Service (standards)</td>
</tr>
<tr>
<td>OCIO</td>
<td>Office of the CIO, Victorian Department of Health</td>
</tr>
<tr>
<td>PACS</td>
<td>Picture Archiving and Communication System</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PAS</td>
<td>Patient Administration System – a system used for the recording of patient and provider information to support management and coordination of service provision.</td>
</tr>
<tr>
<td>PBS</td>
<td>Pharmaceutical Benefit Scheme</td>
</tr>
<tr>
<td>PCEHR</td>
<td>Personally Controlled Electronic Health Record</td>
</tr>
<tr>
<td>ROI</td>
<td>Return on Investment</td>
</tr>
<tr>
<td>SCTT</td>
<td>Service Coordination Tools Templates</td>
</tr>
<tr>
<td>SMART</td>
<td>Specific, Measurable, Attainable, Relevant, Time-sensitive</td>
</tr>
<tr>
<td>SMARTER</td>
<td>Specific, Measurable, Attainable, Relevant, Time-sensitive, Evaluate, Reevaluate</td>
</tr>
<tr>
<td>SNOMED CT</td>
<td>Systematised Nomenclature of Medicine Clinical Terms</td>
</tr>
<tr>
<td>VAED</td>
<td>Victorian Admitted Episodic Dataset</td>
</tr>
<tr>
<td>VCDC</td>
<td>Victorian Cost Data Collection</td>
</tr>
<tr>
<td>VEMD</td>
<td>Victorian Emergency Minimum Dataset</td>
</tr>
<tr>
<td>VHSPMF</td>
<td>Victorian Health Service Performance Monitoring Framework</td>
</tr>
<tr>
<td>VINAH</td>
<td>Victorian Integrated Non-Admitted Health, a minimum dataset and reporting specification</td>
</tr>
<tr>
<td>VPHS</td>
<td>Victorian Public Health Sector</td>
</tr>
<tr>
<td>Integration</td>
<td>To provide the right information at the right place and at the right time and thereby enabling communication between applications. The exchange of electronic messaging. i.e. HL7, CDA</td>
</tr>
<tr>
<td>Interoperability</td>
<td>Is the ability of diverse systems and organisations to work together (inter-operate) to enhance workflows and processes without barriers and broken data flows.</td>
</tr>
<tr>
<td>Health Organisation</td>
<td>Health Organisations exist for areas related to health, such as and not limited to health services, hospitals, community centres, mental health, health alliances</td>
</tr>
</tbody>
</table>
### 7. References

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Reference</th>
<th>Title</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>BROOKES</td>
<td>Various benefits realisation articles on Oxford Brookes University website</td>
<td><a href="http://www.brookes.ac.uk/services/hr/project/pm_at_brookes/benefits/index.html">http://www.brookes.ac.uk/services/hr/project/pm_at_brookes/benefits/index.html</a></td>
</tr>
</tbody>
</table>
8. Appendix

8.1 Project Management Maturity Model

In his article The Four Levels of Project Management Success – The Project Management Maturity Matrix (http://www.projectsmart.co.uk/four-levels-of-project-success.html), Duncan Haughey PMP describes four levels of project management maturity, with some insights on how to determine the level at which your organisation is working. From the article:

“The matrix describes four levels of maturity in project management:

Level 1: Delivery of projects through the personal heroics and effort of the project manager and his or her team. Delivery is despite the organisation rather than because of it.

Level 2: Anybody can deliver, not just heroes, because there is an agreed methodology that helps repeat earlier successes from similar projects. Courses and training help at this level.

Level 3: This is not only about delivering projects, but also realising benefits. This involves knowing what the expected benefits are and when the project has delivered them.

Level 4: Is about whether we are doing the right projects and how those projects can deliver the business strategy.

For organisations to understand the level they are performing at, it is useful to ask these questions:

Level 1: Project Management Success (cost, time and quality)
Did our project produce the desired output?

Level 2: Repeatable Success (predictable outcomes)
Do our projects consistently produce the desired outputs?

Level 3: Project Success (benefits realised)
Do the project outputs produce the desired outcomes?

Level 4: Corporate Success (strategies implemented, value added)
Do the outcomes produce or have the intended impact on the business strategy?

Moving from one level to another requires organisations to develop processes in several areas:

- A methodology is needed to move from level 1 to 2.
- Benefits management is needed to move from level 2 to 3.
- Project portfolio management is needed to move from level 3 to 4.”