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## EXECUTIVE SUMMARY

The Investment Program must provide a simple framework to support:

- the recommendations, strategic intent and key principles of the I2 T2 Strategy;
- the priorities of the Department of Human Services; and
- the directions and agenda of the Victorian Government.

The ultimate aim of the I2 T2 Strategy is to improve patient care and organisational performance.

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The target of the I2 T2 Strategy is the metropolitan Health Care Networks and rural hospitals. Infrastructure implemented will clearly be a platform for other services, programs and providers.

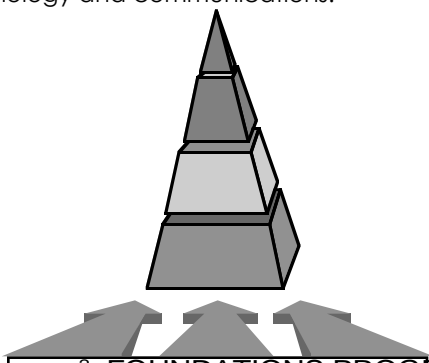
An inter-operable information infrastructure and supporting standards should be universal, encompassing all sectors of the health system.

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While the conceptual and investment framework is the same, a different implementation plan is being developed for the rural hospitals. It is a critical element of the I2 T2 Strategy that 'hub & spoke' technology alliances are established amongst the rural hospitals.

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The Investment Program adopts a tiered structure for information management, technology and communications:



The three tiers to be addressed are:

- applications
- visible infrastructure
- invisible infrastructure

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The Department of Human Services committed a package of \$5 million to support early initiatives in the implementation.

An additional \$100 million has been announced for a 4 year investment program to support the I2 T2 Strategy implementation.

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There are several critical issues for success, including:

- cross-agency participation & collaboration
- involvement of Chief Executive Officers
- striving for best practice
- developing a robust infrastructure.

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Risk management is a key element of the implementation plan and is embedded in the I2 T2 Foundations Program.

This I2 T2 Foundations Program forms the fourth tier of the investment framework consists of streams of initiatives aimed at:

- risk management and sustainability
- change management and education
- maximising and managing outcomes
- development of standards and best practice models
- strengthening IT management skills and practice
- making better software acquisition decisions
- focussing on getting benefits from change
- fostering innovation and 'proof of concept'
- collaboration within the health industry to secure the benefits of strategic procurement, standards development, innovations and transferability
- accelerating electronic service delivery
- developing a synergy with Whole of

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Critical areas for early focus are change management, risk management, the existence of high level IT expertise and management practice, and the information technology infrastructure.

A suite of tactics has been established to reduce the risk profile of the I2 T2 Strategy and the Investment Program.

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The Investment Program recognises that:

- there is an existing low baseline capability of information technology infrastructure in Health Care Networks and rural hospitals; and
- tangible benefits will not be possible until applications implementation and work practice change have occurred.

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**.....the health system requires a critical mass of unproductive investment into extensively re-engineering processes before benefits will be tangible.....**

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To provide for significant 'catch-up' for past low level of investment, and to ensure a robust infrastructure which will enable sustainability and performance improvement,

- a grant of \$53.5 million will be given as a phased investment over four years to fund invisible and visible infrastructure.

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Recognising that a lapse time must be allowed after investment before tangible benefits can be seen,

- a non-interest loan of \$32.5 million will be allocated over the 4 years for applications acquisition and implementation. Investment should be repaid over 3 years, with a 2 year lead time to achieve benefits. This will be

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To support the sustainability of progress in improving information technology, a significant level of funding should be made available on an on-going basis, accordingly,

- funds repaid to the Department will be placed in a revolving information technology fund to provide a foundation for future investment.

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The I2 T2 Foundations Program is critical to support risk management, collaboration, maximise outcomes and achieve benefits from change. It is recommended that:

- \$19 million be allocated to support initiatives within the I2 T2 Foundations Program.

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Information and communication technologies have the power to transform health service delivery, to support clinical care and to enhance performance across the health sector.

**The vision is for an information infrastructure capability that will support hospitals to provide quality integrated health care in the future.**

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I2 T2 Strategy Investment Program provides for a phased investment program, with a stable framework and Foundations Program to enable sustainable change.

**To achieve the vision of sustainable transformation, considerable investment in the supporting information, technology, people and processes will be required.**

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# I2 T2 Strategy Investment Program

## SECTION 1.0 STRATEGIC INTENT OF THE I2 T2 STRATEGY

The Investment Program must support:

- the key recommendations of the I2 T2 Strategy;
- the priorities of the Department of Human Services; and
- the directions and agenda of the Victorian Government.

**The vision is for an information infrastructure capability that will support hospitals to provide quality integrated health care in the future.**

The I2 T2 Strategy Final Report made specific recommendations in relation to funding and further work required. These are revisited briefly to provide the context for the development of the Investment Program.

### KEY PRINCIPLES FROM I2 T2 STRATEGY

The Final Report was clear about the key drivers of the strategy, and emphasised a number of key **principles which need to be supported in a Investment Program:**

- Integrated information is essential to integrated health care;
- Achievement of targeted outcomes and benefits is dependent on significant **changes in clinical practice and work practices** generally.
- **Investment must be shared** between Government and the hospitals, and in return, the benefits should be shared;
- Effectiveness and efficiency achieved must be **sustainable**;
- Improving the baseline information technology capability in hospitals is **time critical**;
- The role of the Department is that of **strong industry leader and facilitation**;
- **Careful management of risk** is necessary because of the size of the gap to be bridged, the magnitude of the required investment, the time required to complete the program, and the size and complexity of the health industry;
- The **development and adoption of standards** will ensure inter-operability of information systems, and support the raising of the baseline of capability across several dimensions, including management and technical dimensions;
- Strategic **education, training and human resource development** is essential at all levels of the hospital as a foundation for implementation and sustainability.

Experiences from other states have validated these principles, and further emphasised the critical nature of change management, risk management, the existence of high level IT expertise and management practice, and a robust information technology infrastructure.

## PHASED IMPLEMENTATION

The strategy described a three-phased program of change which moved the hospitals from their current level to integration at campus level (Phase 1: Years 1 - 2), Network level (Phase 2: Years 3 - 5) and then to linkage at state-wide level (Phase 3: Years 6 - 8).

**A phased program of change will minimise risk and maximise industry benefits.**

Performance measures and targets were defined in terms of information integration and work practice capabilities at the end of each Phase.

The target timeframes for each Phase will need to be reviewed and reduced. Some Health Care Networks have indicated the need to develop Phase 1 in parallel with Phase 2 because of the time imperative, and because the structure of some Networks will be based on clinical programs, as opposed to facilities or campuses. At present, the investment commitment by Government is over a four-year period.

## SCOPE OF THE I2 T2 STRATEGY

**An inter-operable information infrastructure & supporting standards should be universal, encompassing all sectors, where possible.**

The scope of the I2 T2 Strategy was originally limited to the metropolitan Health Care Networks and rural hospitals. The Health Care Networks were in the early stages of evolution when the study was initiated. The study did not specifically target telemedicine, clinical technologies, aged care, community health, mental health services or other community-based services.

However, the infrastructure support determined within the framework of the I2 T2 Strategy will clearly be a platform for all these services and is the predominant focus of the I2 T2 Strategy Investment Program.

## PRIORITIES FOR FUTURE DEVELOPMENT

The study had artificial boundaries which aligned with program funding structures, not with the flow of patients in the health system. There are several key issues needing further development and consideration in order to present an integrated and coordinated approach to information capability in the health system as a whole. These include:

- **Linking to community-based care providers:**

information technology capability needs to be raised among community-based care providers and services to enable the bi-directional flow of information. Any development work in these sectors must similarly be multi-dimensional.

- **Privacy and confidentiality:**

the cornerstone for an integrated health system with inter-operable information infrastructure must be strong and enforceable privacy legislation.

- **Telemedicine:**

telemedicine must be integrated within the infrastructure and clinical practice to optimise benefits. It should not be seen as marginal practice, rather it should be regarded as exploiting telecommunications to enhance clinical care.

- **Clinical Technology:**

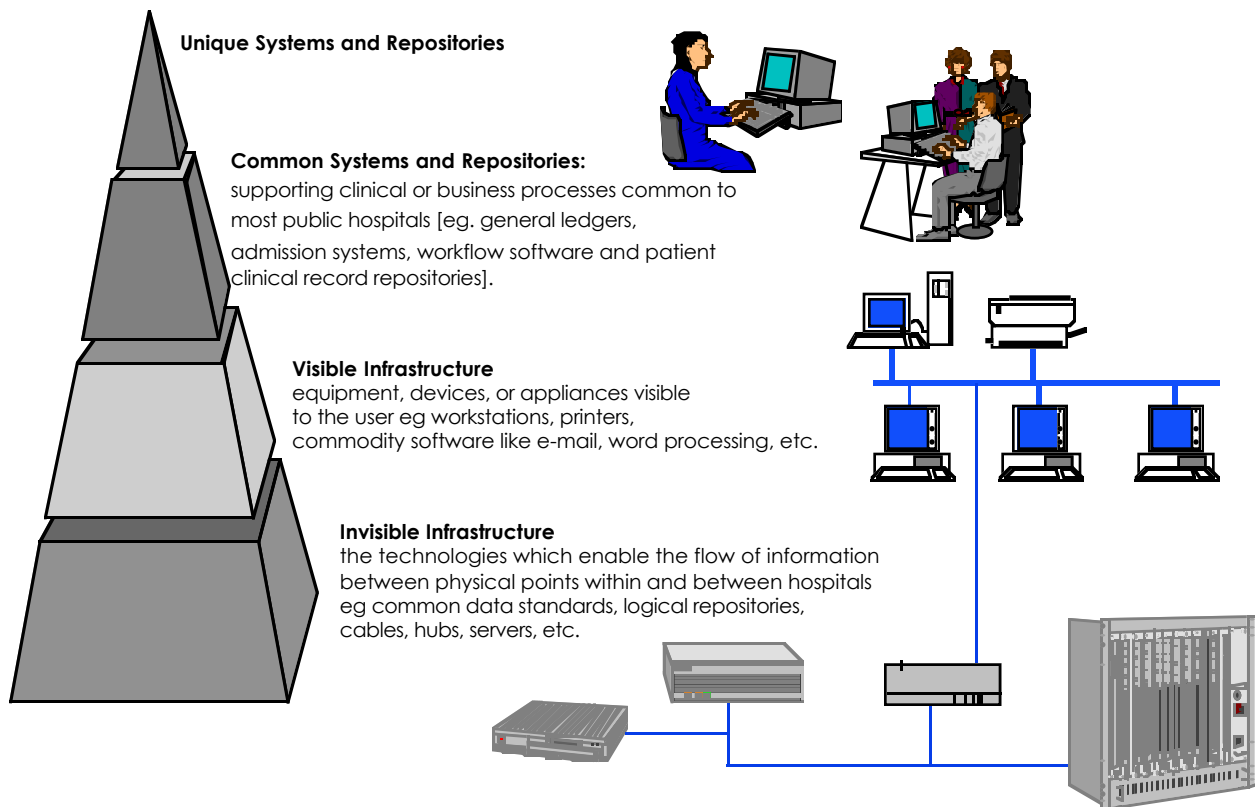
interface standards and capability are critical for clinical technology to directly transfer clinical information to information technology.

## FRAMEWORK FOR INVESTMENT

The Final Report presented a framework that will serve as a foundation for planning and design, implementation, evaluation and investment. This tiered structure is represented below. Key points of note in relation to the layers of the framework are:

- Each 'tier' is categorised according to commonality and visibility;
- Each 'tier' of the pyramid is critically dependent on the capability of the 'tier' below;
- The layers must be considered inter-dependently to produce cost-justification & targeted benefits (eg invisible infrastructure cannot be cost-justified on it's own but must be inextricably linked with visible infrastructure and applications to produce benefit);
- The goal is to raise the standard of information technology capability in the greatest number of hospitals. The focus of the strategy is therefore on the lower three layers:
  - ❖ Applications
  - ❖ Visible Infrastructure
  - ❖ Invisible Infrastructure

## Tiered Structure as an Implementation and Investment Framework



RECOMMENDATIONS FOR SHARED INVESTMENT MODEL

The Final Report recommended a shared funding model based on the tiered structure. The following table shows the recommended investment share for Government over the three layers of the framework, and through the profile of design, acquisition, implementation and maintenance. Health Care Networks and rural hospitals would be expected to provide the complimentary funds to meet the full cost of the strategy implementation.

Final Report Recommendations for Investment Sharing

	Logical Design	Physical Design	Acquisition Process	Implementation	Operation & Maintenance
Common Applications	100%			33%	33%
Visible Infrastructure	100%			50%	50%
Invisible Infrastructure	100%			100%	100%

The shared investment model is graduated to reflect the performance improvement and productivity benefits achievable at each layer of the tiered framework. The greater the potential to achieve performance improvement, the greater the hospitals share in the investment.

SECTION 2.0 VICTORIAN GOVERNMENT INVESTMENT COMMITMENTS

A package of \$5 million was announced in January 1997 to commence the implementation process, to support sustainability and accelerate the implementation of the I2 T2 Strategy in the hospitals.

**To achieve the vision of sustainable transformation, considerable investment in the supporting information, technology, people and processes will be required.**

Key features of this package included:

- the appointment of a Chief Information Officers in each Health Care Network and in the rural areas for three years;
- the development of IT Strategic Plans for each Health Care Network & in the rural areas;
- the establishment of an electronic information service delivery [HosNet] between hospitals and the Department;
- the development of an education strategy and program for IT Management, and information technology users;
- establishment of clinical working groups to support information system design and implementation, and innovation;
- the development and testing of information and technical standards;
- the development of a rural IT implementation strategy and further investigate the Hub & Spoke recommendations of the consultants.

The Government has announced an additional \$100 million over the next 4 years to support the implementation of the I2 T2 Strategy within the Health Care Networks and rural hospitals. Funds of \$25 million have been committed for 1997/98.

This Investment Program provides a framework and establishes priorities for allocating the full \$105 million for the implementation of the I2 T2 Strategy .

## SECTION 3.0 CRITICAL ISSUES FOR SUCCESS

Several factors are critical to the success of the I2 T2 Strategy and the Investment Program.

Whilst the majority of the investment will be focussed on technical resources, the majority of the early effort must be focussed on people and organisations. It is important that the focal point be on sustainability, change management and getting the benefits from change.

**There needs to be recognition that the health system requires a critical mass of unproductive investment into extensively re-engineering processes before benefits will be tangible.**

### CROSS -AGENCY PARTICIPATION & COLLABORATION

The political and economic environment in which the I2 T2 Strategy will be implemented, and the size and complexity of the health system necessitates active involvement of all stakeholders. At a federal level, the profile of information technology and information industry is being raised. At a state level, the Victoria 21 agenda and Multimedia Victoria are driving reforms in electronic service delivery.

At the health care level, the provision of integrated care involves service providers from different programs within the Department of Human Services, public and private sectors, funded by Local Councils, State and Commonwealth authorities.

The I2 T2 Strategy must be owned by the hospital sector. Collaboration between Health Care Networks and rural hospitals, and across government authorities will strengthen the platform for evolution of information capability.

### INVOLVEMENT OF CHIEF EXECUTIVE OFFICERS

The active support and involvement of Chief Executive Officers in the Health Care Networks and rural hospitals is crucial. As information management and technology becomes a major conduit for clinical and business activity, the Chief Executive Officers involvement will be critical to manage and direct information management and technology to support health care delivery.

Chief Executive Officers must ensure that their IT strategic plans align with the health service's objectives, business and clinical processes, and outcomes. They should be aware of the opportunities, implications and applications of information management and technology to improve access, quality and efficiency in service delivery.

### STRIVING FOR BEST PRACTICE

Health Care Networks and rural hospitals must adopt a best practice approach to managing and using information and technology. Historically, management of information and information technology has been fragmented and marginalised from clinical and business management. Management structures should support integration of information management and technology with service delivery and business outcomes.

Evidence-based clinical care, outcomes monitoring, quality and performance improvement all depend on a foundation of effective use and management of information.

## A ROBUST INFRASTRUCTURE

The development of a robust information technology and telecommunications infrastructure to enable change and support integrated health care will be critical to health care reform and ensuring equitable access to services.

The Vic One wide area network initiative of the Victorian Government will be an important component of this infrastructure, and the Internet will play a pivotal role. Infrastructure to support the flow of information within and between hospitals campuses, will be one of the first critical elements to be addressed. An early investment focus on infrastructure, and the development standards for interoperability will be important.

## RISK MANAGEMENT

There are a number of factors which conspire to create a high risk profile for the I2 T2 Strategy, and the early focus on risk management is a key element.

Risk management strategies are woven throughout the I2 T2 Strategy implementation plan and embedded in the I2 T2 Foundations Program.

**Risk management is a critical factor in optimising benefits and protecting the Government and health industry investment.**

The most urgent and effective risk management tactic is to increase the knowledge base of the industry with regard to the management of information, information technology and telecommunications, change management, process and performance improvement, and outcomes management.

The provision of standards, guidelines and templates along several dimensions, ensures a level of control and direction consistent with the Department's role of leadership and facilitation, while preserving management autonomy and responsibility in the Health Care Networks and rural hospitals.

## I2 T2 FOUNDATIONS PROGRAM

The I2 T2 Foundations Program has been established to provide a framework for management of the implementation, and a focus on the key streams of activity associated with the industry development and risk management priorities.

The twelve initiative streams in the I2 T2 Foundations Program are:

1. Investment & Outcomes management
2. Metropolitan implementation
3. Rural implementation
4. Strategic procurement
5. Electronic Service Delivery
6. Innovation, Proof of Concept & Demonstration Projects
7. Education, Training and Development
8. Standards, guidelines and best practice
9. Applications Development
10. Telematics in Health
11. Year 2000 Compliance (Project Millennium)
12. Integration of Divisional, Departmental and Whole of Government Initiatives.

Each of these streams is being developed in conjunction with the Chief Information Officers Advisory Group, and will be managed through the I2 T2 Steering Committee.

### EARLY RISK MANAGEMENT TACTICS

Specific early initiatives within the I2 T2 Foundations Program targeted at minimising risk and maximising outcomes relating to the Investment Program include:

1. Management of the I2 T2 Strategy implementation by a Steering Committee, incorporating cross-divisional representation (Acute Health, AC&MH, Capital Management, Information Services, Rural Health) and including nominees from Health Care Networks, rural hospitals, CIO Advisory Group and Multimedia Victoria.
2. Encouragement of Management structures in Health Care Networks and rural hospitals which support the integration of I2 T2 into the organisations outcomes by:
  - ensuring a member of the organisation executive team is responsible for managing information (Chief Information Officer);
  - recognising the convergence of information management, information technology and telecommunications through a single organisation function;
  - funding of the appointment of a Chief Information officer for each Health Care Network and rural Hub and Spoke group;
  - development of an IT Strategic Plan Framework for hospitals, and funding for each Health Care Network and rural Hub and Spoke Group to develop local plans aligned to service plans;
  - Health Care Networks and rural hospitals to develop and maintain I2 T2 Strategic Plans as part of the annual corporate planning cycle;
3. Establishment of the Chief Information Officer Advisory Group with representation from each Health Care Network;
4. Access to funds through submission of business proposals for all I2 T2 investments. I2 T2 Steering Committee endorsement of hospital I2 T2 Strategic Plans and business proposals required prior to funding;
5. Develop strategies and guidelines to prepare the health sector for operation past they year 2000.
6. Incentives for collaboration and consortium development of applications for trialing.
7. Establishment of a strategic procurement mechanism to assist in achieving economies of scale, and stimulating a competitive market in the information technology industry.

## SECTION 4.0 ISSUES FOR CONSIDERATION

There are a wide range of potentially competing issues which need to be taken into account in formulating a 4-year Investment strategy framework. It is important that the Investment Program, generally, supports the strategic intent of the I2 T2 Strategy, and reinforces its principles. Specifically, it should:

- provide a Investment framework to achieve the objectives of the I2 T2 Strategy implementation;
- maximise investment outcomes utilising the available funding;
- protect the Government and industry investment, and support risk management;
- support the Department's role as industry leader and facilitation;
- encourage collaboration and innovation amongst the Health Care Networks and rural hospitals;
- foster a shared ownership of, and shared investment in, the I2 T2 Strategy amongst the industry;
- be realistic in its expectations regarding the business nature of the investment and return cycle;
- provide equity of access to funding of eligible health services and facilities;
- support the industry compliance with and participation in Whole of Government initiatives;
- support the acceleration in improvements to clinical care and service delivery.

### RISK MANAGEMENT, SUSTAINABILITY AND MAXIMISING OUTCOMES

The strategy implementation presents a significant challenge along a number of dimensions, including:

**Risk management is a critical factor in optimising benefits and protecting the Government and health industry investment.**

- the size of the gap between current information technology capabilities and those required to support industry transformation;
- the required investment by both Government and the health industry;
- the time required to complete the program;
- the relative weakness of hospital information technology management practice;
- the size and complexity of the health industry.

The I2 T2 Strategy Foundations Program has been established to support the achievement of the critical success factors, ensure sustainability, manage risk and maximise outcomes.

### LOW BASELINE CAPABILITY OF INFRASTRUCTURE

The Final Report identified that information technology in hospitals is not adequately exploited as a performance enabler and provides sub-optimal support for many business and clinical processes. Two of the primary contributing factors identified were:

- the significant under-investment in information technology over a long period of time;
- the lack of sophisticated IT management practices and strategic IT planning.

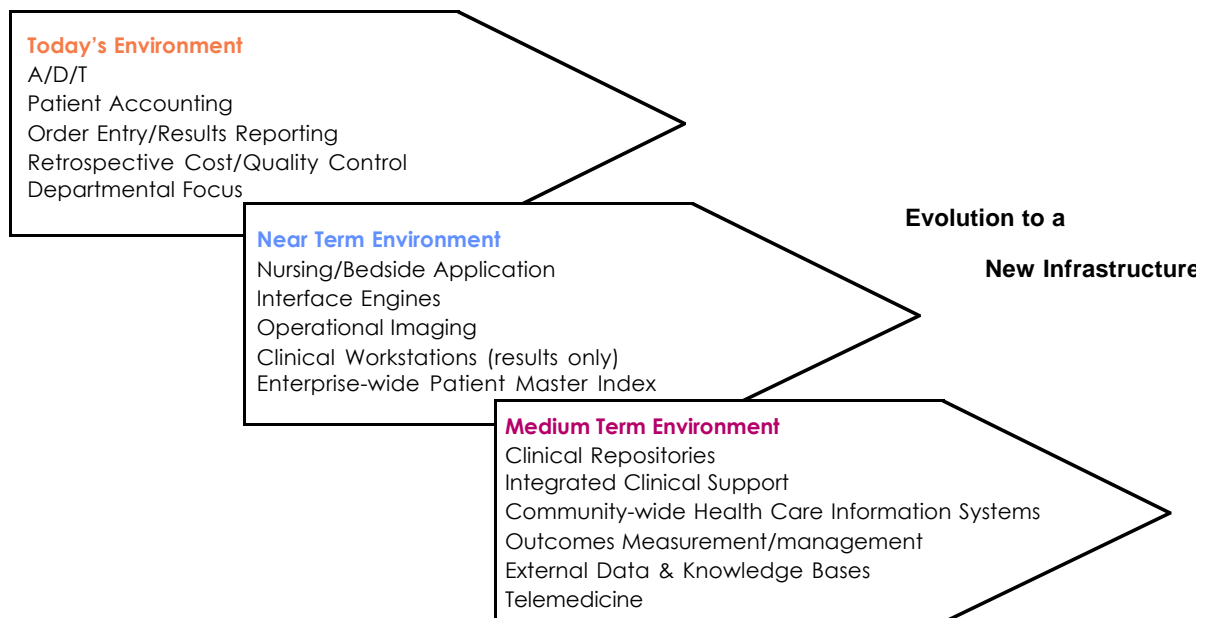
**Existing infrastructure will not support the systems anticipated for clinical care and business processes inherent in an integrated health care model.**

These two factors have had major implications for the current information environment, and especially the low information technology baseline.

The extent of the problem is magnified by the fact that:

- information and communications technologies are changing at a rapid and accelerating pace;
- there is an increasing demand and dependency on information and communications technologies to support an evolving integrated health care model;
- organisational boundaries, health funding models and service delivery patterns are now, and will continue to be dynamic.

Given these issues, a Investment Program must support the evolution of a robust, flexible and responsive infrastructure which will support the pace and directions of change in the health care and technology environments.



The Investment Program needs to be cognisant of two levels of investment for infrastructure:

1. a **catch-up level** to redress the previous under-investment in information technology infrastructure. Infrastructure cannot be cost-justified in itself. Previous investment has been application-focused, resulting in a band-aid approach to infrastructure. This, together with a lack of direction in service planning, has meant that information infrastructure has been implemented in a fragmented way, and will not support sophisticated, integrated information systems.
2. a **springboard level** to enable hospitals to achieve the health care objectives of Government, to accelerate the integration of information technology into clinical practice, and to ensure that the level of infrastructure capability will ensure that hospitals are able to exploit the future opportunities offered by information technology in the delivery of the health services.

The impact on the Investment Program, is that given the low baseline of the visible and invisible infrastructure, that any initial investment in this area has little productivity offset until a certain threshold level of infrastructure is in place to support software enhancements and developments.

Therefore the early stages of the strategy needs to give priority to infrastructure in order to be able to capitalise on future applications investment.

### TIME LAPSE BEFORE BENEFITS CAN BE REALISED

As in any investment cycle, there is a lead-time after the investment of capital funds before benefits can be achieved. The Investment Program must place realistic expectations on the Health Care Networks and rural hospitals to ensure that enough time is given to allow the benefits to be fully realised and stabilised.

The tiered framework makes it quite clear that invisible infrastructure, visible infrastructure and applications must be considered inter-dependently to produce cost-justification, performance improvement and targeted benefits.

Applying benefits realisation mechanisms and evaluation prematurely will de-stabilise progress and reduce the potential for sustainability and maturity of benefits. Performance improvement, along any dimension, must be allowed to stabilise in the organisation before it is measured, enabling financial benefits to be securely returned.

It must be recognised and understood that there should be no expectation of return from investment in the *catch-up* level of infrastructure. The return from investment, whether it be in terms of financial benefits or performance improvement, is only possible when the infrastructure capability has reached a threshold where leverage can be achieved at marginal cost.

Organisational change will be a critical success factor in achieving the benefits from the strategy implementation. In relative terms, the Health Care Networks are still in the early stages of maturity, and the rural hospitals are yet to establish working alliances to form Hub & Spoke groups. This places an additional challenge on the organisations in terms of improving clinical and business practices, and implementing service delivery reforms using the I2 T2 Strategy as an enabler.

The major part of performance improvement and productivity will be achieved through applications implementation, after stable foundations of visible and invisible infrastructure have been established.

Given the magnitude of improvement required, there will need to be significant change management and process re-engineering undertaken to gain commitment from clinicians and hospital managers. In many instances for a major implementation, especially where clinical information systems are involved, these time frames are still optimistic given the training, work practice changes and consolidation required as part of the implementation of a major system.

The Final Report estimated a lead time of 2 years before benefits were achievable. This has been validated by the hospital and IT industries where major systems implementation is involved. This lead time is recommended by the Investment Program when financial returns or repayment of investment to Government are considered.

The Investment Program will need to provide guidance in determining the level of investment return or repayment expected from Health Care Networks and rural hospitals, and the mechanism for harvesting these returns.

### MAXIMISING INVESTMENT OUTCOMES FROM AVAILABLE FUNDS

It is important that mechanisms and incentives be established to maximise the purchasing power and impact of the of the Department's direct investment (\$105 million), and that both the Department and the public hospital sector maximise the benefits and results.

Any financial Program needs to encourage collaboration between the Metropolitan Health Care Networks, rural hospitals and the private sector to capitalise on the collective knowledge and expertise, share in problem solving, maximise purchasing power and increase the potential for standardisation of applications in hospitals. The Investment Program also needs to demonstrate commitment to fostering of innovation and leveraging across the industry.

## WHOLE OF GOVERNMENT , STATEWIDE AND GLOBAL ISSUES

There are important considerations relating to the Whole of Government and other global issues. The Department's liability and responsibility for hospital compliance with legislative mandates and other critical global issues is an emerging issue. Most of these have developed since the completion of the I2 T2 Strategy . Consistent with it's role as industry leader and facilitator, the Department should have a direct or indirect role in managing the following issues:

- Vic One wide area network
- Year 2000 compliance
- Privacy legislation (due in Spring)-
- Client data linkage
- Smart Card Strategy
- Electronic Service Delivery Strategy

The Investment Program needs to make provision for active involvement of public hospitals in these initiatives to be at the forefront of innovation and technology uptake, and to ensure compliance with legislative mandates and technical imperatives.

There is also a clear and strong Government agenda for multi-media (Victoria 21). The Investment Program must support these directions and priorities. The Department should work in collaboration with Multimedia Victoria in progressing the integration of multi-media and health care.

## ELIGIBILITY AND ACCESS TO FUNDING

All Health Care Networks and rural public hospitals are eligible to access the I2 T2 Strategy implementation funding, subject to certain conditions relating to risk management and sustainability.

It is recognised that there are many different organisational structures in the public hospital sector. In many cases, the services provided by Health Care Networks and rural hospitals are funded by a range of Departmental Programs.

The IT Strategic Plans developed by the Health Care Networks and rural hospitals will include all health services and facilities under their governance and management. Where these services are mainstream and integrated, the infrastructure will be available to service all programs. Specific funding for some elements of Aged, Mental Health and Community Health services will need to separately identified.

Eligibility criteria must also address the issue of private providers contracted for public acute health services. This can be further divided into two groups: *for profit* and *not for profit* organisations. Guidelines also need to be flexible enough to provide for evaluation of specific projects to meet Government or Departmental Program requirements.

## ACCOUNTABILITY , PRODUCTIVITY AND OUTCOMES MANAGEMENT

Outcomes and outputs to be achieved with funds provided by the Department must be clearly articulated in business plans, and will be closely monitored throughout the period of investment.

The I2 T2 Strategy provides for three Phases, clearly measured in terms of information and work practice capability. Standardised project management methodologies will be established to support monitoring of progress and outcomes. It is important, given the complexity of potential funding sources, that the Department avoids duplicative productivity claims and that any system for harvesting of financial benefits, or repayment of investment is administratively simple.

Education programs and project management methodology must support outcomes management in the

## OPTIONS FOR FUNDING MECHANISMS

There are several options for the funding of the investment, the mechanisms for payment and for determining the level and mechanism for benefit return. These need to be considered in regard to the issues raised in this document, specifically whether the investment is directed towards sustainability or performance improvement. Invisible infrastructure will not yield benefits until applications are overlaid to produce work and clinical practice changes.

Options for consideration include:

- Non-repayable Grant
- Non-interest Loan
- Non-repayable Grant but productivity/efficiency gains harvested.
- A combination of the above.

## SECTION 5.0 INVESTMENT PROGRAM AND RECOMMENDATIONS

The size of the investment of \$105 million is significant. The Investment Program developed within such a complex environment of competing issues, demands and priorities will conversely require a simple framework for investment, risk and outcomes management.

It must take into account the recommendations of the Final Report of the I2 T2 Strategy, the directions of Government and the Department, and the priorities of the service plans of the Health Care Networks and rural hospitals.

On the basis of the issues raised in this document, the following recommendations are made on the policy directions and investment options.

The Investment Program addresses the broad distribution of available Departmental funds and provides a framework and guidelines for further allocation decisions.

### FOUR YEAR INVESTMENT PROGRAM

The total direct Departmental investment represents the commitment of \$100 million over four(4) years, and the \$5 million capital allocation, Year 1 being 1997/98.

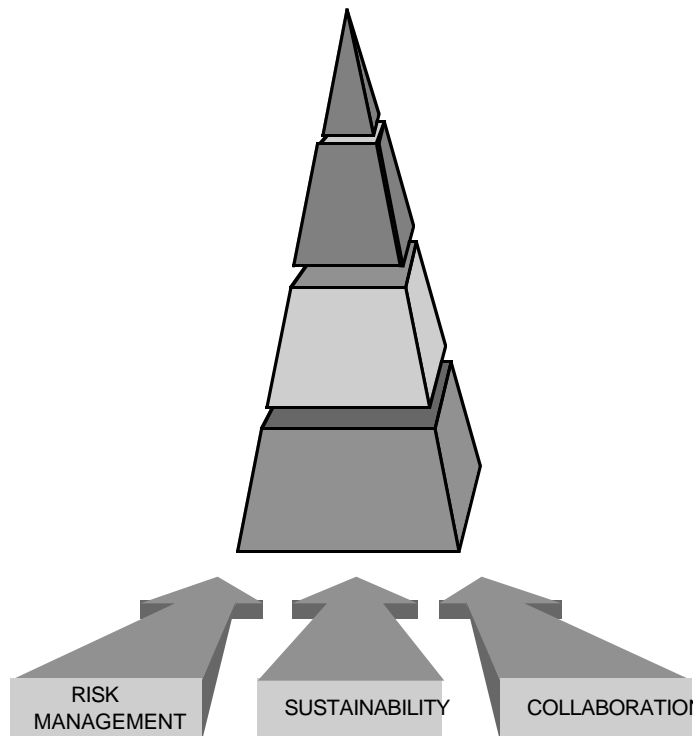
The total forecast Departmental investment represents \$100 million over four (4) years, and the \$5 million capital allocation. Year 1 is 1997/98.

The Investment Program is based on the tiered structure framework from the I2 T2 Strategy, and proposes different funding mechanisms for each layer.

The Investment Program recognises the critical nature of:

- **risk management** strategies for such a significant investment;
- initiatives to support **sustainability** of the information capability into the future; and
- **collaboration** within the health industry to secure the benefits of strategic procurement, standards development, innovation and transferability.

A fourth stream of investment, the I2 T2 Foundations Program, has been created to support policy development and implementation in these key areas.



### Invisible and Visible Infrastructure

The Investment Program recognises the significant 'catch-up' required to address past low levels of investment, and that invisible and visible infrastructure provides the foundation upon which applications can be overlaid, and performance improvement enabled.

- A **grant of \$53.5 million** will be given as a phased investment over four years to fund invisible and visible infrastructure.

### Applications and Systems Acquisition

- **\$32.5 million** will be allocated over a four(4) year period towards applications acquisition and implementation. These funds will be issued as **non-interest loans** to be repaid over a three(3) year period. There will be a 2 year lead-time between the time funds are given and repayments commence;

*on the condition that:* Health Care Networks/Hub & Spokes to **at least match dollar-for-dollar** for applications acquisition and implementation, with a capped amount from the Department to be determined each year.

### I2 T2 Foundations Program

- **\$19.0 million** be allocated to support initiatives within the I2 T2 Foundations Program. The twelve initiative streams will make significant contribution to the key areas of risk management, sustainability, performance improvement, maximisation of outcomes and collaboration.

The twelve initiative streams in the I2 T2 Foundations Program are:

1. Investment & Outcomes management
2. Metropolitan implementation
3. Rural implementation
4. Strategic procurement
5. Electronic Service Delivery
6. Innovation, Proof of Concept & Demonstration Projects
7. Education, Training and Development
8. Standards, guidelines and best practice
9. Applications Development
10. Telematics in Health
11. Year 2000 Compliance (Project Millennium)
12. Integration of Divisional, Departmental and Whole of Government Initiatives.

### Establishment of a Revolving Information Technology Fund

Sustainability of progress in improving information technology is important, especially in the support of improvements to clinical care, outcomes measurement and service delivery reform.

A mechanism must be employed to ensure that a significant level of funding continues to be available after the four-year investment program has been completed. This will prevent the momentum created by the I2 T2 Strategy implementation and investment program being dissipated over the longer term.

Funds repaid to the Department (over 3 years) for non-interest loans for applications acquisition and implementation (**\$32.5 million**), will be placed in a **revolving technology fund**. This fund to provide a foundation to finance future technology plans and directions, and support sustainability of progress.

## Four Year Investment Program Profile

The following broad funds break-up will represent the four year investment program components:

Focus of Investment	\$ million	Basis of Investment
Invisible Infrastructure	40.0	Grant
Visible Infrastructure	13.5	Grant
Applications Acquisition	32.5	Non-Interest Loan
Program Development	19.0	Individually determined
	105.0	

Final allocations to Health Care Networks and rural hospitals will be on the basis of IT Strategic Plans and business cases for performance improvement initiatives using information technology and telecommunications as the enabler.

It is anticipated that the investment profile for Year 1 will be as follows:

Year 1	Grant for Invisible Infrastructure	\$22.5 million
	Grant for Visible Infrastructure	\$ 2.5 million
	I2 T2 Foundations Program	\$ 5.0 million
	<b>Total Investment</b>	<b>\$30.0 million</b>

This will need to be reviewed on an ongoing basis to ensure that any change in projected priorities is taken into account.

The following table shows the proposed profile of investment by the Department over the four(4) year period. This profile is broadly consistent with the recommended funds break-up in the Final Report.

	Year 1 1997/98	Year 2 1998/99	Year 3 1999/00	Year 4 2000/01	Total (\$ million)	%
Invisible Infrastructure	22.5	7.5	6.5	3.5	40	38%
Visible Infrastructure	2.5	2.5	3.5	5	13.5	13%
Applications Acquisition	0	10	10	12.5	32.5	31%
Foundations Program	5	5	5	4	19	18%
Total	30	25	25	25	105	100%

The proposed investment profile for Years 2, 3 & 4 is indicative only and will need to be reviewed and confirmed on an ongoing basis, in accordance with the consolidated IT Strategic Plans of the Networks and rural Hub & Spokes, and agreed priorities of the public hospital sector.

The funding mechanism will need to be flexible enough to support a range of financing options which are available to the Health Care Networks and rural hospitals, including capital investment, leasing and outsourcing.

## ELIGIBILITY AND ACCESS

All public statutory corporations providing public hospital services are eligible for access to the I2 T2 Strategy investment program. This includes "not for profit" organisations such as the Mercy Hospital for Women and St Vincent's Hospital.

The case regarding "for profit" and privately owned organisations contracted to provide public hospital services is different. The premise that underpins the relationship between these hospitals and the Department is non-exclusivity and this should apply across all sectors. These hospitals are not eligible unless the Department requires enhancements substantially over and above their normal business requirements, or outside of scope of contract, in order to implement a broader Government policy.

### Pre-requisites for Access

Access to the I2 T2 Strategy investment program is conditional upon three pre-requisites being fulfilled:

- funding will only be allocated to Health Care Networks or approved Hub & Spoke technical alliances in the rural areas (consistent with rural implementation planning). Funds will not be allocated to individual hospitals or facilities;
- the appointment of a Chief Information Officer for the Health Care Network or Hub & Spoke, and associated conditions;
- the completion of an IT Strategic Plan in accordance with the framework and guidelines developed by the I2 T2 Strategy, and as agreed by the Steering Committee.

Access will be on the basis of an approved business case which is a component of the IT Strategic Plan, and reflects the business and clinical priorities of the Health Care Network or Hub & Spoke. This business case will be in the form of a performance improvement initiative relating to service delivery, and will include a costing profile based on the tiered structure framework, together with timeframes and measurable performance improvement criteria. Where appropriate, repayment schedule should also be included.

These pre-requisites are a critical element in the risk management strategy.

## ALLOCATION

The funds in the investment program are to be broadly apportioned using the actual 1996/97 WEIS throughput measures. Whilst these amounts are indicative only, this distribution will enable a degree of high level planning to be undertaken by the Health Care Networks and rural hospitals. Final allocations will be based on the business cases from the IT Strategic Plans.

Health Care Network/ Hospital/Region	96/97 Actual WIES	Activity Distribution	Year 1 1997/98	Year 2 1997/98	4-Year Program
Inner & Eastern	165,834	22%	5.6	4.5	19.4
North Western	125,010	17%	4.2	3.4	14.6
Southern	85,781	12%	2.9	2.3	10.0
A&RMC/Mercy	68,558	9%	2.3	1.8	8.0
Women's & Children's	50,468	7%	1.7	1.4	5.9
Geelong Hospital	32,224	4%	1.1	0.9	3.8
Peninsula	28,795	4%	1.0	0.8	3.4
<b>Metropolitan Totals</b>	<b>556,670</b>	<b>75%</b>	<b>18.7</b>	<b>15.0</b>	<b>65.1</b>
Loddon Mallee	45,193	6%	1.5	1.2	5.3
Hume	41,724	6%	1.4	1.1	4.9
Gippsland	38,546	5%	1.3	1.0	4.5
Grampians	35,368	5%	1.2	1.0	4.1
Barwon-South Western	26,472	4%	0.9	0.7	3.1
<b>Non-metropolitan Totals</b>	<b>187,302</b>	<b>25%</b>	<b>6.3</b>	<b>5.0</b>	<b>21.9</b>
<b>State Totals</b>	<b>743,972</b>	<b>100%</b>	<b>25.0</b>	<b>20.0</b>	<b>87</b>
Foundations Program			5.0	5.0	18
<b>Full Investment Program</b>			<b>30.0</b>	<b>25.0</b>	<b>105</b>

## CONSULTATION IN PROGRAM DEVELOPMENT

The Investment Program has been developed with direct reference to the I2 T2 Strategy Final Report and Technical Appendices.

Both the I2 T2 Strategy Steering Committee and Health Care Network Chief Information Officers Advisory Group were consulted for the first draft of the Program. Further refinement was achieved through consultation with key officers from Finance, Capital Management, Information Services and Acute Health.

## SECTION 6.0 KEY FEATURES OF INVESTMENT PROGRAM

The Investment Program provides a simple framework for investment, risk and outcomes management.

The key features are:

- a focus on risk management in the early implementation;
- a continued program of initiatives to provide a foundation for maximising outcomes, sustainability, innovation and collaboration;
- application of funds to be based on priorities of Health Care Networks and rural hospitals to support improvement of service delivery, clinical care, business management and performance measurement;
- the direction of funds in Year 1 towards invisible infrastructure;
- invisible and visible infrastructure investment to be given as a grant in recognition of the need for accelerated catch-up;
- investment in applications investment to be given as a non-interest loan, with a matching of investment from the Health Care Networks and rural hospitals;
- sufficient time allowed before repayment of non-interest loan to ensure benefits are optimised and consolidated;
- the establishment of an information technology trust to support ongoing developments.

