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Expected benefits of the National PCEHR System

Based on economic modelling work undertaken in 2010-2011

Overview of the National PCEHR System

The national PCEHR system will comprise a secure network of systems enabling access to consolidated and summarised health information drawn from multiple sources across the Australian health sector.

Summary of expected benefits

The net direct benefits of the national PCEHR system estimated by Deloitte are expected to be approximately $11.5 billion over the 2010 to 2025 period. This comprises of approximately $9.5 billion in net direct benefits to Australian governments and $2.0 billion in net direct benefits to the private sector, where the private sector includes households, GPs, specialists, allied health clinics, private hospitals and private health insurance providers.

Economic modelling was undertaken from the commencement of investment in the PCEHR in 2010 and considered benefits that would be accrued over the 15 year period to 2015. The economic modelling considered both the benefits that accrue from the direct investment in the national PCEHR system as well as the benefits that accrue from investment by the broader health sector that is catalysed by the Commonwealth Government's investment in the national PCEHR system.

Expected net benefits

Deloitte has categorised the expected benefits and costs of the national PCEHR system as follows:

- **Public** – The benefits and costs of the national PCEHR system to the public sector, which consists of the Commonwealth and State and Territory Governments
- **Private**– The benefits and costs of the national PCEHR system to private sector, which consists of households, GPs, specialists, allied health clinics, private hospitals and private health insurance providers.
- **Community**–The combined benefits and costs across both the public and private sectors.

Table 1 below shows the sum of future net benefits of the national PCEHR system over the 2010-2025 period.

Table 1 –Expected Total Net Benefits of the funded national PCEHR system (2010-2025)

Benefit	Expected total net benefits (2010-2025) ($M)
Public benefits	$13,121
Public costs	$3,614
Net public benefit	**$9,507**
Private benefits	$7,594
Private costs	$5,555
Net private benefit	**$2,038**
Total community benefits	$20,715
Total community costs	$9,170
Net community benefits	**$11,545**

Benefit contribution to priority health activities

The benefits of the national PCEHR system accrue from two key areas:

Reduced avoidable hospital admissions and GP visits due to the more effective medication management

With more complete information about a patient at the time of prescribing - independent of location or time constraints -- prescribing errors and adverse drug events (ADEs) in both acute care settings and in the community can be reduced. The national PCEHR system will enable this outcome through providing health providers with access to clinical documents that contain concise medication information for a patient, such as Shared Health Summary, Discharge Summary and Event Summary documents.

Improved continuity of care

Reducing the time consumers and care providers spend repeating and sharing information across the health sector will improve the effectiveness and efficiency of healthcare delivery. The national PCER system will enable this outcome through enabling health providers to contribute patient health information to their PCEHR in the form of PCEHR conformant clinical documents. Other health providers can then access and view this information for the same patient thereby reducing the need for consumers and the original care provider to repeat the same information. For example, a Shared Health Summary document will summarise the current health status of a patient so that this can be accessed by other health providers involved in their care, such as outpatient clinics and allied health professionals.

Table 2 below shows the benefits for priority health activities which the national PCEHR system is expected to deliver over the 2010-2025 period based on available global research.

Table 2– Benefits of the national PCEHR system for priority health activities

Priority health activities	Benefits of national PCEHR system (2010-2025) ($M)*
Reduced avoidable hospital admissions and GP visits due to more effective medication management	$10,237
Improved continuity of care	$1,308
Total net community benefits (as per figure stated in Table 1)	**$11,545**

* The allocation of benefits across the priority health activities is an estimate based on their proportional contribution to overall benefits modelled for the period 2010-2015.

Table 3 below provides a break down of the above benefits for the national PCEHR system by care setting.

Table 3– Breakdown of PCEHR benefits by care setting

Priority health activities	Care setting	Benefits of national PCEHR system (2010-2025) ($M)*
Reduced avoidable hospital admissions and GP visits due to the more effective medication management	Community setting	$9,228
	Aged care setting	$603
	Acute care setting	$405
	Subtotal	**$10,237**
Improved continuity of care	Community setting	$1,254
	Acute care setting	$55
	Subtotal	**$1,308**
	Total	**$11,545**

* The allocation of benefits across the priority health activities is an estimate based on their proportional contribution to overall benefits modelled for the period 2010-2015.

Approach to modelling

The economic impact assessment undertaken by Deloitte focused on identifying the incremental health and economic benefits that could be realised from the implementation of a national PCEHR system as distinct from the benefits of other eHealth investments occurring in the Australian landscape, such as:

- The core standards and eHealth foundational infrastructure being developed by the NEHTA
- Investments that have already been proposed or implemented by Australian governments, such as the implementation of Electronic Medical Records, ePrescribing, eDiagnostics and Care Plan capabilities
- Investments that have already been proposed or implemented by commercial providers, such as commercially-available ePrescribing solutions.

To identify the incremental costs and benefits associated with the national PCEHR system as compared with other eHealth investments that would be expected to be made independent of the national PCEHR system, two scenarios were developed:

- **The Base Case investment scenario** - In this scenario, where no national PCEHR system is developed, a cost-benefit model was developed that identified the range of eHealth capabilities that would be expected to come online regardless of whether a national PCEHR system was developed. The assumptions underpinning the expected costs and the timing of new capabilities coming on line was estimated based information gathered from the broader health sector.
- **The PCEHR investment scenario** - In this scenario, where a national PCEHR system is developed, a cost-benefit model was developed that identified the additional eHealth capabilities that would be expected to be either specifically delivered or brought forward as a direct result of the implementation of a national PCEHR system. As in the Base Case, the assumptions underpinning the expected costs and the timing of new capabilities coming on line was estimated based on information gathered from the broader health sector. The benefits estimates were based on a literature review of the likely improvements in safety, quality or efficiency of care associated with each capability, with the PCEHR cost benefit model identifying the additional benefits that would be unlocked as a result of the national PCEHR system being developed.

By comparing the benefits that would be realised for different technologies in the PCEHR scenario with the Base Case scenario the analysis is able to identify the benefits associated with the national PCEHR system.

Base assumptions

In modelling the scenarios for the national PCEHR system, five key assumptions about the operating environment of both scenarios were made:

- Privacy legislation and all necessary regulation is expected to be implemented
- Available bandwidth exists to support the information sharing across patients, care providers and governments
- Basic carer provider infrastructure, such as computers and access to internet where relevant, is available
- Technology change is steady
- Current health sector funding and governance remains unchanged.

To calculate the benefits of the national PCEHR system over time, Deloitte made assumptions regarding the take-up of the system amongst consumers and the health sector. An overview of these assumptions is provided below.

Provider take-up assumptions

With the scope of the change and adoption strategy focused towards eHealth, a nationally uniform rate of technology take-up is not expected. It is expected that there will be a faster rate of adoption and take-up within eHealth Site regions, and a slower rate of take-up in the rest of the country. It has also been assumed that there will be comparatively higher rates of take up by GPs, hospitals, pharmacies and aged care providers, with lower rates amongst specialists and allied health providers.

Consumer take-up assumptions

The national PCEHR system will be based on an opt in participation model. This means that the extent to which benefits are generated as a result of the PCEHR will be dependent on the rate of participation by consumers. The consumer participation rate was based on two key assumptions:

- A percentage of consumers will, for a variety of reasons, never choose to register for a PCEHR
- The rate of participation by consumers will lag the aggregate participation rate for healthcare providers.