

Commonwealth Finance Ministers Meeting 2008

**Meeting the MDG Challenge:
Financing Healthcare Delivery – Options for Finance Ministers**

Information Paper by the Commonwealth Business Council*

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Executive Summary

This paper reviews financing options to help Ministers of Finance address healthcare funding requirements, particularly through the development of eHealth strategies, which were the subject of deliberations by the Commonwealth Health Ministers at their Annual Meeting in May 2008.

The World Bank estimates that between \$25 billion and \$70 billion per annum is required to meet the Millennium Development Goals for health. Measured against these rising requirements, the current proportion of expenditure on healthcare by many countries remains quite limited. Healthcare spending (2004) accounts for 16% of GDP in the United States, 9% on average in OECD countries and less in developing countries. Scrutiny of healthcare costs, and the potential for efficiency and savings, as well as approaches to long-term investment, are therefore key considerations.

eHealth solutions can substantially contribute to improvements in quality, access, efficiency and cost of healthcare. Although eHealth applications are still in the early stages of implementation in most countries, initial findings on the cost benefits, based on an evaluation of selected proven eHealth investments in Europe, show that a decrease in unit costs of 50% is achievable. eHealth is not a tool dedicated only to developed countries; new business models and smaller scale implementations relevant to developing countries are being developed.

Public and private funding are the two main sources of financing healthcare, however for most countries public sector funding is the predominant source. An average of some 72% of total healthcare expenditure across OECD countries in 2001 relied on the public sector as the main source of finance. For eHealth, long-term, sustainable finance is required. Research and development requirements, as well as the long period for return on investment, necessitate planning at least 5-7 years in advance to enable adoption and modernization of systems. Identification of cost savings can in turn provide an impetus to investment.

Financing options include:

- a) Private public partnerships – these can involve a contract for services over a number of years with a transfer of an agreed measure of risk and reward to private partners – suppliers take on an expanded role for design, build, finance and operate.
- b) Enabling collaboration to maximize purchasing power in procurement – this can combine health service provider organizations and related organizations acting in consortia to reduce product costs, improve affordability and maximizing the available real financing for investments in eHealth.

International experience shows that successful implementation of eHealth has been achieved when the government defines strategic objectives and subsequently delegates operational activity to an independent institution that is funded based on achievements.

Recommendations to governments:

1. Commit to invest in eHealth for a period of at least 5-7 years;
2. Build coherent multi-annual national eHealth strategies and policies as part of eServices implementation strategy including eGovernment and eLearning;
3. Integrate health policy with the use of funds;
4. Develop private-public partnerships to mitigate risks and interest private investors;
5. Improve the co-ordination of international healthcare funding.

The CBC and its private sector partners stand ready to provide any information and assistance to governments as they progress consideration of approaches in these areas.

Introduction

The World Bank estimates that between \$25 billion and \$70 billion per annum is required to meet the Millennium Development Goals for health. Measured against these rising requirements, the current proportion of expenditure on healthcare by many countries remains quite limited. Healthcare spending (2004) accounts for 16% of GDP in the United States, 9% on average in OECD countries and less in developing countries. Amongst the Commonwealth developing countries, average healthcare spending is around 8% of the amount in the Commonwealth's developed countries. However amounts vary and range between 1% and 27% of the expenditure of developed Commonwealth countriesⁱ. Scrutiny of healthcare costs, and the potential for efficiency and savings, as well as approaches to long-term investment, are therefore key considerations.

Current healthcare delivery in many developed and developing countries is facing major challenges. The context of healthcare investment has to reflect the upcoming challenges facing our societies and healthcare systems. Investments, by definition, impact on the future, so they should aim to address issues of rising importance such as healthcare delivery, not just fix short-term drawbacks.

The most important challenge faced by many healthcare systems and society at large is demographic change. Ageing societies lead to changing pathology patterns in the population, often broadening the scope and capacity of the health services required. A second large group of challenges to the traditional healthcare model of developed countries comes under the umbrella of chronic and lifestyle related diseases, such as diabetes or cardio-vascular conditions. Third, there has been a change in the public attitude towards health and healthcare. Although national differences remain substantial, individuals are generally more informed and demand better quality health servicesⁱⁱ.

According to the World Health Organisation, it is expected that as populations age in middle- and low-income countries over the next 25 years, the proportion of people dying from non-communicable diseases will rise significantlyⁱⁱⁱ. For example, global deaths from cancer will increase from 7.4 million in 2004 to 11.8 million in 2030 and deaths from cardiovascular diseases will rise from 17.1 million to 23.4 million in the same period. In general, the impact of population ageing is more important than that of population growth. It is also well known that healthcare consumption increases disproportionately with age. In general, per capita spending in the age group of the 85 to 89 year olds is on average five times higher than for the 35 to 39 year olds^{iv}.

Rising costs and the search for sustainable financing models

Besides the size of financial and non-financial resources employed in healthcare, the way resources are utilized is the other critical factor affecting the potential for boosting investment in health in general and the types of investments to be expected. Public and private are the two main categories of sources of financing healthcare. An average of some 72% of total healthcare expenditure across OECD countries in 2001 relied on the public sector as the main source of finance^v. In

Europe, the shares have been fairly stable in the first half of the decade, ranging from about 53% in Greece to some 90% in the Czech Republic and Luxembourg^{vi}.

The problem of an increasing number of patients suffering from chronic diseases, combined with an expected future shortage in healthcare personnel, also points to the new kinds of medical services that will be demanded in the future: more care will have to be delivered at home, potentially supported by telemonitoring devices. A decrease in face-to-face contact in healthcare provision, and a reallocation of the available financial and non-financial resources seem inevitable. As a result of the worsening mismatch between supply of and demand for health services, the generic investment challenge is to improve the performance and capacity of the supply side in order to meet some of the growth in demand.

Technology-enabled healthcare or eHealth, can substantially contribute to improvements in quality, access, efficiency and cost of healthcare. Although eHealth applications are still in the early stages of implementation in most countries, initial findings from the European Commission's eHealth IMPACT study^{vii} on the socio-economic cost benefits, based on an evaluation of ten proven eHealth investments in Europe, show that a decrease in unit costs of 50% is achievable. In this sense, the goal of quality and efficiency at lower cost points to increasing investment in eHealth as an essential part of the future of healthcare systems.

According to official documents collected during the eHealth ERA project^{viii}, eHealth is either increasingly becoming an integral element of national health system objectives, or it is seen as a key enabler in wider contexts like improving the quality and efficiency of public services or speeding up the development into knowledge driven societies.

While national strategies for eHealth vary from country to country, the general objective is to provide increased quality of care as efficiently and effectively as possible. The development of ICT-enabled applications is viewed as very important. Many governments consider that ICT usage is an essential condition for improved affordability and quality of healthcare to citizens.

Within the Commonwealth, 19 countries have reported a range of initiatives at different stages of development^{ix}. The list of countries reporting on initiatives is attached as Annex 1. Countries including Australia, Canada, New Zealand, Singapore and the United Kingdom are actively implementing strategies on a large scale, while many middle income and developing countries are at the beginning of considering how best to integrate and deliver technology enabled solutions within their overall healthcare strategies.

Cost/benefit analysis for eHealth projects can demonstrate the potential. In Canada, Canada Health Infoway projects for electronic medical records are projected to achieve savings of \$6 to \$7 billion CAD per annum, create 37,000 new jobs by 2010 and add \$2 billion CAD in employment income^x. However, realizing the benefits from ICT in healthcare requires not only technology integration but also organizational change. As noted in the eHealth IMPACT study, the costs of organizational change could represent around 40 per cent of the ICT investment. Exact amounts depend on the type of eHealth investment and its duration. The

conclusion was that both organizational change and ICT must be fully financed, otherwise risk and potential additional costs increase.

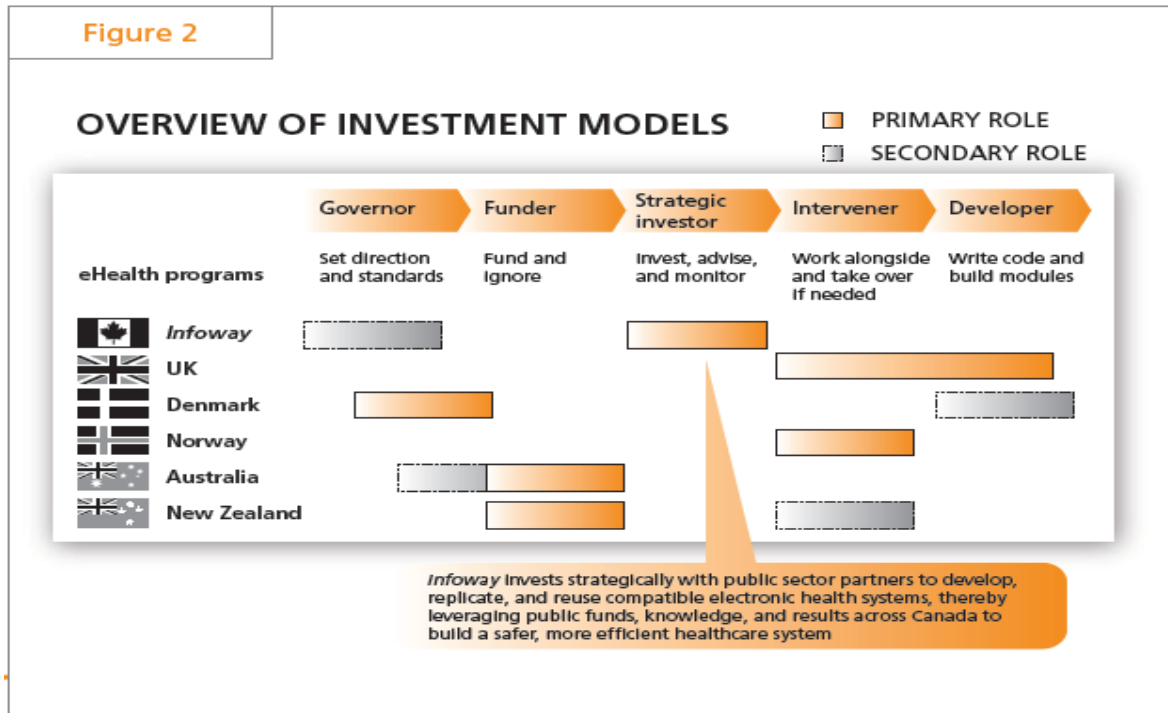
eHealth Investment and Procurement arrangements

A typical eHealth investment extends over several activities. These include planning, design, development, building, testing, implementation, operation and change. They can all be undertaken to varying degrees by suppliers and vendors, and by health services provider organizations as users. In this setting, finance may be needed for both capital and revenue expenditure by both sides of the partnership. From a health services provider organization's perspective, finance is needed for both ICT and for change, which can be critical to realizing the benefits from eHealth, leading to the need for a financing model that sustains ICT-enabled change.

These factors combine to create an eHealth investment model where ICT suppliers need finance for their activities, including, planning, design, development and implementation, and health services provider organizations (HPO) need finance for all the stages, from planning through to operation, change and benefits realization, including payments to ICT suppliers. From the operational period onwards, health services provider organizations, as users, can be expected to finance the whole eHealth investment, so it should be justified because it offers a return of net economic benefits.

Emerging international experience shows that the successful implementation of eHealth was achieved when the government defined strategic objectives and then delegated the operational activity to an independent institution that has been funded based on achievements. For example, Health Infoway in Canada has defined the standards and managed the whole project including partnerships and funding. Health Infoway is also a strategic investor with public sector partners to develop, replicate and reuse compatible electronic health systems, thereby leveraging public funds. Other country models have involved public agencies in different roles as Governor, Funder, Strategic Investor, Intervener and Developer (see Figure 2 below):

Figure 2



From Health Infoway presentation

The *enabling environment* for the funding of eHealth can be seen as a continuum from Supply to Demand, bridged by Intermediation.



If we analyze the **constraints** generally facing the eHealth systems implementation we can observe that on the *supply* side, in many countries:

- There is lack of local IT and eHealth knowledge;
- The value proposition is not well substantiated in many cases;
- The lack of proven benefits and success stories;
- The long procurement cycles (the availability of funding is delayed)
- The data protection and privacy rules are many times less qualified;
- The business models are not coherent and not sustainable.
- There is a lack of leadership and lack of user involvement.

The **solutions** to these constraints can be to build coherent multi-annual national eHealth strategies and policies as part of eServices (including eGovernment, eLearning), involve users early in the process of procurement of eHealth, perform careful analysis in order to determine the availability or the need of human

resources, describe available eHealth solutions, data privacy laws, envisage private-public partnership to mitigate risks and interest private investors.

The constraints in the **intermediation phase** are related to:

- Lack of knowledge sharing; dissemination
- Lack of infrastructure and know-how
- Lack of SMEs able to implement.

The solutions can be:

- Incubators for SMEs in eHealth;
- Develop advocacy programs;
- Framework for development of such innovating enterprises;
- Adoption of national enterprise solutions in eHealth in order to avoid fragmentation and lack of interoperability;
- Adoption of a model of implementation that can be replicated.

On the demand site the main constraints are related to:

- Lack of awareness concerning existing solutions (lack of information and training)
- Lack of information and know how to intervene in the procurement process
- Policy gaps
- Lack of infrastructure
- Lack of competence in the eHealth field;

The solutions can be related to capacity building, involving users early in the process of procuring eHealth, building programs for information, education and training, building programs of information for leaders and policy makers.

As an example, for a large-scale eHealth investment, such as an Electronic Patient Record (EPR) system for a hospital, a long planning, development, design and build period is needed. Financing this type of eHealth investment may need a period of up to seven years for these stages, as identified by the eHealth IMPACT study^{xi}. When the implementation, operation and change activities are added, financing eHealth needs to match the whole of the longer-term investment lifecycle. Stable, multi-year budgeting is needed for these timescales, which can be problematic for most health services provider organizations used to a financial horizon between one and five years. Thus, each eHealth investment should be managed as a whole, which enables the requirements for new finance to be managed together with finance redeployed from existing activities, such as legacy eHealth investment that is removed, or change management effort supported by HPO staff who reallocate their time from operational activities to spend time developing and introducing new clinical and working practices.

eHealth investment alongside other strategic investment, such as new assets and new drugs, helps to create the longer-term, financial planning horizon needed to finance these types of investment decisions. It is important to assess factors such as:

- Longer-term affordability
- Links between financing and economic benefits
- Impact of benefit realization on allocating operational resources of health services provider organizations to ICT components of eHealth.

Public-private partnerships (PPP)

One financing option for consideration is the development of a private-public partnership (PPP) between the appropriate government entity and private sector suppliers. A PPP is a contract for services over a number of years, between a purchaser, for example a public health services provider organization, and a private partner as an operator, which can be single entity or a consortium of suppliers. A common theme is that suppliers take on an expanded role for design, build, finance and operate. With this extended, transferred responsibility, suppliers take on more work and risk, and so can expect greater rewards. In PPPs, suppliers cannot be expected to provide eHealth financing solutions without a change to the balance of their risk and reward. For health services provider organizations, this can reduce their capital and non-recurring expenditure, and increase their recurring annual expenditure.

The general advantages of PPP include:

- Provides a solution for shortages of capital and non-recurring finance
- Introduces private sector disciplines to eHealth investment
- May build and maintain eHealth to a higher quality and longer life
- Non-core, highly skilled services handled by those most capable, usually excluding clinical and medical skills
- Risk can be transferred to the party best capable of mitigating it.

Disadvantages include:

- Cost of capital to a PPP operator can be higher than for governments and NGO
- HPOs can take on a significant, fixed commitment for PPP fees, increasing annual revenue expenditure over the longer-term
- Potential oligopoly of operators that need direct management by the HPO, especially complex sub-contracting relationships
- Some operators may not find PPP appealing and so withdraw from the PPP market
- Operational transaction costs reduced through-life flexibility

- Lack of integration between eHealth and new clinical and healthcare models
- Risks may not be measured realistically, transferred or shared as envisaged.

Appropriate policy guidelines and a legislative framework should be in place to enable effective PPPs to be developed.

Collaboration and purchasing power in procurement

Some procurement models, examples of which are found in Canada, Sweden and the UK, seek to maximize the purchasing power of combined health services provider organizations and related organizations acting in various forms of consortia. These can be effective in reducing products' costs, improving the affordability position and so maximizing the available real financing for investments in eHealth. For more complex eHealth solutions, this can be matched by suppliers working in partnership and sub-contracting relationships. A general principle is that procurers should seek ways to maximize and use their purchasing power in the eHealth market.

Financial resources can be liberated and enhanced by reorganizing procurement, helping to sustain eHealth investment. For example, centralization of procurement for hospitals in a region, streamlining the supply chain by sharing one procurement department, leads to synergies, economies of scale and potentially lowers unit prices of purchases, liberating staff and other resources. These can be redeployed into planning, development, and implementation of eHealth solutions, thus representing an indirect source of financing.

Lessons learnt to improve future performance include:

- Procurers must know what the market can offer both in providing current ICT products and services, and the capacity and capability of suppliers to develop new products and services
- Procurers must be able to commission suppliers as consortia to create the required capacity and capability
- Procurers have to be able to work directly with both the sub-contractors of main contractors
- Procurers must engage effectively with clinicians and health services provider organizations to be clear about their eHealth requirements, and so avoid a position where a different, inappropriate product is provided at a higher cost when corrections and work-around are needed

eHealth investments in services, not products

An important principle of PPP is that the contracts are for services. These include products, but they are set in the context of the assets and tools needed by operators to fulfil their contractual obligations. This concept can be applied to conventional procurement, without the PPP context. Instead of supplying ICT products to health services provider organizations for them to use, suppliers can work with other suppliers to provide the ICT services as an external service needed by health services provider organizations as part of their eHealth investment. This offers the opportunity for some

risk to be transferred and mitigated by suppliers, especially some of technology risks and resourcing risks.

Industry-health authority relationships and networking

The concept of eHealth extends well beyond ICT. It includes changes to clinical and working practices as a result of new ICT solutions being available at the point of care that can result in new models of healthcare being available for the benefit of citizens and health services provider organizations. Realizing this outcome requires excellent leadership of IT-enabled change. Seldom are the skills and knowledge for all these factors available to one organization. Accessing and using these requires organizations to have an effective relationship that enables long-term partnership and networking. Effective industry-health authority relationships and networks can lead to new, more comprehensive solutions, sharing of investment costs, financial and economic gains, and better risk mitigation. They should be part of all health services provider organizations and supplier relationships.

Individual contributions

Citizens can contribute a small part of healthcare and eHealth finance directly. Co-payments for healthcare services are common practice in many EU Member States already. The willingness of citizens to pay higher co-payments for eHealth supported treatment should be investigated. A preliminary hypothesis is that some willingness exists, as long as the health service outcome is of higher quality. Some examples, such as the Danish Health Data Network (DHDN), can be found where small increased charges have been introduced as part of an improved service after the implementation of eHealth^{xii}. At DHDN, the charges were minimal and were later removed. A general assumption is that citizens may not be keen on paying more, in total, for their healthcare. However, they may be prepared to re-allocate their resources for different and better healthcare, or pay small additional sums where they gain a direct benefit.

eHealth in developing countries

eHealth is not a tool dedicated only to the developed countries around the globe. At the recent workshop “Making the eHealth Connection” hosted by the Rockefeller Foundation^{xiii} a session was dedicated to business models appropriate for developing countries. Several suggestions were made for development of such models that are micro-implementations of eHealth, but must be interoperable and connected to a central platform in order to avoid fragmentation and duplication of efforts. Such models are:

1. Last mile Healthcare

Addressing the problem of access and lack of quality of care in rural areas, this model is based on the concept of “franchise pharmacy/clinic” in low-income markets. The participants suggested that 4-6 franchise businesses could be funded in the next 4-6 years achieving economies of scale and high quality care. This could be enabled by a dedicated social equity fund, a guarantee fund and first loss funding provided by private investors, foundations and NGOs. The model should facilitate global and local

partnership. Some additional studies must validate the economic outcome of these franchises.

2. Drishtee model (Health Franchisee)

The model is based on a trained business and health entrepreneur operating a healthcare facility out of her/his village. This is similar to a model applied by the Drishtee Foundation.^{xiv} The funding authority invests in the start-up of the entrepreneur business. This healthcare facility must be available daily, must establish a partnership with a hospital and financial partners with different risk tolerance levels. The entrepreneur visits the same village once a week and uses ICT enabled health services.

3. "One and Done" model, dedicated to Chronic Disease Management, is mobile device enabled and represents a first step towards a broader range of mobile health applications. The problem addressed is the patient compliance and it is addressed as a first step by messaging incentives and educational entertainment. The model is based on the existing infrastructure, is not reliant on governmental funding and aims at better compliance while reducing costs by avoiding complications. The model is based on external funding (not for profit funds) or pharmaceutical industry involvement.

4. Health Information systems; Health Management Information systems are complex implementations where the model could be captured abroad taking into account the local constraints – lack of IT knowledge, lack of deployment capacity, and lack of awareness about the existing solutions. The funding for these implementations can come from international banks (e.g. World Bank), investment funds and foundations. The outcome could be better health outcomes, reduced costs and increased efficiency of existing facilities. Epidemiology data, better allocation of resources and rapid reaction to any infectious threat will be some of the expected results at international level.

Conclusion and Recommendations:

eHealth represent a practical way to address today's health care challenges and ensure wide access to healthcare, improve quality and reduce costs. However, procuring eHealth solutions must be done after thorough assessment of the societal and health care system problems, must involve the users in their conception and be supported by a long-term political and financial commitment.

Stimulating eHealth investment needs to be based on a sound conceptual framework. Currently, eHealth is trying to support healthcare from outside the mainstream strategic context. It is essential that in the near future eHealth is considered as a factor of production, and integrated into the strategic resource mix.

Key recommendations to governments are:

1. Commit to invest in eHealth for a period of at least 5-7 years;
2. Build coherent multi-annual national eHealth strategies and policies as part of eServices implementation strategy including eGovernment and eLearning;
3. Integrate health policy with the use of funds

4. Develop private-public partnerships to mitigate risks and interest private investors;
5. Improve the co-ordination of international healthcare funding.

The CBC and its private sector partners stand ready to provide any information and assistance to governments as they progress consideration of approaches in these areas.

Commonwealth Survey on E-Health Initiatives - Project Descriptions

Commonwealth Secretariat Survey of eHealth Initiatives, May 2008

Country/Region

AFRICA

Botswana - Integrated Patient Management System 2003 – pilot 4 hospitals, 16 clinics, including laboratories, pharmacies.

Sierra Leone - Sierra Leone Integrated Data System: National Integrated Data System: National Integrated Data Repository currently underway.

The Gambia- 24 schools in e-learning initiative t which include health issues, 2007.
Malawi Installing broadband wireless network in government offices.

Mozambique - Set up Ministry of Health portal: policy, guidance, database.
Uganda Many including, “Enhanced Access to Health Service and Information through ICTs” 2000-2003.

Zambia - ‘SmartCare’ - EMR on ‘credit card’ linked to Patient Information Systems, component of ART care system

ASIA

Bangladesh - Ministry of Health & Family Welfare: Health service data exchange & monitoring; annual surveys; telemedicine; e-records; rural health information system. 1998 & 2003.

Singapore - EMR Exchange between Health Care clusters 2004, '06 national database; '07 beyond public hospitals.

Sri Lanka - Description of use of computers/ICT in Ministry of Health.

CARIBBEAN

Jamaica - Regional differences across 4 health regions – none in NE, SE, Foodhandlers database; South IT net HC services UNIMEDICS web based EHR System.

Trinidad & Tobago Starting National Health Information System.

St. Kitts- None

Grenada - Installing computer network and computerisation of health data.

Barbados -Task force in place, drafting policy and strategy.

EUROPE AND CANADA

England -National Programme for IT connects all NHS organisations, provides infrastructure, HER, treatment service, patient controlled hospital appointments, picture archiving and communication system.

Malta - E-Health portal, Integrated Healthcare Information System being developed with government network infrastructure

Cyprus - Health Care Information Support, 1) Request for proposal for turnkey software applications for initial computerisation of 2 hospitals, 2006.

2) RFP national health monitoring sys 2005-2007 – database, insurance, networks EHRs, etc. – to all hospitals by 2010.

Canada - Infoway – 2001 state funded NFP corporation;
Federal/Provincial/Territorial collaborative health information, communication technology, EHRs 10

PACIFIC REGION

Australia- 1) East Goldfields Regional Reference Sites, 2005 – virtual practice network health care providers in region

2) National E-Health Transition Authority (NEHTA) 2005 – state funded NFP company all jurisdictions; Clinical information, medical product directory, consent framework, HER specifications, standards, implementation.

New Zealand - Health Information Strategy NZ HIS-NZ. 2005 Action Committee, 12 Action Zones – information sharing, e-pharmacies, e-laboratories, e- referrals, chronic care disease management.

Cook Islands- MEDTECH32 – centralisation of medical records, creates single database

Papua New Guinea - n/a systems not installed

Notes

ⁱ Commonwealth Secretariat, "Ehealth for Developing Countries: Affordable Strategies", paper prepared by Tom Jones, Alexander Dobrev, Karl Stroetmann, Veli Stroetmann, Petra Wilson, Peter Drury, Commonwealth Health Ministers Meeting, May 2008

ⁱⁱ For example in EU - Observation made on the basis of results from the eUser survey 2005; see www.euser-eu.org

ⁱⁱⁱ World Health Statistics 2008, World Health Organisation, p. 29

^{iv} Hofmarcher MM and Riedel M (2002) Age structure and health expenditure in the EU: Costs increase, but do not explode, Health Systems Watch III, Autumn, Vienna Institute for Advanced Studies.

^v Source: OECD Health Data 2004, quoted in "Anatomy lesson – How health-care services are financed", The Economist print edition, Jul 15th 2004, http://www.economist.com/displaystory.cfm?story_id=E1_NRJVJRQ

^{vi} Source: "OECD Health Data 2006: A comparative analysis of 30 countries", OECD, June 2006, www.oecd.org/health/healthdata

^{vii} eHealth IMPACT: Study on the economic and productivity impact of eHealth (2006), commissioned by DG IN-FSO <http://www.ehealth-impact.org>

^{viii} eHealth ERA: Towards the Establishment of a European e-Health Research Area; FP6-2005-IST-015854; www.ehealth-era.org

^{ix} Commonwealth Secretariat, A Survey of Ehealth Initiatives Across the Commonwealth, paper for Commonwealth Finance Ministers Meeting, May 2008

^x Richard Alvarez, "E-Health in Canada: Transforming Healthcare and Fostering Innovation", eHealth in the Commonwealth- Building Healthcare Systems in the Digital Age – Private Sector Perspectives, Commonwealth Business Council, 2008.

^{xi} eHealth IMPACT: Study on Economic and Productivity Impact of eHealth; Reports available at www.ehealth-impact.org

^{xii} for details see case study from the EC eHealth IMPACT study at <http://www.ehealth-impact.org>

^{xiii} See <http://www.ehealth-connection.org/>

^{xiv} <http://www.drishtee.com/>