MARKET RESEARCH ON AUSTRALIA'S HEALTHCARE IT INDUSTRY TO IDENTIFY BUSINESS OPPORTUNITIES FOR ACCENTURE

A dissertation submitted in partial fulfillment of the requirements

For the award of

Post-Graduate Diploma in Health and Hospital Management

By

Dr. Aman Rana

PG/10/002

International Institute of Health Management Research

New Delhi -110075

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Certificate of Approval

The following dissertation titled "MARKET RESEARCH ON AUSTRALIA'S HEALTHCARE IT INDUSTRY TO IDENTIFY BUSINESS OPPORTUNITIES FOR ACCENTURE" is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of Post- Graduate Diploma in Health and Hospital Management for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation

Name	Signature
_____	_____
_____	_____
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Certificate from Dissertation Advisory Committee

This is to certify that Dr. Aman Rana, a graduate student of the Post- Graduate Diploma in Health and Hospital Management has worked under our guidance and supervision. He is submitting this Dissertation titled “MARKET RESEARCH ON AUSTRALIA’S HEALTHCARE IT INDUSTRY TO IDENTIFY BUSINESS OPPORTUNITIES FOR ACCENTURE" in partial fulfillment of the requirements for the award of the Post- Graduate Diploma in Health and Hospital Management.

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Faculty Mentor

Designation

IIHMR

New Delhi

Date

Synopsis for Dissertation

MARKET RESEARCH ON AUSTRALIA'S HEALTHCARE IT INDUSTRY TO IDENTIFY BUSINESS OPPORTUNITIES FOR ACCENTURE

Introduction

Australia officially the Commonwealth of Australia is a country in the Southern Hemisphere comprising the mainland of the Australian continent as well as the island of Tasmania and numerous smaller islands in the Indian and Pacific Oceans. It is the world's sixth-largest country by total area. Australia has six states—New South Wales, Queensland, South Australia, Tasmania, Victoria, and Western Australia—and two major mainland territories—the Northern Territory and the Australian Capital Territory (ACT).

General government expenditure on health as percentage of total government expenditure is 9.4% of GDP and Health care currently is free for all the citizens in public hospitals under the universal or Medicare scheme. The Ministry of Health is undertaking a multimillion-dollar program to expand health facilities and hospitals, medical centers, and reforms to accelerate development in health sector nationwide. The Federal Government funds universal medical services, and pharmaceuticals, which includes financial assistance to public hospitals, residential aged care facilities and home and community care.

In 2010, the Government had announced major structural reforms to Australia's health and hospital system. The Government promised to deliver better health services and better hospitals by establishing a National Health and Hospitals Network. This new national network will be funded nationally and run locally. In early 2008, Australian Health Ministers, through the Australian Health Ministers' Advisory Council (AHMAC), commissioned Deloitte to develop a strategic framework and plan to guide national coordination and collaboration in E-Health.

Australia is expected to invest huge funds in Health care market in near future and as IT implementation and integration is the foremost thing on everyone's mind, a bulk of these funds will flow into IT market. In 2012, BMI forecasts Austalian IT market growth of 5%, with spending of US$21.8bn, compared with US$20.8bn in 2011

Literature Review

•According to National E-Health Strategy Summary, December 2008 published after Australian Health Ministers' Conference, the National eHealth Strategy was put together jointly by the DoHA and Deloitte. It put forward four overall recommendations that have formed the basis of Australia's National eHealth Strategy. The main aims were:

1) To implement a set of national ehealth foundations that will provide a platform for health information exchange (HIE) across geographic and health sector boundaries.

2) To foster and accelerate the delivery of high-priority ehealth solutions by vendors and care provider organizations in a nationally aligned manner

3) To encourage healthcare participants to adopt and use high-priority ehealth solutions and modify their work practices to support these solutions

4) To develop a governance regime that allows strong coordination, visibility, and overseeing of national ehealth work programme activities.

•The study called 'Connected Health: The Drive to Integrated Healthcare Delivery', carried out by Accenture analyzed how eight countries' health systems are utilizing healthcare IT and creating 'connected' systems of efficient healthcare delivery, Australia ranked lowest out of the eight countries at approximately 26 per cent use of HIE. The countries surveyed included Australia, Canada, England, France, Germany, Singapore, Spain and the United States. The study revealed differences in IT across a variety of primary care and secondary/specialist care. For example, while healthcare IT maturity in primary care was highest in England (63 per cent) and Australia (62 per cent), use of HIE by primary care physicians was significantly less advanced..

•According to National Telehealth Strategy for Australia prepared by a sub-committee of the Australian National Consultative Committee on Electronic Health (ANCCEH)

The Key principles of the strategy and observations include:

- The requirement to regard the carriage of telehealth data, voice an image as a utility;
- Such carriage needs to be based on open standards and of consistent quality irrespective of geographic location
- Service content needs to be focused nationally on the main four or five key medical conditions which offer most return to the community.

Telehealth services need to be combined with other services in order to achieve widespread adoption by the clinical community.

•A Feasibility study, " Pharma value chain gains through RFID; clinical pilots" done by Accenture such as the Operating Room of the Future (ORF) initiative by the Center for the Integration of Medicine and Innovative Technology (CIMIT), an alliance of Harvard teaching physicians and MIT scientists and engineers; as well as advances in other vertical industries, such as retail, where Wal-Mart has mandated all its suppliers to RFID tag their deliveries, have jointly driven RFID to the forefront of many healthcare providers' as well as pharmaceutical companies' minds as a tool for operational efficiency.

Objectives

•To identify and analyze the opportunities and challenges for Accenture to successfully do business in Australia.

•To draw out a list of competitors of Accenture and highlight the extent of their involvement In Australian Health care IT.

Study Methodology

Study Design

The study would be an exploratory study. The different types of health IT services available in public health, hospitals and health insurance markets in Australia will be studied and described. The business opportunities available for Accenture in these markets in Australia will be explored and analyzed.

Study Duration

The study was conducted from February 2012 to April 2012.

Source of data

Secondary data: Through review of websites of hospitals, insurance companies, public health websites, new releases and review of articles etc.

Limitation of the study

It is an exploratory study with a total qualitative approach.

Most of the research was done using freely available information on various websites and portals available on the internet.

References:

•A National Health and Hospitals Network for Australia's Future (http://www.yourhealth.gov.au/internet/yourhealth/publishing.nsf/Content/nh

•Asia/Pacific Healthcare 2012 Top 10 Predictions (IDC #AP9296310T, December2011)

•Business Strategy: IDC Health Insights Roundtable, New Zealand 2011

•Closing the Gap through Shared Care (IDC #NZ8037903T, October 2011)

•Business Strategy: Health Insights Country Report for Singapore (IDC#AP9296309T, September 2011)

•Business Strategy: Mobile Healthcare in Asia/Pacific (Excluding Japan)

•Healthcare Landscape (IDC #AP9296308T, July 2011)

ACKNOWLEDGEMENT

I express my humble gratitude to the Almighty and I am grateful to **Mr. Hari k. Vishwanathan, Mr. Sohan Nautiyal, Ms. Preethi Ravi, Mr. Manish Thakkar and Mr. Mahidhar** and other employees **of Accenture Services Pvt. Ltd.** for their generous help, perpetual encouragement, and interest in the project throughout the course of the training.

I wish I really knew how to express my subtle feelings of gratitude to **Dr. Rajesh Bhalla,** Dean (Student and Academic affairs) **and Dr. Anandhi Ramachandran, IIHMR** for giving me the opportunity to undergo this project as an academic activity for the partial fulfillment of the degree.

I express my indebtedness to my colleagues who ceaselessly extended their co-operation in time of need. If there is any instance of failure to give proper credit where due, it is an unintentional omission.

Dr. Aman Rana

Part I

Internship Report

PROFILE OF THE ORGANIZATION

Accenture is a global management consulting, technology services and outsourcing company, with more than 246,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments.

Accenture's "high performance business" strategy builds on the expertise in consulting, technology and outsourcing to help clients perform at the highest levels so they can create sustainable value for their customers and shareholders. The company identifies new business and technology trends and develops solutions to help clients around the world:

- Enter new markets.
- Increase revenues in existing markets.
- Improve operational performance.

Deliver their products and services more effectively and efficiently.

Accenture have extensive relationships with the world's leading companies and governments and work with organizations of all sizes—including 92 of the Fortune Global 100 and more than three quarters of the Fortune Global 500. Company's commitment to client satisfaction strengthens and extends our relationships. Among the much strength that distinguishes Accenture in the marketplace are:

- Extensive industry expertise.
- Broad and evolving service offerings.
- Expertise in business transformation outsourcing.
- History of technology innovation and implementation, including our research and development capabilities, on which we spend approximately $300 million annually.
- Commitment to the long-term development of our employees.

CORE VALUES AT ACCENTURE

- ✓ **Stewardship:** Building a heritage for future generations, acting with an owner mentality, developing people everywhere we are, and meeting our commitments to all internal and external stakeholders.
- ✓ **Best People:** Attracting and developing the best talent for our business, stretching our people and developing a "can do" attitude.
- ✓ **Client Value Creation:** Improving our clients' business performance, creating long-term, win-win relationships and focusing on execution excellence.
- ✓ **One Global Network:** Mobilizing the power of teaming to deliver consistently exceptional service to our clients anywhere in the world.
- ✓ **Respect for the Individual:** Valuing diversity, ensuring an interesting and inclusive environment, and treating people as we would like to be treated ourselves.
- ✓ **Integrity:** Inspiring trust by taking responsibility, acting ethically, and encouraging honest and open debate.

ACCENTURE HEALTH SOLUTIONS

Accenture Health delivers a wide range of healthcare solutions—from health information management and electronic medical records to clinical transformation and health analytics. Its solutions are backed by real-world experience, business and clinical insights and innovative technologies. Accenture Health helps organizations around the world use knowledge in new ways for more effective, efficient and affordable healthcare with Insight Driven Health.

Health providers

From physician groups and community hospitals to academic medical centers, healthcare providers have opportunities to deliver better healthcare. Taking advantage of new technologies and using innovative care delivery models, healthcare providers can use knowledge in new ways to deliver more effective, efficient and affordable healthcare with Insight Driven Health.

Health plans

Healthcare reform is driving sweeping change for private health plans. Meeting these demands means using knowledge in new ways to drive more effective, efficient and affordable healthcare with Insight Driven Health. Complex issues like mandates to cut costs to the impact of payment reform and new business models are met effectively.

Public health

Public health organizations the world over share a common goal—improving patient care, efficiency and safety while lowering healthcare costs. In today's era of widespread healthcare reform, many of these agencies are leading the way toward significant change. Yet public health organizations must move ahead in the face of legislative and regulatory mandates, scarce resources, new technologies and changing patient safety access and privacy needs.

INSIGHT DRIVEN HEALTH FOR U.S STATE HEALTH ORGANIZATIONS

The convergence of cost pressures, healthcare reform and technology changes are redefining the landscape for U.S. state healthcare organizations. Because the number of people who depend on them for healthcare is growing while budgets are not, improving the reach and impact of the money they spend—doing better with less—is critical. In addition,taking advantage of healthcare reform incentives means improving program performance while serving growing numbers of recipients—striking the balance between lowering per-recipient costs and providing quality services.

Accenture Health works with state healthcare organizations to help them transform these challenges into opportunities by using knowledge in new ways across their organizations. This helps organizations achieve Insight Driven Health—the foundation for more effective, efficient and affordable healthcare. Accenture healthcare solutions address administrative, operational, clinical, business and technological needs. They help states to:

- **Transform:** Modernize Medicaid Management Information Systems with a sustainable model.
- **Save.** Lower administrative costs such as enrollment, billing, claims processing, and provider and recipient services while reducing waste, fraud and abuse.
- **Connect.** Use healthcare IT to connect fragmented healthcare systems and stakeholders by integrating electronic health records and health information exchanges and establishing regional extension centers.
- **Align.** Link e-health policies, processes and functions across agencies to support Medicaid healthcare goals.
- **Comply.** Leverage healthcare reform opportunities and reduce risk of penalties.

- **Improve.** Use healthcare analytics to improve healthcare quality and outcomes.
- **Innovate.** Explore new pharmacy benefits management approaches, proactive health management solutions and integrated care delivery models that incorporate non-medical supportive services.
- **Rethink.** Improve the effectiveness and cost efficiencies of business functions with healthcare consulting and business process outsourcing solutions.

ACCENTURE DIGITIZED HEALTH SOLUTIONS

From electronic medical records and medical imaging to tablet computers and telemedicine, the realm of digital has entered healthcare. Not only is digital health here to stay, it is poised to reinvent healthcare as the world knows it.

Going paperless has been a promising answer for the healthcare community as organizations look to reduce healthcare costs, improve health outcomes and respond to healthcare reform incentives and penalties. By integrating digitized health information into the workflow, organizations are improving clinical and financial outcomes. In the United States alone, Accenture estimates that nearly 90 percent of hospitals over the next three years will invest to install or upgrade their EMRs to meet meaningful use requirements.

Digitized medical data is driving the next wave of insight-driven healthcare and enabling a future of patient-centered care models.

Accenture Health helps organizations answer questions like these as part of their move toward Insight Driven Health—using knowledge in new ways for more effective, efficient and affordable healthcare. We help organizations throughout their digital journey—from implementation through adoption and support. Our digital healthcare consulting and insight-based solutions are comprehensive and tailored to each client's unique needs.

Business Analysis Training

The primary purpose of the two weeks business analysis training was to define the profession of business analysis. The training is a framework that describes the business analysis tasks that must be performed in order to understand how a solution will deliver value to the sponsoring organization. The form those tasks take, the order they are performed in, the relative importance of the tasks, and other things may vary, but each task contributes in some fashion, directly or indirectly, to that overall goal.

Objectives of Business analysis training program:-

- Identify business analysis best practices
- Describe the Business analysis body of knowledge (BABOK) guide
- Identify the phases in the business analysis process
- Describe the role of the BA

What is Business Analysis:

Business analysis is the set of tasks and techniques used to work as a liaison among stakeholders in order to understand the structure, policies and operations of an organization, and recommend solutions that enable the organization to achieve its goals. –BABOK

Business Analysis Body of Knowledge (BABOK) is a *"*Guide" that contains a description of generally accepted practices in the field of business analysis.

Knowledge areas define what a practitioner of business analysis needs to understand and the tasks a practitioner must be able to perform. The key knowledge areas described in BABOK are:

- Business Analysis Planning and Monitoring
- Elicitation
- Requirements Management and Communication
- Enterprise Analysis
- Requirements Analysis
- Solution Assessment and Validation

Business Analysis Planning and Monitoring

Business Analysis Planning and Monitoring describes how to determine which activities are necessary to perform in order to complete a business analysis effort. It covers identification of stakeholders, selection of business analysis techniques, the process we will use to manage our requirements, and how we assess the progress of the work in order to make necessary changes in work effort. Business analysis planning is a key input to the project plan, and project management responsibilities include organizing and coordinating business analysis activities with the needs of the rest of the project team.

The Purpose of business analysis planning and monitoring is to plan the execution of business analysis tasks, update or change the approach to business analysis as required and assess effectiveness of and continually improve business analysis practices

The main tasks that are performed are:

1. Conduct Stakeholder Analysis
2. Plan Business Analysis Activities
3. Plan Business Analysis Communication
4. Plan Requirements Management Process
5. Plan, monitor and Report on Business Analysis Performance

The following table describes each task in detail

Task	Purpose	Inputs	Output
Conduct Stakeholder Analysis	Identify stakeholders who may be impacted by a proposed initiative or who share a common business need.	Organizational Standards Defined Business Problem/Opportunity	Stakeholder list Stakeholder roles and responsibility designation

Plan Business Analysis Activities	Determines which activities are required to define the solution to a business problem, how those activities will be carried out, the work effort involved, and an estimate of how long the activities will take.	-Stakeholder list -Stakeholder roles and responsibility designation -Organizational Standards	Business Analysis Plans for: -Enterprise Analysis -Business Analysis Planning and Monitoring -Elicitation -Requirements Analysis
Plan Business Analysis Communication	Determine what information the various stakeholders need to be provided about the results of business analysis and the forms it should take (verbal, written, etc).	-Stakeholder list -Stakeholder roles and responsibility designation -Business Analysis Plan(s)	Business Analysis Communication Plan
Plan Requirements Management Process	Describes how to determine the appropriate requirements process for a particular initiative.	-Organizational Standard -Business Analysis Plan(s)	-Requirements Management Plan

Plan, monitor and Report on Business Analysis Performance	Determine which metrics will be used to measure the work performed by the business analysts. It includes how we track, assess, and report on the quality of the work performed by business analysts and take steps to correct any problems that may crop up.	-Organizational Performance Standards -Actual Performance Metrics -Business Analysis Plan(s) -Requirements Management Plan	-BA Performance Assessment -Lessons Learned -Process improvement recommendation

Elicitation

Elicitation describes how we work with stakeholders to find out what their needs are and ensure that we have correctly and completely understood their needs. The purpose of elicitation is to explore, identify and document stakeholder needs.

The main tasks that are performed in elicitation are:

1. Prepare for elicitation
2. Conduct elicitation
3. Document elicitation results
4. Confirm elicitation results

Requirements Management & Communication

The *Requirements Management and Communication* Knowledge Area describes the activities and considerations for managing and expressing requirements to a broad and diverse audience. These tasks are performed to ensure that all stakeholders have a shared understanding of the nature of a solution and to ensure that those stakeholders with approval authority are in agreement as to the requirements that the solution shall meet.

Communicating requirements helps to bring the stakeholders to a common understanding of the requirements. Because the stakeholders represent people from different backgrounds and business domains, this communication is both challenging and critical to the success of any initiative. It involves determining which sets of requirements are relevant to a particular stakeholder group and presenting those requirements in an appropriate format for that audience.

The main tasks that are performed in Requirement management and communication are:-

1. Manage Solution Scope and Requirements
2. Manage Requirements Traceability
3. Maintain Requirements for Re-use
4. Prepare Requirements Package
5. Communicate Requirements

The following table describes each task in detail

Task	Purpose	Input	Output
Manage Solution Scope and	Obtain and maintain consensus among key	-Requirements Management Plan.	Requirements [Approved]

Requirements	stakeholders regarding the overall solution scope and the requirements that will be implemented.	-Solution Scope. -Stakeholder List, Roles, and Responsibilities. -Stakeholder, Solution, or Transition Requirements [Communicated or Traced]	
Manage Requirements Traceability	Create and maintain relationships between business objectives, requirements, other team deliverables, and solution components to support business analysis or other activities.	- Requirements - Requirements Management Plan	Requirements [Traced]
Maintain Requirements for Re-use	To manage knowledge of requirements following their implementation.	-Organizational Process Assets -Requirements	Requirements [Maintained and Reusable]
Prepare Requirements Package	To select and structure a set of requirements in an appropriate fashion to ensure that the requirements are effectively communicated to, understood by, and usable by a stakeholder	-Business Analysis Communication Plan -Organizational Process Assets -Requirements - Requirements Structure:	Requirements Package

	group or groups.		
Communicate Requirements	Communicating requirements is essential for bringing stakeholders to a common understanding of requirements.	-Business Analysis Communication Plan -Requirements -Requirements Package	Communicated Requirements

Enterprise Analysis

The Enterprise Analysis describes the business analysis activities necessary to identify a business need, problem, or opportunity, define the nature of a solution that meets that need, and justify the investment necessary to deliver that solution. Enterprise analysis outputs provide context to requirements analysis and to solution identification for a given initiative or for long-term planning. Enterprise analysis is often the starting point for initiating a new project and is continued as changes occur and more information becomes available. It is through enterprise analysis activities that business requirements are identified and documented

Task	Purpose	Inputs	Output
Define Business Need	Identify and define why a change to organizational systems or capabilities is required.	Business Goals and Objectives Requirements [Stated]	Business Need
Assess	To identify new	Business Need	Required

Capability Gaps	capabilities required by the enterprise to meet the business need	Enterprise Architecture. Solution Performance Assessment	Capabilities:
Determine Solution approach	To determine the most viable solution approach to meet the business need in enough detail to allow for definition of solution scope and prepare the business case.	Business Need Organizational Process Assets Required Capabilities	Solution Approach
Define Solution Scope	To define which new capabilities a project or iteration will deliver.	Assumptions and Constraints Business Need Solution Approach Required Capabilities	Solution Scope
Define Business Case	To determine if an organization can justify the investment required to deliver a proposed solution.	Assumptions and Constraints Business Need Solution Scope Stakeholder Concerns	Business Case:

Requirements Analysis

The Requirements Analysis describes the tasks and techniques used by a business analyst to analyze stated requirements in order to define the required capabilities of a potential solution that

will fulfill stakeholder needs. Requirements analysis may be performed to develop models of the current state of an organization. The tasks in this knowledge area apply to both stakeholder and solution requirements.

Tasks	Purpose	Inputs	Outputs
Prioritize Requirements	Prioritization of requirements ensures that analysis and implementation efforts focus on the most critical requirements.	Business Case Business Need Requirements Requirements Management Plan Stakeholder List, Roles, and Responsibilities	Requirements [Prioritized]
Organize Requirements	The purpose of organizing requirements is to create a set of views of the requirements for the new business solution that are comprehensive, complete, consistent, and understood from all stakeholder perspectives	Organizational Process Assets Requirements Solution Scope	Requirements Structure
Specify and Model Requirements	To analyze expressed stakeholder desires and/or the current state of the	Requirements Structure Requirement(stated)	Requirements [Analyzed]: Modeled and

	organization using a combination of textual statements, matrices, diagrams and formal models.		specified requirements are produced by this task.
Define Assumptions and Constraints	Identify factors other than requirements that may affect which solutions are viable	Stakeholder Concerns	Assumptions and Constraints
Verify Requirements	Requirements verification ensures that requirements specifications and models meet the necessary standard of quality to allow them to be used effectively to guide further work.	Requirements [Any Except Stated]	Requirements [Verified]
Validate Requirements	The purpose of requirements validation is to ensure that all requirements support the delivery of value to the business, fulfill its goals and objectives, and meet a stakeholder need.	Business Case Stakeholder, Solution, or Transition Requirements [Verified]	Requirements [Validated]:

Solution Assessment and Validation

The *Solution Assessment and Validation* Knowledge Area describes the tasks that are performed in order to ensure that solutions meet the business need and to facilitate their successful

implementation. These activities may be performed to assess and validate business processes, organizational structures, outsourcing agreements, software applications, and any other component of the solution.

The main tasks that are performed in solution assessment and validation are:

1. Assess proposed solution
2. Allocate requirements
3. Assess organizational readiness
4. Define transition requirements
5. Validate solution
6. Evaluate solution performance

The following table describes each task in detail

Task	Purpose	Input	Output
Assess proposed solution	To assess proposed solutions in order to determine how closely they meet stakeholder and solution requirements	-Assumptions and constraints -Requirements (prioritized and approved) -Solution options	Assessment of proposed solution
Allocate requirements	Allocate stakeholder and solution requirements among solution components and releases in order to maximize the possible business value given the options and alternatives generated by	-Requirements (prioritized and approved) -Solution(designed) - Solution scope	Requirements (Allocated)

	the design team.		
Assess organization readiness	Assess whether the organization is ready to make effective use of a new solution.	-Enterprise architecture -solution scope -solution (designed) -stakeholder concern	Organizational Readiness Assessment
Define transition requirements	Define requirements for capabilities needed to transition from an existing solution to a new solution.	- Organizational Readiness Assessment - Requirements [Stated] - Solution [Deployed] - Solution [Designed]	Transition Requirements
Validate solution	Validate that a solution meets the business need and determine the most appropriate response to identified defects.	-Solution [Constructed] -Requirements [Prioritized and Validated]:	Identified Defects
Evaluate solution performance	Evaluate functioning solutions to understand the value they deliver and identify opportunities for improvement.	- Business Requirements - Identified Defects - Solution Performance Metrics: - Solution [Deployed]	Solution Performance Assessment

Application Analysis Training

Business Analysis bridges the gap of business and Information Technology (IT). Business analysis helps project stakeholders to Understand the possibilities and constraints of IT and

express their needs and wants. Business analysis helps developers recognize the right information to build solutions for business needs and understand users' business needs as per their culture and language.

Roles of Business Analysts : Application Designer, Business Architect, Data Architect, Training and Performance, Support Lead, Project Manager, Quality Manager, Service Introduction Lead, Technical Architect, Technical Designer

Areas of Business Analysis: The three key include:

– Business

– System

– Customer

Business Analyst: The International Institute of Business Analysis (IIBA) defines a Business Analyst as someone who Works as a liaison among stakeholders to elicit, analyze, communicate, and validate requirements for changes to Business Processes, policies, and information systems.

Accenture Delivery Methods-

- ADM is Accenture's methodology for creating and delivering effective, consistent and lower cost client solutions. It provides a framework to utilize on client engagements.

Different component of ADS:-

- Accenture Delivery Methods
- Accenture Delivery Estimators
- Accenture Delivery Methods Procedures
- Accenture Delivery Tools
- Accenture Delivery Architectures
- Accenture Delivery Metrics

Presentation Dynamics Workshop

The two day workshop was aimed to provide an overview and direct practice of effective presentation delivery skills. The primary focus of the workshop was on physical skills of delivery like:

- Managing nervousness
- Vocal quality
- Eye contact
- Use of arms and hands
- Moving strategically
- Using notes
- Using visual aids
- Handling questions and answers

It included videotaping of individual presentations and review by the participants and trainer and in site timely feedback was given.

The objective of this activity was:

- Identifying personal strengths and areas of development.
- Demonstrate effective physical presentation skills.
- Utilization of visual aids and notes effectively to enhance presentation success.
- Look and sound more confident and competent while delivering formal and informal presentations.

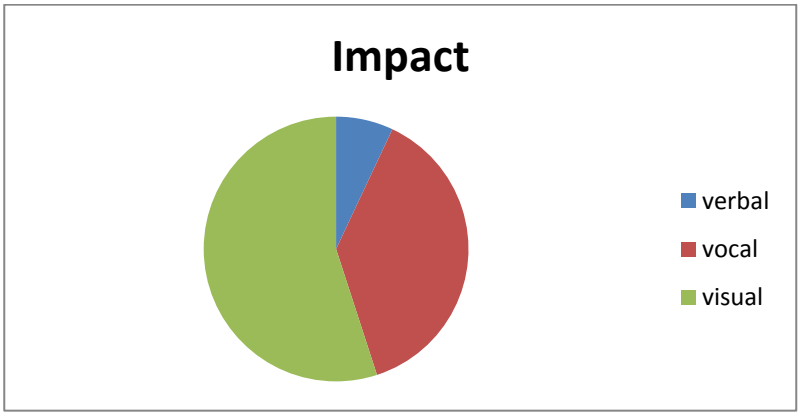
Significant learning points from this two days work shop are:

- Relative impacts of channel of delivery on the understanding of audience: out of all the components, visual aspect holds the strongest impact. The distribution is as follows:

Visual = 55%

Verbal = 7%

Vocal= 38%



Strategies for Managing Nervousness:

- Before presentation:
  - ✓ Know your content, audience and venue well.
  - ✓ Memorize the first two minutes.
  - ✓ Analyze what you are afraid of.
  - ✓ Watch what you eat and drink.
  - ✓ Meet and greet audience.
  - ✓ Try some relaxation exercises.
  - ✓ Visualize success.
- During the presentation:

To turn your nervous energy to positive energy:

- ✓ increase your volume
- ✓ use larger gestures
- ✓ avoid magnifying any shakes
- ✓ use notes
- ✓ pause and breathe
- ✓ find a friendly face in the crowd.

Organizing an informative presentation:

- ❖ Introduction: get their attention (what is in it for them WIIFT)
  - ▪ Establish your credibility
  - ▪ Preview your main points
- ❖ Body: deliver three main points
- ❖ Conclusion: summarize your message
  - ▪ Close with conviction

Vocal characteristics of the presenter:

The presenter should give special emphasis on projection, pitch, pace and pause. He should know how to use and modulate these criteria to communicate effectively.

Visual characteristics of a presenter:

1. Eye contact
2. Hands and arm gestures
3. Placement and movement of the feet.

Effective use of notes:

- Prepare notes on index cards
- Number the cards
- Practice using your notes
- Pause while looking at the notes, then reestablish eye contact before continuing.
- Beware of fidgeting with the notes.
- Hold your notes with pride.
- Do not apologize for them.

Effective use of visual aids:

- Keep them simple.
- Use color transition first, then show the visual.
- Introduce what the visual shows.
- Check your equipment.
- Practice using your visuals.

Methods to handle questions from the audience:

Strategy of 5 D's:

1. Delay: postpone the reply by using a relevant reason so that you get time to get your facts right and look for a valid explanation.
2. Detour: turn around the context of the question but still satisfy the query.
3. Dismiss: it should be used on irrelevant questions or questions that are not important to the present ongoing presentation but make sure of not offending the person.
4. Deflect: throw back the question to the person who asked it or someone in the audience. However, don't try this if you don't know the answer. It is meant only to give you a little time to recollect the answer.
5. Diffuse: used to avoid complex discussion amongst audience on debatable issues which are not directly related to the context of the presentation.

Online Trainings

Creating Diagrams with Visio 2003

This online training course describes how to use Visio to create diagrams that illustrate data in forms of charts, tables, graphs, diagrams and technical drawing.

MS Office 2003: Developing Diagrams with Visio 2003

This online training course describes Working with text which includes adding text in Visio 2003 diagram and creating tables. Customizing Diagrams includes positioning and formatting shapes, work with pages, adding pages; use of custom shapes, stencils, and templates and creating custom stencils and templates.

Microsoft Office 2003: Visio for Beginners: Visio 2003 and Other Programs

Visio 2003 and Other Programs link Visio 2003 diagrams to Office applications and export Visio shapes as graphics, embed Visio shapes and diagrams in Office documents, link to and embed Visio diagrams in other Office documents, use data from other programs in Visio 2003 diagrams. bring data from other programs into a Visio diagram, share and protect Visio 2003 diagrams, share Visio drawing files while protecting the originals, You can apply this training to any type of communication: presentations, meetings and conference calls, memos, and emails.

Microsoft Office Visio 2007 Beginning Visio: Creating Visio 2007 diagrams

Microsoft Visio 2007 is powerful diagramming software that enables us to create different types of diagrams and work environments. This course showed how Visio 2007 has predefined templates and stencils that enable us to create diagrams quickly and efficiently; along with the Visio Help features that allow us to tap into the vast knowledge base both within the help files and online through the Microsoft knowledge base. Once the diagrams have been created, this course demonstrated how to manipulate the shapes and connectors before saving and printing them.

Beginning Visio: Collaborating and Using Visio 2007 with Other Programs

Visio 2007 is a powerful collaboration tool that allows the user to show content from other applications and also allows content in Visio to be linked to other types of files. This course showed how to link, embed, import and export content and drawings in order to allow for collaboration with other programs while using Visio 2007.

Requirement Analysis Modeling: Event and Process model basis

Requirement analysis models Include data model, Event model and process Model. Event Model Contains Context diagram, Event stimulus, Event response DFD, and Event table. Process model contains data store definitions, data flow definitions, elementary process prescriptions.

Requirements Analysis Modeling: Data and Process Model Basics

Data model consist of attribute type description , entity type descriptions, relationship type descriptions and ER Diagram. .Process model contains data store definitions, data flow definitions, elementary process prescriptions.

Requirements Analysis Modeling: Advanced Modeling Techniques

Advanced Modeling Techniques focuses on advanced modeling techniques, specifically, how to normalize data in the data model, what to do if it is unclear which attributes describe which entity, and how to document significant changes in the properties of an entity type in response to events

Requirements Analysis Modeling: Reference Guide

Requirement Analysis Modeling (RAM) Reference Guide contains conceptual information about every aspect within requirements analysis modeling. It acted as an on-the-job reference tool for requirements analysis concepts and deliverables.

Requirements Development and Management

This course helped realize the many benefits associated with effective requirements development and management. In it we learnt about all of the main steps, processes and sub-processes associated with developing and managing requirements.

Requirements Analysis Tool Training

This is an online training that helped user of Requirement Analysis Tool (RAT) analyze requirements and take action from the various issue reports generated by RAT. RAT will help BA's in the process of analysis requirements as:

- Capture ambiguous requirements
- Capture missing requirements
- Generate functional diagrams
- Quantify the quality of the requirements.
- Overview of Requirements Analysis Tool.

Requirements Analysis Modeling: Supporting New Customer Requests

This training focused on what would happen if a client requests new functionality for a system. It helped understand how to integrate new functionality into an existing system.

Accenture Delivery Suite (ADS) Overview

The ADS Overview is targeted for new users of the Accenture Delivery Suite (ADS) or any ADS component - Accenture Delivery Methods (ADM), Accenture Delivery Tools (ADT), Accenture Delivery Architectures (ADA), and Accenture Delivery Metrics (AD Metrics). This course also provided an overview of the ADS Solutions: ADS Accelerators, ADS Practices, and ADS for offerings.

The Effective Business Meeting: Planning an Effective Business Meeting

This course presented with information that will help improve the quality of our meetings. It helped develop strategies necessary for preparing effective business meetings, by carefully considering the importance of all the components of the meeting, including people, place, purpose, time, agenda, and atmosphere.

The Effective Business Meeting: Leading an Effective Business Meeting

This course taught how to make meetings more successful by providing the tools and information that is necessary to lead an effective meeting.

Writing Effective E-Mail Messages:

This online training describes Planning your e-mail messages, rules of writing email messages Tips for writing email messages, Writing Terrific Leads –in Writing High impact E-mails.

Managing and Leading Virtual teams: Collaboration in virtual Teams:

This online training describes collaboration in virtual world, trust and commitment in virtual teams, flexible collaboration in virtual teams and process thinking.

Software Engineering Fundamentals: Accenture Delivery Methods - Experience Hires

The goals of this course are to: • Explain the Accenture Delivery Methodology components and how they are used • Enable learner to champion ADM, by understanding ADM vision and relationship between methods, processes, activities, tasks, tools, architecture assets and library repository.

Communicate For Results

This is computer-based training course that teaches you a framework for structuring results-focused communications.

- Prepare communications that focus on the results they want to achieve
- Assess the audience to see if there is alignment with the communication goal
- Create a communication plan that will help move listeners toward the desired outcome.

Participating in a Project Team: Participating in a Project Team Simulation:

Running a successful meeting setting SMART goals demonstrating the attributes of a team leader finding ways to keep professionally adept demonstrating mediation skills avoiding conflict pitfalls recognizing team-strengtheners recognizing team-subverters asserting your opinions encouraging people to talk avoiding the pitfalls of group discussion managing communication distortions.

Building and Maintaining Industry Skills

With the move to the new operating model, the importance has increased even more. This module will increase your awareness of the progress we've made around the industry framework—a framework that helps us enables people to build the industry skills they need.

Making Your Time Count: Managing Your Time

This training helped us to enhance our performance and contribution in the workplace by acquiring expertise in time management skills.It helps us in knowing variety of strategies, techniques, and tools used to better utilize the time available to the individual in the workplace

Professionalism and Business Etiquette: Communication Business Etiquette

Business Etiquette help us to know how to communicate--in person, over the phone, electronically, and with customers. The Course helped us to recognize benefits of knowing functional communication etiquette, writing etiquette, match types of writing tools to appropriate circumstances, telephone etiquette, identify key aspects of proper telephone etiquette and applying Telephone Etiquette

.

PART II

DISSERTATION

MARKET RESEARCH ON AUSTRALIA'S HEALTHCARE IT INDUSTRY TO IDENTIFY BUSINESS OPPORTUNITIES FOR ACCENTURE

CONTENTS

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LIST OF TABLES

LIST OF ABBREVIATIONS:

GDP: Gross Domestic Product
GFC: Global Financial Crises
ABS: Australian Bureau of Statistics
AIHW: Australia Institute of Health and Welfare
HSA: Health Services Australia
AHA: American Heart Association
IMAN: International Medical Assistance Network
IAG: Insurance Australia Group
AHIA: Australian Health Insurance Association
AHM :Australian Health Management
OSHC: Overseas Students Health Cover
GUCH : Grand United Corporate Health
NHHN: National Health and Hospitals Network
NHHRC : National Health and Hospitals Reform Commission
HIE: Health Information Exchange
AHMAC: Australian Health Ministers' Advisory Council
NEHTA: National E health Transition Authority Limited
NASH: National Authentication Service for Health
IBM: International Business Machines
PCEHR: Personally Controlled Electronic Health Record
EHR: Electronic Health Record
NEHR: National Electronic Health Record
IaaS: Infrastructure as a Service
HIS: Hospital Information System
CIS: Clinical Information Systems
DBCDE: Department of Broadband, Communications, and the Digital Economy
HIPAA: Health Insurance Portability and Accountability Act
PHI: Personal Health Information
PHIAC: Private Health Insurance Administration Council
ISO: International Organization for Standardization
ICT: Information and Communication Technology
RIS: Radiology Information Systems
EMR: Electronic Medical Records
PACS: Picture Archiving and Communications Systems
BT: British Telecom
MPPS: Multi Protocol Label Switching
RFID: Radio Frequency IDentification
BYOT: Bring-Your-Own-Technology
VOC: Vendor of Choice
EPAS: Enterprise Patient Administration System
ANCCEH: Australian National Consultative Committee on Electronic Health
ORF: Operating Room of the Future
CIMIT: Center for the Integration of Medicine and Innovative Technology
DoHA: Department of Health and Ageing

MARKET RESEARCH ON AUSTRALIA'S HEALTHCARE IT INDUSTRY TO IDENTIFY BUSINESS OPPORTUNITIES FOR ACCENTURE.

OBJECTIVE FOR THE STUDY

General objective

- To understand Australia's Healthcare System with a special focus on Health IT industry: current scenario, Government's perspective and market economics.

Specific Objective

- To identify and analyze the opportunities and challenges for Accenture to successfully do business in Australia.
- To draw out a list of competitors of Accenture and highlight the extent of their involvement In Australian Health care IT.

PROBLEM STATEMENT

- What are the opportunities and challenges for Accenture in Australia's Healthcare industry?

- Which are the segments of IT industry where Accenture should enter to make good business?

RATIONALE OF THE STUDY

Australia's e- Health has a vast scope. While the Australian government is sincerely dedicated to involve IT to uplift and upgrade their health system, enormous funds are being sanctioned to implement Modern IT applications in hospitals, public health and also insurance sector. The forecasts made by highly renowned research companies show they will be reaching as high as A$2.1 billion as spending in Healthcare IT developments by 2016 in Australia. The Market demand is high, application software thriving and the IT service market rapidly growing. The focus is shifting from the hardware segment to software and services segment. The market is loaded by various foreign players like IBM, Deloitte, Allscripts and Accenture itself. Market analysis is needed to understand the trends of Health IT market; anticipate the shifts in market forces and hence plan and act into right direction with right strategies in place to make the maximum profits.

METHODOLOGY:

I performed a systematic literature study to find relevant data about Australia's Healthcare market with special focus on IT advancements. Before that I searched information regarding Australia's Health Framework and government s vision towards attaining a healthy population state.

Search Strategy

First, we searched the following websites of WHO (http://www.who.int/en/), Australian Government websites (http://www.aihw.gov.au/), Accenture Research portals, Gartner website and websites of various eminent IT companies. For each website, I searched all the census reports and data available. I used the following search terms: Australian Healthcare, Australian Health IT market, Australian EMRs. Then , I scanned the reference lists for relevant articles (the snowball method), contacted individual experts in the field who are working in Accenture, Australia.

Second, we searched for gray literature on the Internet using the search engines Google, Yahoo, etc because these are the most widely used search engines. All searches in the gray literature were performed in April 2012.

INTRODUCTION

Australia officially the Commonwealth of Australia is a country in the Southern Hemisphere comprising the mainland of the Australian continent as well as the island of Tasmania and numerous smaller islands in the Indian and Pacific Oceans. It is the world's sixth-largest country by total area.

Australia has six states—New South Wales, Queensland, South Australia, Tasmania, Victoria, and Western Australia—and two major mainland territories—the Northern Territory and the Australian Capital Territory (ACT). In most respects these two territories function as states, but the Commonwealth Parliament can override any legislation of their parliaments. The population of 22.87 million is heavily concentrated in the Eastern states and is highly urbanised . (http://www.abs.gov.au/ Australian bureau of statistics as on 10th April 2012).

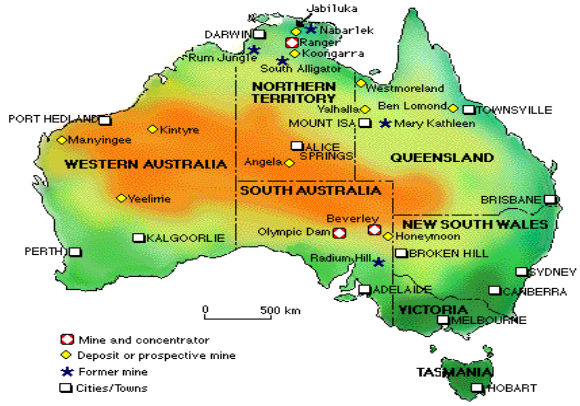


Figure 1: political divide: Australia

Political scenario

The Commonwealth of Australia is governed by a three-tiered system of government including Federal, State, and Local governments. The Federal Government is led by the Australian Labor party, which came to power in 2007 under the leadership of Kevin Rudd and in 2009, had a change of leadership, this time to Julia Gillard. Each of the six states and two mainland territories has its own legislature and state government.

Economy

Australia is a highly developed country with the world's thirteenth largest economy and has the fifth highest per capita GDP at $66,984; significantly higher than that of the United States, United Kingdom, Germany, France, Canada, Japan, and New Zealand. The country was ranked second in the United Nations 2011 Human Development Index and first in Legatum's 2008 Prosperity Index. Australia ranks highly in many international comparisons of national performance in areas such as quality of life and health.

Australia's economic performance has been much stronger than that of most other developed countries since ever and especially during the global financial crisis (GFC) in 2008–2009.

Australia has a market economy with high GDP per capita and a low rate of poverty. The Australian dollar is the currency for the nation (A market economy is an economy in which decisions regarding investment, production and distribution are based on supply and demand and the prices of goods and services are determined in a free price system. This is contrasted with a planned economy, where investment and production decisions are embodied in a plan of production).

Health Status

Life expectancy in Australia in 2010 was 79.5 years for males and 84 years for females. (Source: ABS Deaths, Australia) Australia has the highest rates of skin cancer in the world, while cigarette smoking is the largest preventable cause of death and disease. Australia has one of the highest proportions of overweight citizens among developed nations

- Death rates are falling for many of our major health problems such as cancer, cardiovascular disease, chronic obstructive pulmonary disease, asthma and injuries.
- Coronary heart disease causes the largest number of ‘lost years’ through death among males aged less than 75 years, and breast cancer causes the most among females.

Diseases

- Cancer is Australia’s leading broad cause of disease burden (19% of the total), followed by cardiovascular disease (16%) and mental disorders (13%).

- The rate of heart attacks continues to fall, and survival from them continues to improve.
- Around 1 in 5 Australians aged 16–85 years has a mental disorder at some time in a 12-month period, including 1 in 4 of those aged 16–24 years.
- The burden of Type 2 diabetes is increasing and it is expected to become the leading cause of disease burden by 2023.
- The incidence of treated end-stage kidney disease is increasing, with diabetes as the main cause.

Health risks

- Risk factors contribute to over 30% of Australia's total burden of death, disease and disability.
- Tobacco smoking is the single most preventable cause of ill health and death in Australia.
- However, Australia's level of smoking continues to fall and is among the lowest for OECD countries, with a daily smoking rate of about 1 in 6 adults in 2007.
- Three in 5 adults (61%) were either overweight or obese in 2007–08.
- One in 4 children (25%) aged 5–17 years were overweight or obese in 2007–08.
- Rates of sexually transmissible infections continue to increase, particularly among young people.

Children and young Australians

- Death rates among children and young people halved in the two decades to 2007, largely due to fewer deaths from transport accidents.
- More children are being vaccinated against major preventable childhood diseases, with 91% (the target level) being fully vaccinated at 2 years of age—but only 82% of 5 year olds are covered.

People aged 25–64 years

- The main causes of death in this age group in 2007 were coronary heart disease for males (14% of their deaths) and breast cancer for females (12%).

Older Australians For older people, the main causes of death are heart disease, stroke and cancer.

AUSTRALIAN HEALTHCARE SYSTEM

Australia's healthcare system ranks as one of the topmost in the world. The strengths of the healthcare system in the country lie in the access to primary care through Medicare and free public hospital treatments for public patients. Healthcare is primarily the responsibility of the Federal Government, with part of the responsibility being borne by State and Territory Governments, and even local governments.

In Australia the current system, known as Medicare, was instituted in 1984. It coexists with a private health system. Medicare it is now nominally funded by an income tax surcharge known as the *Medicare levy* currently set at 1.5 per cent. An additional levy of 1% is imposed on high-income earners without private health insurance. As well as Medicare, there is a separate Pharmaceutical Benefits Scheme that heavily subsidizes prescription medications.

Health care in Australia is universal. Where the government pays the large subsidy, the patient pays the remainder out of pocket. Where a particular service is not covered, such as dentistry, optometry, and ambulance transport, the patient must pay the full amount (unless they hold a Low Income Earner card, which may entitle them to subsidized access).

Individuals can take out private health insurance to cover out-of-pocket costs. The government encourages individuals with income above a set level to privately insure. This is done by charging these (higher income) individuals a surcharge of 1% of income if they do not take out private health insurance, and a means-tested rebate. This is to encourage individuals who are perceived as able to afford private insurance not to resort to the strained public health system.

The Federal Government funds universal medical services, and pharmaceuticals, which includes financial assistance to public hospitals, residential aged care facilities and home and community care. It also plays an active role in health research and in health professionals training. State and Territory Governments are responsible for more direct health services, including most acute and psychiatric hospital services. Community and public health services like, school health, dental health, maternal and child health, occupational health, disease control activities, and health inspection functions also fall within their purview. Local Governments contribute in environmental control such as garbage disposal and clean water provision. They also provide home care and personal preventive services, such as immunization.

Health Expenditure Australia

(source: Australian Institute of Health and Welfare)

Expenditure on Health

Total expenditure on health (including private sector spending) is around 9.4 per cent of GDP

Expenditure on health in Australia has increased from $72.2 billion in 1999–00 to $121.4 billion in 2009–10. At the same time, Australia's gross domestic product (GDP) increased from $951.0 billion to $1,284.8 billion, so health expenditure as a proportion of GDP has gone from 7.9% in 1999–00 to 9.4% of GDP in 2009–10. The $121.4 billion spent on health goods and services during 2009–10 averaged out at $5,479 per Australian (per capita).

Shares of expenditure

Of the total spent in 2009–10, 95.8% ($116.3 billion) was recurrent expenditure on health goods and services. The remaining 4.2% was capital expenditure ($5.0 billion).
Spending on public hospital services in 2009–10 was estimated at $36.2 billion or 31.2% of total recurrent health expenditure. Expenditure on medical services at $21.2 billion, or 18.3% of recurrent expenditure, and medications, at $16.3 billion (14.0%), were other major contributors to total recurrent health spending.

Growth in expenditure

Increased spending on public hospital services of $1.5 billion in real terms was the largest component of the overall increase in spending in 2009–10, accounting for just under one-third (30.7%) of the increase in that year, followed by spending on medications which grew by $1.0 billion.

Percentage of GDP

Spending on health accounted for 9.4% of GDP in 2009–10, an increase of 0.4 percentage points from 2008–09.

Government share of expenditure

Governments funded 69.9% of total health expenditure during 2009–10. The contribution of the Australian Government was 43.6% of total funding, while state, territory and local governments contributed 26.3% (non-government funding sources provided the remaining 30.1%).The Australian Government's share of public hospital funding was 39.7% in 2009–10. State and territory governments' share of public hospital expenditure was 50.6% in 2009–10.

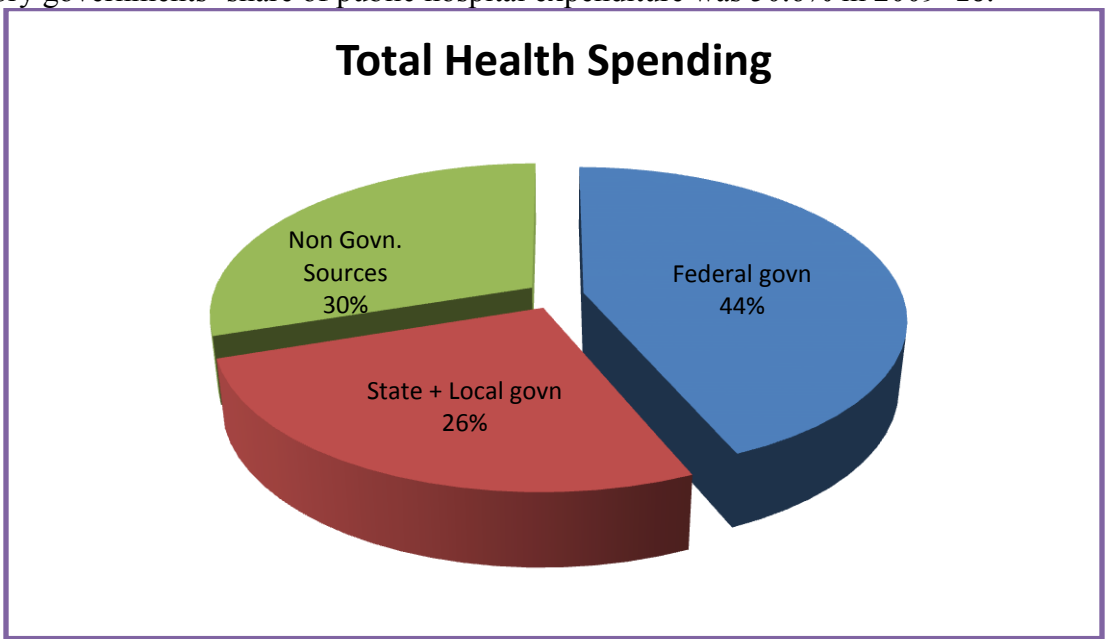


Figure 2: Total Spending in Australian Healthcare 2010 AHU reports

Individual' share

Patients admitted to public hospitals as public patients receive treatment by doctors and specialists nominated by the hospitals, and the services are paid for by Medicare Australia. Private patients in public or private hospitals can choose specific doctors, and Medicare pays 75% of the Medicare schedule fee for services and procedures. The outstanding balance may be out-of-pocket expenses for patients or may be funded by private insurance. About 50% of Australians have some form of private insurance, whether it is for hospitalization, ambulance cover, or ancillary cover for services like physiotherapy, dental, and optometry services. The government has been encouraging private insurance uptake by offering tax rebates for private insurance to reduce the burden on the public health system and the waiting period for elective surgeries.

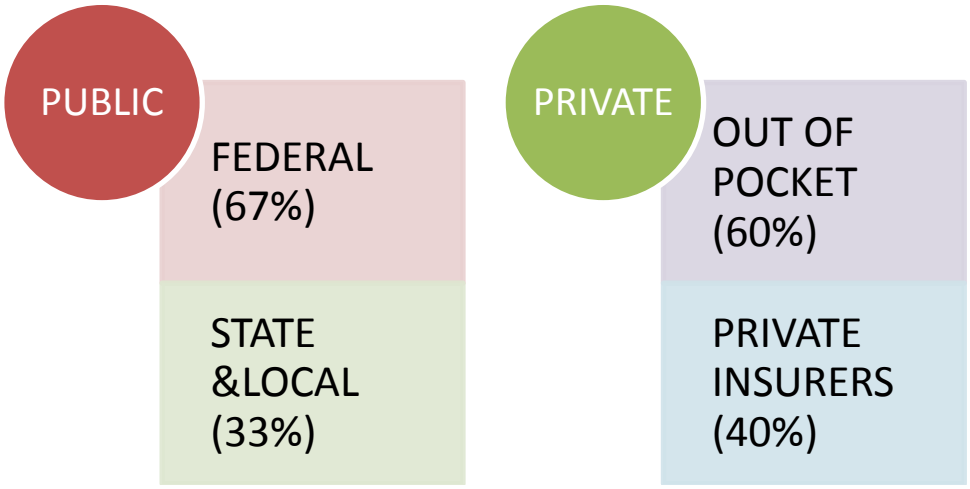
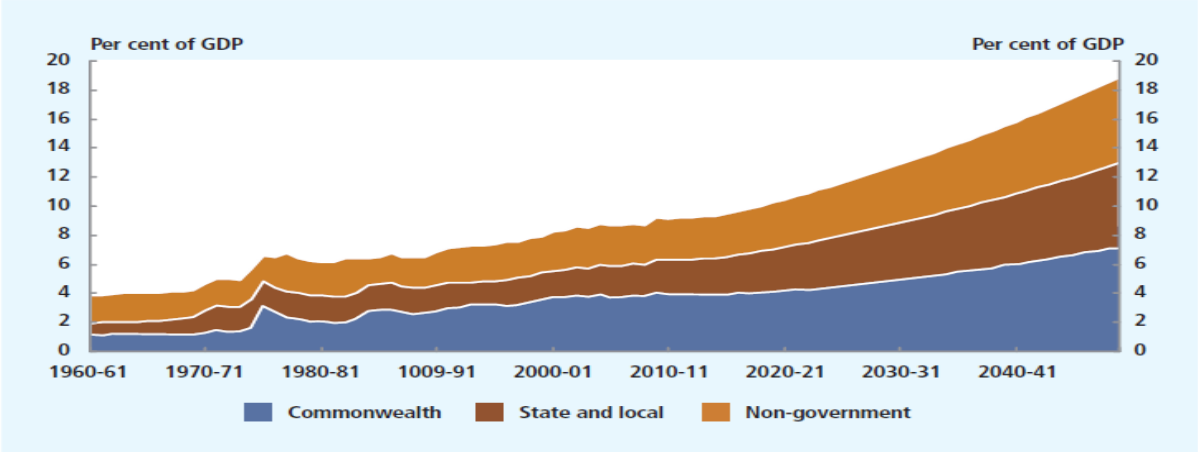


Figure 3: Sharing of the healthcare expenses in Australia



Source: Treasury projections based on data from the Australian Institute of Health and Welfare. Based on current arrangements.

Figure 4: PROJECTED HEALTH EXPENDITURE BY VARIOUS SOURCES OF FUNDS

HOSPITALS IN AUSTRALIA

The hospital sector in Australia is flourished because of enormous funding from the government side, especially state governments. Thus there are as good as 1326 number of hospitals in the nation. However, they are mostly accessible by the urban population.

Public acute hospitals	735
Public psychiatric hospitals	18
Total	753
Private hospitals	
Private free standing day hospital facilities	293
Other private hospitals	280
Total	573
Total hospitals	1326

Table 1: Number of hospitals in the public and private sector

Source: Australia Institute of Health and Welfare, 2011

Public hospital beds	
Public acute hospitals	54,812
Public psychiatric Hospitals	2,088
Total	**56,900**
Private hospital beds	
Private free-standing day hospital facilities	2,260
Other private hospitals	25,778
Total	**28,038**

Table 2: Bed availability status according to Australia Institute of Health and Welfare, 2011

1. Royal Melbourne	Melbourne, Victoria	85,400
2. Royal Brisbane and Women's Hospital	Brisbane, Queensland	74,900
3. Westmead Hospital	Sydney, New South Wales	69,600
4. Royal Adelaide Hospital	Adelaide, South Australia	67,800
5. Sir Charles Gairdner Hospital	Perth, Western Australia	64,800
6. Monash Medical Centre	Melbourne, Victoria	63,900
7. Princess Alexandra Hospital	Brisbane, Queensland	63,600
8. Geelong Hospital	Geelong, Victoria	58,200
9. Gold Coast Hospital	Southport, Queensland	57,800
10. Liverpool Hospital	Sydney, New South Wales	56,900

Table 3: Top Australian Hospitals by Number of admissions per year

Diversity of public hospitals in Australia

The 756 public hospitals are very diverse in size and the types of services provided for admitted and non-admitted patients (Table 4). The diversity of admitted patient services provided by each type can be gauged by the average number of diagnosis related groups reported (AR-DRGs).

	Number of hospitals												
	Location				Service provided								
Hospital type	Major cities	Regional	Remote	Total	Emergency departments	Accident emergency services	Outpatient clinics	Elective surgery	Admissions (average)	Average beds	Average length of stay (days)	Non-acute care (patient days %)	AR-DRGs (5+) per hospital
Principal referral	50	23	1	**74**	74	74	69	74	42,058	411.8	3.4	8.1	398
Specialist women's and children's	11	0	0	**11**	9	11	11	11	20,634	200.8	3.1	0.5	227
Large	23	17	1	**41**	38	41	36	34	15,419	143.5	3.0	13.1	259
Medium	22	70	0	**92**	34	90	11	55	5,770	64.1	3.2	21.3	148
Small acute	0	110	40	**151**	18	148	2	33	1,205	21.6	3.2	10.6	49
Psychiatric	10	9	0	**19**	0	3	0	0	554	110.7	54.7	51.6	10
Rehabilitation	6	2	0	**8**	0	7	1	1	1,104	70.5	20.8	91.2	27
Mothercraft	8	0	0	**8**	0	8	0	0	1,683	26.5	3.6	0.0	10
Small non-acute	13	62	11	**86**	4	83	1	2	883	28.4	8.5	67.9	21
Multi-purpose services	0	47	32	**79**	0	79	0	3	345	12.0	4.3	29.0	15
Other	32	78	77	**187**	6	173	0	1	233	13.1	15.0	85.8	6
Total	**175**	**418**	**162**	**756**	**183**	**717**	**131**	**214**	**6,434**	**74.7**	**3.7**	**17.1**	**126**

Table 4: Size and the types of services provided for admitted and non-admitted patients in hospitals

Proportion of hospital beds that were in accredited public and private hospitals, 2004-05 to 2008-09

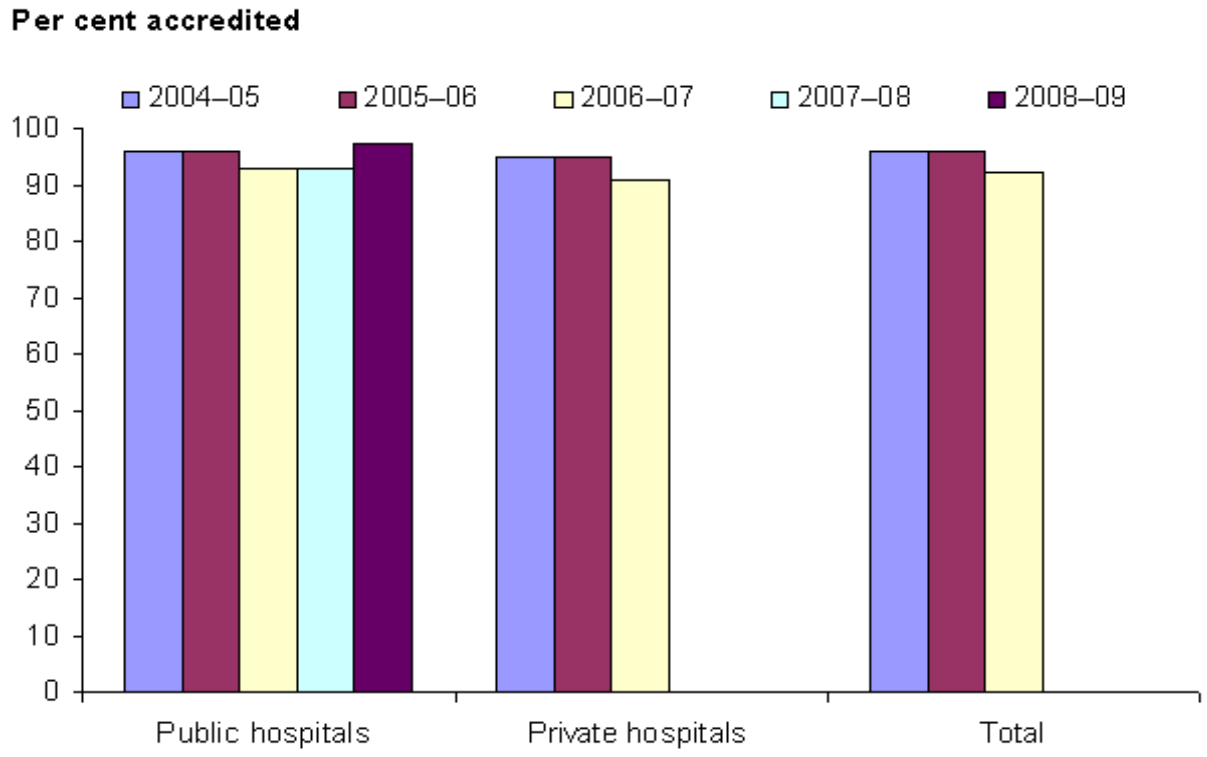


Figure 5: Proportion of hospital beds in accredited public and private hospitals, 2004 to 2009

Source: Australian institute of health welfare (2008-9)

Insurance

The public health system is called Medicare, which funds free universal access to hospital treatment and subsidized out-of-hospital medical treatment.
The private health system is funded by a number of private health insurance organizations. The main players in Private health insurance are:

HCF Health Insurance**:** is a non-profit organization.
Most aspects of private health insurance in Australia are regulated by the *Private Health Insurance Act 2007*. Complaints and reporting of the private health industry is carried out by an independent government agency, the Private Health Insurance Ombudsman.
The Australian government has introduced a number of incentives to encourage adults to take out private hospital insurance. The government subsidizes the premiums for all private health insurance cover, including hospital and ancillary.

Some significant private players in health insurance Australia are:

1. **Medibank Private**
   Medibank Private is an autonomous Federal Government Business Enterprise that also owns Health Services Australia (HSA) and AHA. Medibank Private: it is the largest of all. It is government-owned, but operates as a government business enterprise under the same regulatory regime as all other registered private health funds. Some private health insurers are 'for profit' enterprises, and some are nonprofit organizations.
   It provides health insurance services - including Overseas Student Health Insurance; occupational and travel health services; workplace health and injury prevention; rehabilitation case management; and return to work programs.

2. **CBHS Health Fund Limited**
   CBHS is a restricted membership health fund, providing health cover for past and present employees and their dependents, of the Commonwealth Bank of Australia, its subsidiaries and affiliated companies.

3. **International Medical Assistance Network (IMAN)**
   It provides Australian Health Plans and Working Visa Health Plans

4. **Queensland Country Health Fund Ltd**

5. **Insurance Australia Group (IAG)**

6. **St Luke's Health Insurance**
   St.Lukes Health has been providing private health insurance to Australians since 1952.

7. **Australian Health Insurance Association (AHIA)**
   AHIA represents health funds from the Australian private health insurance industry. Its main objective is to advance the interests of its members and their contributors in their dealings with governments, the media and other organisations in health care.

8. **Private Health Insurance Ombudsman**
   The Private Health Insurance Ombudsman deals with inquiries and complaints about any aspect of private health insurance. The organisation provides independent health insurance comparison on its website.

9. **Ahm, Australian Health Management**
   Ahm, a wholly-owned subsidiary of Medibank Private, provides a full range of health insurance products - including Overseas Students Health Cover (OSHC), and customised health management programs.

10. **CUA Health**
    CUA Health is a private health insurer, registered under the Private Health Insurance Act. It is owned by CUA, a mutual financial institution (member owned). To become a

member of CUA Health and enjoy the benefits, permanent residents of Australia need to join the credit union first.

11. ACA Health Benefits Fund

Membership with ACA Health is open to current and past employees (and their dependent families) of the Seventh-day Adventist Church and its associated companies in Australia.

12. CDH Benefits Fund

It is funded By Australian Regional Health Group Limited. Historically the Cessnock District Health Fund serviced the health insurance needs of the coal mining

13. Central West Health Cover

Central West Health Cover provides health insurance products nation-wide with special focus on regional areas of Australia.

14. GU Health

Grand United Corporate Health .By creating a corporate health plan they're not only providing a great benefit to their employees - but also encouraging a healthy workplace.

15. HBF Health Funds Inc.

HBF health funds which centers on Western Australia and focuses on that specific region.

16. Health Partners

Health Partners specialise in hospital cover, private health insurance and extras cover. After 70 years in the business, we have become the largest South Australian based health fund, with membership now totalling over 33,000 - covering more than 70,000 people.

17. Manchester Unity

Manchester Unity, a wholly owned subsidiary of HCF, merged into HCF on 30 June 2011. HFC provides a range of private health insurance products and travel insurance services.

18. Mildura District Hospital Fund Ltd

Mildura District Hospital Fund is a not-for-profit, community-based fund that meets the health insurance needs of local members. The fund has agreements with selected private hospitals and day surgeries to provide services at reduced or no out-of-pocket costs.

19. Navy Health

Navy Health is a restricted not-for-profit private health fund. It offers health, travel and personal insurance to members of the Australian Navy, Army and Air Force, and selected other groups - subject to meeting an eligibility criteria published on its website.

CHALLENGES FOR THE PRESENT HEALTH SYSTEM

(Source: National Health and Hospitals Network for Australia's Future)

The system that is not prepared for future challenges

- Ageing population will substantially increase both health care needs and Expenditure, while further constraining our health workforce. The 2010 Intergenerational Report forecasts the proportion of our population aged over 65 will increase from 14 per cent in 2010 to 23 per cent by 2050.

Projected Changing Trends in Population (%)

Year	Below 15 years	15–64	65 and Over
2011	18.9	67.1	14
2021	18.3	64.5	17.2
2031	17.5	62.5	20

Table 5: Projected Changing Trends in Population (%)

- Population is projected to grow from 22 million people today to 36 million by 2050. This growth will create the need for more health services, new investment in health infrastructure and an expanded health workforce.

- Chronic disease is a large and increasing burden on our health system
- Workforce shortages are already placing limitations on the delivery of health care particularly in regional and rural Australia. As well as training more health professionals.

- Too much blame and fragmentation between governments

In effect, Australia currently has eight different state and territory health systems. The Distribution of responsibilities for health between different levels of government is blurred and unclear, resulting in duplication, cost shifting and blame shifting. The relative financial Contributions of different levels of government to hospital services are fiercely disputed

Disease	Population
Conditions of the circulatory system	16.0
Arthritis	15.0
Long-term mental or behavioural conditions	11.0
Asthma	10.0
Diabetes	4.0
Cancer	2.0

Source: Department of Health and Ageing

Table 6: Prevalence of Chronic Diseases (%).

- **Gaps and poor coordination in urban and rural health services**

  Not all Australians get the services they need. People living in rural and regional areas, for example, sometimes struggle to access primary health care. This has resulted in a fraction of the population living in underserved areas, building a geographical digital divide, which is unusual for a developed nation.

- **Too much pressure on public hospitals and health professionals**

  The public hospital system is struggling to cope with growing patient demand and stretched Budgets. This pressure and constant strain on resources is also felt in the everyday working lives of health professionals.

- **Too much inefficiency and waste**

  Waste and inefficiency are ongoing challenges for the health system. The Productivity Commission estimates that some public hospitals may be running up to 20 per cent less efficiently than best practice. The lack of transparency means taxpayers and the governments that serve them are unable to make robust comparisons across states, or easily identify where there is inefficiency.

- **Not enough local or clinical engagement**

  Many clinicians and citizens are not adequately involved in decisions about the delivery of Health services in their local community. Current arrangements fail to make the most of the expertise and commitment of our clinical workforce. It also means that some services are poorly tailored to community needs.

GOVERNMENT'S VISION

As Australian government is already spending on health services excessively, there is a requirement to find new ways to deliver healthcare services that do not involve occupation of a hospital bed, and to drive greater productivity and efficiencies through the healthcare system.
The 2011–2012 budget presents a clear, ongoing investment trend in healthcare.
Some of the key focus areas for healthcare are:

- Hospital growth funding, whereby A$16.4 billion has been guaranteed to the states between 2014–2015 to 2019–20
- National mental health reform, with a budget allocation of A$2.2 billion over five years.
- Accessibility of resources, with A$717 million invested in expand access to diagnostic imaging services and affordable medicines;
- Public dental services, with an allocation of A$53 million, especially for the lower-income group.

Apart from budget allocation, there has been identified a need for structural reforms, especially with regards to healthcare funding.
The Australian government has identified and confirmed its commitment to ehealth as a key part of its strategy to transform the delivery of healthcare in Australia.

In 2010, the Government had announced major structural reforms to Australia's health and hospital system. The Government promised to deliver better health services and better hospitals by establishing a National Health and Hospitals Network. This new national network will be funded nationally and run locally. These reforms represent the biggest changes to Australia's health and hospital system since the introduction of Medicare, and one of the most significant reforms to the federation in its history.

- **A National Network:** to bring together eight disparate State run systems with one set of tough national standards to drive and deliver better hospital services.

- **Funded nationally:** by taking the dominant funding role in the entire public hospital system the Australian Government will end the blame game, eliminate waste and shoulder the burden of funding to meet rapidly rising health costs.

- **Run locally:** through Local Hospital Networks bringing together small groups of hospitals, where local professionals with local knowledge are given the necessary powers to deliver hospital services to their community.

MAJOR REFORMS INTRODUCED BY GOVERNMENT

National Health and Hospitals Review

The NHHRC was established in February 2008 to review Australia's health system and provide a long-term reform plan for the sector. The commission's scope was wide ranging, examining issues such as chronic disease, ageing population, rising health costs, inefficiencies and cost shifting between Federal and State Governments and the creation of a more productive relationship between the public and private sectors. 116 reform directions were put forward in the NHHRC's interim report, some of which include:

- **Denticare**

The Commission has recommended the establishment of a Medicare type system for dental services. The system would be funded by an increase in the Medicare Levy of 0.75%. Australians would opt to use the public dental system or to enroll in a private insurance dental plan.

- **Governance Reform**

The Commission has put forward a number of options regarding long term governance reform for the health system. One of the options is the introduction of a compulsory social insurance system, which would be a tax funded community insurance scheme under which there would be multiple competing health plans for people to choose from, which would be required to cover a mandatory set of services including hospital, medical, pharmaceutical, allied health and aged care.

- **Data collection**

The collection of public and private hospital episode data nationally.

- **Electronic Health record**

The development of a person-controlled electronic personal health record.

National Preventative Health Taskforce

This taskforce was established in April 2008 to develop strategies to tackle health challenges posed by tobacco, alcohol and obesity and develop a National Preventative Health Strategy by June 2009.

National Primary Health Care Strategy

The Government developed a strategy with advice from a specially commissioned external reference group and in consultation with State and Territory Governments. Its focus is tackling the health challenges of the 21st century and ensuring access to care. Priorities include better rewarding prevention, promoting evidence-based management of chronic disease, supporting patient management of chronic conditions, supporting the role of GPs in health care, addressing the needs for access to other health professionals and encouraging greater focus on multidisciplinary care.

Other initiatives are

1. Increased funding for health and hospitals

In November 2008, the Government signed a $64 billion agreement for health and hospitals funding over the next five years, which delivered a 50 per cent increase on the previous Australian Health Care Agreements. Additional funding was linked to a range of performance indicators across prevention, primary and community care, hospital and related care, aged care, the patient experience and sustainability.

The agreement also included:

- $1.1 billion to train more doctors, nurses and allied health workers in the largest single investment in the health workforce.

- $750 million to take pressure off emergency departments with an agreed performance benchmark that by 2012, 80 per cent of emergency department presentations will be seen within the clinically recommended time for treatment. Thirty seven hospitals around the country are receiving upgrades as a result of this investment.

- $500 million for sub acute care facilities including rehabilitation, palliative care, geriatric evaluation and psycho geriatric services.

- In addition, the Government has invested $600 million in an elective surgery waiting list reduction plan that has already delivered more than 62,000 additional procedures and new elective surgery equipment and operating theatres for 125 hospitals.

2. Comprehensive health care that is close to home through GP Super Clinics.
To provide comprehensive services close to home, 36 GP Super Clinics are being built across the country. GP Super Clinics bring together GPs, nurses, visiting medical specialists, allied health professionals and other health care providers to provide integrated, multidisciplinary care in a single convenient location. This infrastructure will particularly benefit Australians with chronic and complex diseases.

3. Focusing on prevention rather than cure
The Government has made an $872 million investment in preventative health programs to be rolled out in schools, workplaces and local communities with a high incidence of chronic disease. These programs will focus on reducing lifestyle risk factors such as smoking and obesity and increasing physical activity and healthy eating. This investment included the establishment of a National Preventative Health Agency, to advise all governments on the evidence base for future investments in prevention.

4. Closing the life expectancy gap between Indigenous and non-Indigenous Australians
To help close the gap between Indigenous and non-Indigenous health outcomes, the
Commonwealth, states and territories are investing $1.6 billion in measures to reduce the burden of chronic disease in the Indigenous population — the biggest contributor to the life expectancy gap. These measures include support for tackling high rates of smoking in the Indigenous community, and improving management of chronic diseases such as diabetes through additional support for primary health care practices with Indigenous patients.

5. Addressing workforce shortages in regional and rural Australia
The Government has recognized the challenges faced by Australians living in regional and rural areas in accessing basic health care services. As part of a $134 million investment, some 500 communities will benefit from a number of new initiatives, which means that around 2,400 doctors in rural Australia will, for the first time, become eligible for financial support to stay in rural and remote areas.

6. Investing in hospitals, medical research and clinical training infrastructure
In the first ever major investment by a Commonwealth Government in state health infrastructure, $3.2 billion has been invested in 35 infrastructure projects across the country, including: $1.5 billion to upgrade 18 hospitals around the country, including Nepean Health Services Redevelopment — $96.4 million; expansion of Townsville Hospital — $250.0 million; and the Health and Medical Research Institute at Royal Adelaide Hospital — $200.0 million. $1.3 billion over six years to modernize Australia's cancer infrastructure — including two comprehensive

cancer centers in Sydney and Melbourne linked into a network of regional cancer centers. $430 million to upgrade 12 medical research and clinical training facilities.

7. Sustainable, high quality aged care
The Government is committed to sustainable, high quality aged care and to providing funding for more services to older Australians. Over its first two Budgets, the Government increased total funding for aged and community care from $8.3 billion in 2007–08 to $10.0 billion in 2009–10, an increase of around 20 percent.

8. The Commonwealth Government has decided to become the majority funder of the Australian public hospitals system. The Commonwealth will fund:

- 60 per cent of the efficient price of every public hospital service provided to public patients;
- 60 per cent of recurrent expenditure on research and training functions undertaken in public hospitals;
- 60 per cent of capital expenditure, both operating capital and planned new capital investment, to maintain and improve public hospital infrastructure; and over time, up to 100 per cent of the efficient price of 'primary health care equivalent' outpatient services provided to public hospital patients. The Commonwealth Government will take full policy and funding responsibility for GP and primary health care services in Australia.

NATIONAL e HEALTH STRATEGY

(National E-Health Strategy Summary, December 2008, Australian Health Ministers' Conference)

The National eHealth Strategy was put together in 2008, jointly by the DoHA and Deloitte. It put forward four overall recommendations that have formed the basis of Australia's National eHealth Strategy:

- To implement a set of national ehealth foundations that will provide a platform for health information exchange (HIE) across geographic and health sector boundaries
- To foster and accelerate the delivery of high-priority ehealth solutions by vendors and care provider organizations in a nationally aligned manner
- To encourage healthcare participants to adopt and use high-priority ehealth solutions and modify their work practices to support these solutions
- To develop a governance regime that allows strong coordination, visibility, and overseeing of national ehealth work programme activities.

In early 2008, Australian Health Ministers, through the Australian Health Ministers' Advisory Council (AHMAC), commissioned Deloitte to develop a strategic framework and plan to guide national coordination and collaboration in E-Health. As part of this process, Deloitte conducted a series of national consultations which included Commonwealth, State and Territory Governments, general practitioners, medical specialists, nursing and allied health, pathology,

radiology and pharmacy sectors, health information specialists, health service managers, researchers, academics and consumers. An electronic submission process was also used to facilitate wider community input. The national E-Health strategy developed by Deloitte, together with key stakeholders, provides an appropriate basis to guide the further development of E-Health in Australia. It adopts an incremental and staged approach to developing E-Health Capabilities.

Themes/Strategic Priorities

The National e-Health strategy states that establishing national foundations for e-Health requires improvements in five key areas:

Identification and authentication – There is a need to design and implement an identification and authentication regime for health information as soon as possible as this work will be absolutely fundamental to the nation's ability to securely and reliably access and share health information. Australia should seek, as far as possible, to make the allocation of the consumer and care provider national identifiers universal and automatic.

Information protection and privacy – The establishment of a robust privacy and regulatory regime to authorise specific E-Health initiatives, and ensure appropriate privacy safeguards and consent processes for access to and use of health information and participation in E-Health initiatives. Accordingly there is a need to focus on completing the development of a nationally consistent regulatory framework and implementing this framework in a timely manner.

National E-Health information standards – There is a need for a national program of E-Health information standards definition to underpin the consistent and accurate collection and exchange of health information. This will involve accelerating the implementation and adoption of the E-Health standards that NEHTA has commenced and identifying and prioritising the next tranche of required national E-Health standards. A consistent and inclusive process for the development, endorsement and implementation of national E-Health standards should be established together with a three year rolling national E-Health standards implementation plan. National E-Health Strategy Summary

Investment in computing infrastructure – A key barrier to E-Health take-up is the relatively poor quality of computing infrastructure (PCs, network connectivity and core patient, clinical and practice management systems) across many parts of the Australian health sector. There is a need to establish mechanisms to encourage care providers to invest in the implementation and maintenance of an acceptable baseline of computing infrastructure.

National broadband services – A key foundation of the national health information highway will be access to national broadband services that provide connectivity between all Australian care providers. There is a need to engage and collaborate with relevant government and telecommunications organisations to extend planned broadband connectivity infrastructure to all Australian health care providers as soon as possible. As part of this process, there should be a focus on ensuring that national communications infrastructure will be fit for E-Health use and is

priced in a manner that does not discourage the sharing of health information across geographic and health sector boundaries.

The National e-health strategy also defines a set of priority e-health solutions that should be developed to improve the efficiency of the health system and quality of care (see Figure 3). Progress toward delivering these solutions varies—a number of state/regional and private healthcare organizations have already developed some of the priority e-health solutions whilst no progress has been made on developing others. The NEHTA is primarily responsible for working with these stakeholders to integrate their solutions into a national e-health network where possible.

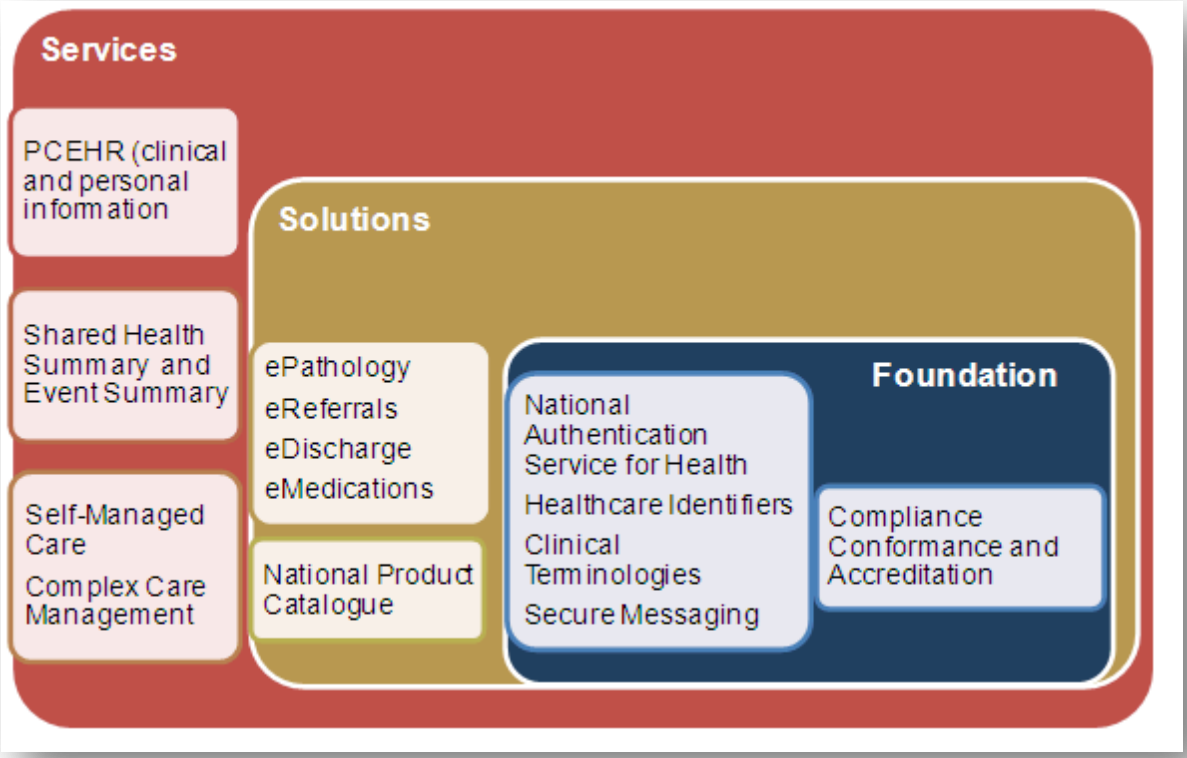


Figure 6: framework of the National eHealth Strategy.

Source: **www.Nehta.org**

National Ehealth Transition Authority Limited (NEHTA) is responsible for national ehealth strategy as well as for putting in place digital standards and policies necessary to achieve the vision of ehealth in Australia.

The National Authentication Service for Health (NASH) is a key foundational component for eHealth in Australia. It is essential that the identity of people and organisations involved in each eHealth transaction can be assured, and this requires high quality digital credentials. The NASH, Australia's first nationwide secure and authenticated service for healthcare delivery organisations and personnel to exchange sensitive e Health information, will provide this. In March 2011 the contract to design and build NASH was awarded to IBM.

The service will issue digital credentials, including digital certificates managed through the Public Key Infrastructure and secured by tokens such as smartcards. These credentials will validate identity when used to access eHealth systems that are enabled to use NASH authentication.

PERSONALLY CONTROLLED ELECTRONIC HEALTH RECORD (PCEHR)

The National eHealth Strategy ultimately envisages a personally controlled ehealth record (PCEHR) system that will improve quality of care and patient safety. Giving people better access to their own healthcare information through individually-controlled EHR is vital to promoting individual participation in health outcomes. The government targets to have every Australian control their own health records with a provider of their choice, as well as have the authority to approve healthcare providers and have access to their records by the middle of 2012.

All Australians who choose to can register for a PCEHR, which gives them access and control over their own health records. Twelve lead ehealth sites have been identified that includes the recruitment and registration of healthcare providers, including providers within the hospitals and GPs. It also includes the retrieval of HI for use by medical practices.

Personally Controlled eHealth Record Partners

The Australian government has appointed the following private sector partners who are to work together to implement the PCEHR system:

- National Infrastructure Partner
- National Change and Adoption Partner
- Benefits Evaluation Partner
- External Delivery Advisor

Each of these partners has been awarded a contract over the last year, and is mostly being delivered by consortia of vendors.

In August 2011, the Accenture-led consortium won the last and the most expensive of the four tenders that was looking for **private partners** to implement the A$467 million PCEHR project. Accenture's proven track record in the implementation of the National Electronic Health Records (NEHR) system in Singapore stood it in good stead. Along with working with Oracle and Orion Health, its partners in Singapore's NEHR project, Accenture has also appointed five subcontractors to implement the project.

Personally Controlled eHealth Record Partner Projects

Partner Project	Consortium Led by	Consortium Members	Project Cost	Role/Responsibility
National Infrastructure Partner	Accenture	Oracle, Orion Health, Telstra, Cerner, ThinkPlace, Extensia, Ocean Informatics	A$77 million	To design, build, and integrate the system
National Change and Adoption Partner	McKinsey and Company	PricewaterhouseCoopers, Hill & Knowlton, Workstar, Event Planet, Ocean Informatics, Alfred Health, Salmat and the Australian General Practice Network (AGPN)	A$29.9 million	To develop the change strategy, and support change management and communication with all sectors
Benefits Evaluation Partner	PricewaterhouseCoopers	McKinsey and Co., Ocean Informatics, Trilogy Information Solutions and the University of Queensland	A$5.8million	To develop the benefits realisation and evaluation framework, and assess ongoing progress, to inform implementation and future investment
External Delivery Partner	Ernst & Young		A$990,000	To provide independent advice on the progress of the programme

Source: NEHTA and DoHA

Table 7: PCEHR Project Partners

Telstra's role in the consortium appears to be that of local cloud computing partner to host the Web portals, using its infrastructure as a service (IaaS) offering, "Silver Lining." Cerner's hospital information system (HIS) has been used previously in regional Australian ehealth initiatives. Extensia is a supplier of software solutions and technologies for the healthcare sector, set up by the Commonwealth Research Centre Scheme. Its products include a shared electronic health record (EHR) solution, and an electronic directory and referral tool that can be integrated within the existing clinical information systems (CISs). Ocean Informatics is a health informatics company, which offers a suite of open source tools, enabling an interoperable system for shared

EHRs. Think Place is a strategic design consultancy, helping bring about organizational change, with experience in working with the Australian public sector.
The Accenture contract is the largest of four tenders called for private-sector partners to work with the National E-Health Transition Authority on delivery of the $500m PCEHR program. It is understood there were four serious bidders for the national infrastructure project, with CSC, IBM and Fujitsu unsuccessful. NEHTA has a managing agent role.
Ms Roxon had awarded a $30m contract to a **McKinsey and Co-led consortium** for the national change and adoption program, while **Ernst & Young** received $1m to provide independent oversight of the whole project and advise on progress and a PricewaterhouseCoopers-led consortium has been allocated $5.8m to act as the benefits and evaluation partner.
National Broadband Network (NBN):
Australia's aim of becoming one of the world's leading digital economies by 2020 can be seen in the rollout of its national broadband initiative, the **National Broadband Network (NBN**), which aims to replace the ageing copper telecommunications network. According to the Department of Broadband, Communications, and the Digital Economy (DBCDE), "The NBN will offer high-speed broadband to 93 per cent of Australian homes, schools, and business via fiber optic cabling. The remaining 7 per cent of premises will be connected via a combination of next-generation, high speed wireless and satellite technologies. These next-generation wireless and satellite technologies represent a significant step-change over speeds currently experienced by users of those technologies today."

One of the major constraints in the widespread adoption of telehealth in Australia has been the lack of high-speed broadband, especially in remote regions. This is set to be countered by the NBN.

REGULATIONS AND STANDARDS

Regulation can be defined as a principle, rule, law or other edict designed to control or govern conduct. Alongside taxation and expenditure, regulation is often used by government to shape incentives and influence how people behave and interact.
Regulations can be categorized on the basis of the legal instrument by which it is made. They include principal acts and subordinate legislation, administrative decisions including policy guidelines, and quasi-regulation such as codes of practice, guidance notes, industry-government agreements and accreditation schemes. The regulations examined in this study will be drawn from these categories.
Some significant regulations which are important to Accenture’s business are:

HIPAA (Health Insurance Portability and Accountability Act of 1996)

HIPPA regulations come in three parts:

- data transfer,
- privacy
- Security.

1) DATA TRANSFER
the regulations setting forth the standards for electronic transactions are relatively simple. Health plans, clearinghouses and certain providers are required to accept electronic transfer of data in a standard format for the transactions

2) PRIVACY
The privacy regulations are much more complex. They provide a federal minimum standard of confidentiality and accountability for medical information. If state law is more stringent, the state law applies. While electronic transmission of medical data brings an entity under the regulations of HIPAA, the privacy standards apply to all personally identifiable medical information—written, oral or electronic.

The privacy regulations require covered entities to obtain patient consents and authorizations prior to using and disclosing personal health information. Most of the rules apply to correctional facilities and their health care providers, but there are some exceptions. For example, most covered entities must obtain written consent in order to carry out treatment, payment or health care operations. Fortunately, the regulations make an exception for correctional facilities treating inmates, so a facility will not be held hostage to a manipulative inmate seeking to obstruct payment or other health care operations. Also, all covered entities may treat in emergency even without the patient's consent.

3) SECURITY RULE

- Administrative Safeguards – policies and procedures designed to clearly show how the entity will comply with the act
- Physical Safeguards – controlling physical access to protect against inappropriate access to protected data
- Technical Safeguards – controlling access to computer systems and enabling covered entities to protect communications containing PHI transmitted electronically over open networks from being intercepted by anyone other than the intended recipient.

OTHER REQUIREMENTS

- Right to Access: The regulations establish a minimum standard of access to records for patients. Patients have the right to inspect and obtain a copy of their medical records, to seek amendments to those records and to have an accounting of disclosures.
- Business Associates: Covered entities are expected to require their business associates to follow these rules as well. At a minimum, business contracts are expected to include provisions that require the associate to abide by HIPAA rules.
- Policies and Procedures: HIPAA requires that covered entities develop policies and procedures implementing these regulations. An entity must identify persons or classes of

persons in its workforce who need protected health information to carry out their duties. HIPAA does not restrict the scope of information that may be disclosed pursuant to a written authorization or if the disclosure is made to a health care provider for treatment purposes. However, for most other disclosures, the information is to be limited to the amount reasonably necessary to achieve the purpose for which it was disclosed.

- Privacy Officers: Each entity must designate an official to develop and implement these policies, as well as a contact person or office responsible for receiving complaints. Existing and new employees must be trained on the ramifications of this law. The entity also is required to develop sanctions for employees who do not comply

PHIAC (Private Health Insurance Administration Council)

According to PHIAC, stipulations surrounding product offering, the nature of business to be Conducted by insurers within health benefits funds, government approval of product pricing and Minimum capital requirements specific to the conduct of health insurance are all features of the Private health insurance regulatory framework. Private health insurance is also required to be offered on a community rated basis. Underlining the extent to which regulations impose costs on insurers, an Australian Health.

National E-Health Transition Authority (NEHTA)

NEHTA Limited is a not-for-profit company established by the Australian, State and Territory governments to develop better ways of electronically collecting and securely exchanging health information.

NEHTA National E-Health Standards Catalogue

The National E-Health Standards Catalogue (Standards Catalogue) consists of a collection of standards and specifications that are essential guidance for those who develop, sell, support, buy and implement e-health software in Australia. The catalogue provides a list of the standards recommended by, and specifications sourced or developed by, NEHTA. The catalogue also provides advice on when and where the use of a standard is appropriate.

Standards in Australia Health IT System

Apart from various regulations, Australia aims to follow the health IT standards which are being used throughout the world to maintain uniformity and enable interoperability. Few of them are:

Health Level 7 Australia (HL7 Australia)

HL7 International is a global standardization body that publishes standards to facilitate interoperability of health information systems. HL7 Australia is a not-for-profit, membership-

based organization that supports e-health in Australia via the creation and effective use of HL7 standards

HL7 Australia is the local affiliate of the international HL7 organization and is an open, volunteer-based, not-for-profit organization that supports the needs of HL7 users in Australia.

It is the accredited national affiliate of HL7.org and has local responsibility for a range of core activities including the distribution and licensing of HL7 standards materials, education and participation in international HL7 standards development.

HL7 Australia members are active participants in the various Standards Australia IT-014 health informatics standards sub-committees and working groups which are working on HL7 standards development and implementation in Australia.

International Organization for Standardization (ISO)

ISO (International Organization for Standardization) is the world's largest developer of standards. Although ISO's principal activity is the development of technical standards, ISO standards also have important economic and social repercussions. ISO standards make a positive difference, not just to engineers and manufacturers for whom they solve basic problems in production and distribution, but to society as a whole. ISO is a network of the national standards institutes of 148 countries, on the basis of one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system.

Technical Committee 215 (TC215) focuses on the field of health informatics and has a number of working groups addressing specific areas:

- TC 215/CAG 1 Executive council, harmonization and operations
- TC 215/WG 1 Data structure
- TC 215/WG 2 Data interchange
- TC 215/WG 3 Semantic content
- TC 215/WG 4 Security
- TC 215/WG 6 Pharmacy and medicines business
- TC 215/JWG 7 Joint ISO/TC 215 - IEC/SC 62A WG: Application of risk management to information technology (IT) networks incorporating medical devices
- TC 215/WG 7 Devices
- TC 215/WG 8 Business requirements for Electronic Health Records
- TC 215/WG 9 SDO Harmonization

Standards Australia (SA)

Standards Australia is the nexus for Australian industry. It is internationally renowned for its role in the development of standards and is recognized by the Government as the peak, non-government standards body in Australia. Standards Australia is dedicated to setting benchmarks to meet the growing expectations of the Australian community, industry and government. It remains committed to enhancing the social, environmental and economic

well-being of all Australians. Standards Australia ensures the effective development of standards and recognition of other standardization bodies by providing an active forum for discussion, debate and consensus. Through its activities, it encourages growth in export of Australian products and services and proudly promotes excellence in Australian design and innovation through the Australian Design Awards.

Standards Australia has undertaken a significant business transformation in order to ensure that its activities and those of its technical experts on standards committees can sustainably continue well into the future to serve the Australian community at large.

With effect from October 2008, Standards Australia implemented its New Business Model. The central concepts to the new model are Net Benefit and choice of pathways. Net Benefit can be summarized as 'having a positive effect on relevant communities'. Quite simply, all projects now developed under the Standards Australia banner must deliver demonstrable Net Benefit to the Australian economy.

All project proposals are assessed by the same criteria. Delivery of standards and related consensus documentation into the marketplace can be fast-tracked by adopting one of the five 'Alternative Pathways' now available to stakeholders. The 'Pathways' provide flexibility and choice, acknowledging that stakeholders may be able to assist with the resources required to develop standards.

The model ensures that the limited resources of both stakeholders and Standards Australia are utilized to the very best effect. This is consistent with our status as the peak standards body and the Memorandum of Understanding that we hold with the Commonwealth.

For the area of health informatics, an area of significant priority for the Commonwealth in Australia and indeed in the international sphere, the robust selection framework afforded by implementation of the New Business Model will allow Standards Australia resources to be focused and invested where they can add maximum benefit. In many respects, the base template for the Standards Australia New Business Model is founded in the methodology and discipline of the IT-014 committee, as demonstrated by its activities, behavior and conduct over 13 years since its formal constitution.

Therefore, under the auspices of work conducted by Standards Australia committee IT-014, the model ensures that new work items proposed for development will continue to deliver the maximum net benefit to Australia.

Operational and strategic functionalities have been separated within the Standards Australia structure. This allows for greater engagement and focus. Relationship Management is a new function within Standards Australia. It gives stakeholders access to individuals with whom they can plan a strategic approach in order to deliver standards solutions that are fit for purpose and dynamic.

NEHTA JOINED HAND WITH HL-7 AUSTRALIA

NEHTA has joined the Health Level 7 Australia (HL7) advisory board to help progress national e-health standards and accelerate the process of establishing health information network.

The union of HL7 Australia and NEHTA's support was vital in helping HL7 build the understanding and capacity that would underpin a successful national e-health rollout.

NEHTA is committed to the collaborative relationship and has been working closely with the standards community, particularly HL7 Australia, to expedite the development of e-health standards in Australia.

In 2011, Sydney, they brought together more than 50 work groups, committees and task forces to progress the HL7 V2.x, CDA, V3 and EHR standards.

Australia IT Market Overview

The Australian federal government is implementing a six-year plan to transfer **government agencies' computing systems to a public cloud** environment. According to the plan, public cloud adoption for public-facing websites began in 2011, with pan-governmental integration scheduled to take place from 2012 onwards. However, the plan requires government agencies to notify the Department of Finance Deregulation of their intention to move to the cloud.

Government projects in sectors such as e-government, healthcare, and education are driving significant opportunities for IT vendors. The Australian government has announced plans for a standardised reporting system scheme, while the National E-Health Transition Authority has set the goal of creating a paperless environment in Australia's health sector, including public hospitals.

Telecoms service providers in the Australian market are investing in infrastructure to provide cloud computing services. **Telecoms company Telstra, in partnership with consulting leader Accenture**, launched a 45-day free trial of its cloud infrastructure for government agencies. Meanwhile, rival telecoms company Optus already claims a number of high profile customers for its trial services. One of SAP's largest Australian partners, Oxygen, launched a new SAP Software-as-a-Service (SaaS) offering that it called 'Oxygen on Demand'. The solution was touted as a total SAP cloud solution, offering flexibility and speed-of-deployment. Many of SAP's Australian clients, including Fairfax Media, Australia Post, CGU Insurance and the Commonwealth Bank of Australia, already use cloud computing to provide services.

Australian computer hardware sales are projected at US$9.5bn in 2012, with popularity of tablets helping to keep demand buoyant in 2011 despite a moderation compared with 2010. Sales are forecast to grow at a 2012-2016 CAGR of around 3% to reach US$10.5bn by 2016, with drivers including new products such as tablets, as well as government programmes, and growing broadbandpenetration.

Software is expected to account for about 17% of the Australian IT market in 2012, with estimated spending of US$3.7bn. As **the focus moves from hardware to services and solutions**, the share of the market accounted for by software is forecast to rise by 2016, with businesses seeking greater leverage from their investments. Software sales are forecast to have a 2012-2016 CAGR of around 8%.

IT services are expected to account for about 40% of the domestic IT market in 2012, with sp;pending of US$8.6bn, up from US$8.1bn in 2011. CAGR for the segment is estimated at 8% from 2012 to 2016. In 2012, sectors such as government, telecoms, healthcare, and banking should continue to drive demand for implementation, consulting and managed services.

Health care IT in Australia: International comparison

According to a study carried out by Accenture called 'Connected Health: The Drive to Integrated Healthcare Delivery', in which they analyzed how eight countries' health systems are utilizing healthcare IT and creating 'connected' systems of efficient healthcare delivery, Australia ranked lowest out of the eight countries at approximately 26 per cent use of HIE. The countries surveyed included Australia, Canada, England, France, Germany, Singapore, Spain and the United States.

The study revealed differences in IT across a variety of primary care and secondary/specialist care. For example, while healthcare IT maturity in primary care was highest in England (63 per cent) and Australia (62 per cent), use of HIE by primary care physicians was significantly less advanced. However, despite Australia's poor rating on the Index, Australia performed well in the study's comparison of six dynamics of successful 'connected' health. These dynamics were: vision and leadership, strategic changes management, technology infrastructure, co-evolutionary approach, clinical change management and integration strategy. England and Australia led the other countries on 'clinical change management'. This finding shows that Australia has the tools to successfully integrate healthcare IT and develop 'connected' healthcare delivery processes, according to Accenture.

Healthcare IT systems market has emerged as one of the fastest emerging segments of the Australian healthcare space. The focus of healthcare regulators is to modernize the healthcare facilities in the country and this has boosted the growth in the Australian healthcare IT industry. Presently, the Australian healthcare industry is going through a planned reform process, which is led by the National Health and Hospitals Reform Commission.

ICT spending in the healthcare industry in 2011 was A$ 2.30 billion. Of the four sub segments (hardware, services, software, and telecommunications), **hardware spending was the dominant** segment, with 43.2% (A$937 million) of ICT spending overall, a consequence of continued

infrastructure upgrades, and investments in computing equipment particularly in laptops, tablets, and smart phones.
Although the demand for IT services in the healthcare sector has never been higher, the government efforts to improve the quality of customer services and clinical safety have supported the growth of demand for healthcare IT services in the country. As a result, the healthcare IT market in the country is forecasted to generate revenue worth around A$ 2500 Million (US$ 2250 Million) by 2012, says a research report "Australian Healthcare IT Market Analysis"

"Hospital Information Systems Markets" in Australia

Australia lags in technology adoption when compared to its Asia Pacific counterparts such as Japan, South Korea, and Singapore but is way ahead of countries such as China and India.
Being a public-sector driven healthcare system, government initiatives to improve the efficiency of the healthcare delivery by adopting IT systems is expected to be the major driver for the Australian hospital information systems (HIS) markets. As examples of these initiatives, the Australian government has embarked on an ambitious project known as **Health Connect** to build a national health information network. Likewise, **Health SMART** is another program that has been initiated to modernize and replace the IT systems throughout the Victorian public healthcare. The market is transitioning from the adoption of **administrative solutions to clinical solutions.** NEHTA has joined the Health Level 7 Australia (HL7) advisory board to help progress national e-health standards and accelerate the process of establishing health information network.

Strategic Shift in Healthcare IT Requirement Expected to Boost Market Growth-:

Hospitals in Australia are replacing legacy systems with **sophisticated and integrated ones**. Similarly, there is a strategic shift from the adoption of **administrative systems to clinical systems** and healthcare providers of various states and territories are looking at integrating their IT systems under programs such as the "**Nation-wide electronic health records**"
Nevertheless, despite these positive developments, participants must remember that there has been chronic under-investment in healthcare IT in Australia, leading to the adoption of fragmented and inefficient information systems by the healthcare providers. Further, there is also a huge level of penetration of legacy systems in Australian hospitals and migration to packaged software could pose considerable challenges.

Market for Clinical Systems Holds High Growth Potential

With hospitals replacing low-quality patient administration and financial systems with standardized and integrated solutions, the administrative HIS segment currently accounts for a majority of the market revenues. However, public and private hospitals are now showing considerable interest in clinical solutions and health departments are expected to allocate more funds for the adoption of clinical systems. Consequently, there is growing interest in clinical systems such as radiology information systems (RIS), picture archiving and communications

systems (PACS) and electronic medical records (EMR), which is expected to accelerate the growth of the overall Australian HIS markets.
Considering the shift toward integrating the IT systems, **huge contracts are expected** to be awarded in the Australian HIS markets in the coming years. "With the health departments of various states and territories planning numerous IT initiatives during the next few years, vendors need to enhance client relationships through better customer service and scheduled project completion," says the analyst. "Also, with the increasing demand for clinical solutions, developing solutions tailored to local needs is likely to evolve as a market necessity."

Segmentation into Administrative and Clinical Systems Market

This research tracks the growth in terms of revenues of both the administrative and clinical systems market. This is important for a market that is transitioning from the use of administrative solutions to clinical solutions in the technology adoption curve

The areas of significant growth in future (By application) are:

- Hospital information systems
- Cloud Computing
- Medical Imaging Information System
- Telemedicine

The following are three areas of IT interventions:

- **Hospital Information Systems**: All software and systems applications used in the administrative/business settings, as well as clinical environments in integrated delivery networks, acute hospitals, secondary hospitals, primary care centre's, free-standing medical centre's, diagnostic centre's and group practices.
- **Hospital Administrative Systems**: Modules of HIS for financial management, materials management, billing, human resources management, business analytics, and so on.
- **Hospital Clinical Systems**: Modules of HIS such as radiology information systems, laboratory information systems, PACS, EMR, and so on.

Market for new software vendors

Medicare Australia works collaboratively with software vendors to develop e business products and initiatives. There are several programs Medicare Australia works with:

- Medicare Online Claiming
- PBS
- Aged Care

- ECLIPSE
- Easyclaim

The process to develop for one of these programs is as follows:

Step 1 - Medicare Australia Developers' Agreement:

In order to develop for one of the above programs, a Medicare Australia Developers' Agreement must be in place. This Agreement establishes the terms and agreements between a software vendor and Medicare Australia.

Step 2 - Medicare Australia Developers Kit:

Once the Medicare Australia Developers Agreement has been executed by Medicare Australia, OTS Liaison will send a Developers' Kit. The contents of the Developers' Kit will vary depending on the program but may include:

- Client adaptor
- Location certificates (PKI)
- Test data
- I keys

Step 3 - Development:

OTS Help Desk will assist vendors during the development stage with diagnosing and resolving technical issues. There is no time frame for vendors to meet while developing.

Step 4 – Integration:

OTS Product Integration verifies that vendors' software products have been correctly integrated with Medicare Australia's online channels. Software Vendors must book in for and complete this verification process prior to gaining access to the Medicare Australia production environment.

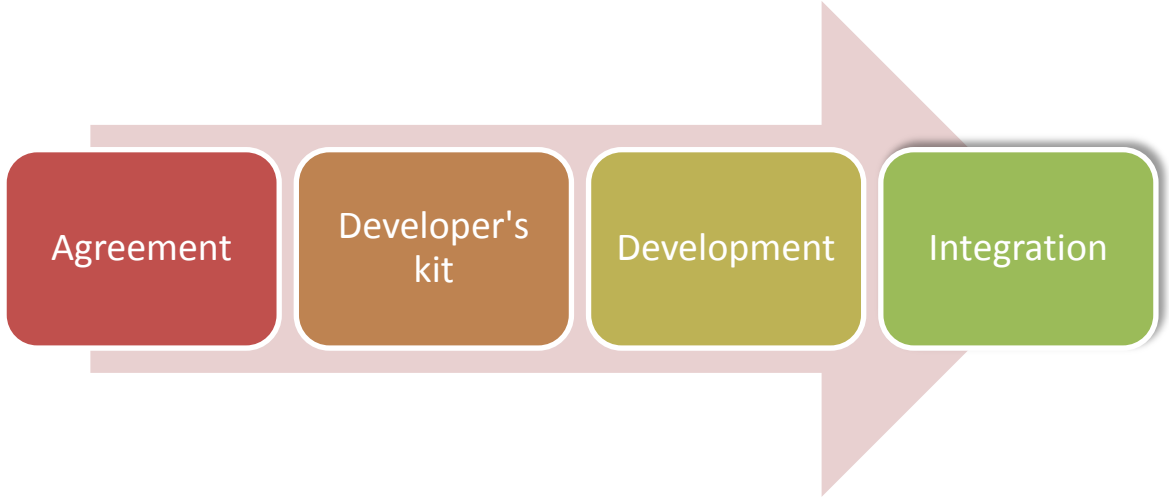


Figure 7: process to develop one of the medicare programs

The brace shows the window where Accenture can enter and deliver a high quality service.

Latest Key Hospital Upgrades under the Health and Hospital Fund

Some of the examples of hospital upgrades that have either taken place or are planned as a result of this funding being made available are:

Fiona Stanley Hospital. Serco and British Telecom (BT) will partner for this upgrade project of the Perth hospital. BT will provide communications infrastructure and run a range of IT services. The network will use cabled multiprotocol label switching (MPLS) and this will be supplemented by a WiFi mesh network for unified communications (UC) services. Additionally, the hospital will use radio frequency identification (RFID) technology to track medical equipment such as scanners, ultrasound equipment, and defibrillators. The hospital is due to open in 2014. (CIO, August 16, 2011)

Royal Adelaide Hospital. HP Australia has won the contract to supply and maintain ICT services to a portion of South Australia's new A$2.1 billion digital Royal Adelaide Hospital. The consortium will include Leighton Contractors, Hansen Yuncken, Macquarie, and Spotless. The hospital is scheduled for completion in 2016 and the contract will run for 30 years. (Computerworld, September 20, 2011)

Casey Hospital. In its upgrade, Casey Hospital, a 229-bed hospital in Victoria, has decided on a rollout of I Pads, a bring-your-own-technology (BYOT) policy, as well as on the trial of an internal wireless network. This is a good example of how mobility is expected to contribute to healthcare in the future. Clinicians and allied staff accustomed to using smart devices outside of work are increasingly using their personal mobile devices to communicate with colleagues and even get view-only access to patient records, despite the risk of using less-than-secure communications channels.

REGIONAL DISTRIBUTION OF ICT SERVICES AND SPENDING

The distribution of ICT spending in the health sector in each state correlates very strongly to population. Victoria is the state with the largest ICT spending in the health sector in Australia in 2011–2015, followed by New South Wales and Queensland.

Australia Health Spending Breakdown by State, 2010–2014

	2011	2012	2013	2014	2015	2011–2015 CAGR (%)
Western Australia	280.7	287.8	298.0	302.3	305.6	2.2
South Australia/Northern Territory	269.7	276.9	286.7	291.2	295.0	2.3
Queensland	478.6	493.4	513.9	523.9	531.4	2.8
New South Wales	577.5	592.1	613.1	622.9	630.4	2.3
Australian Capital Territory	66.5	69.4	71.8	73.4	74.6	3.0
Victoria/Tasmania	630.2	646.0	669.7	679.7	687.4	2.3

Table 8: Australia Health Spending Breakdown by State, 2010-2014 (IDC report, 2011)

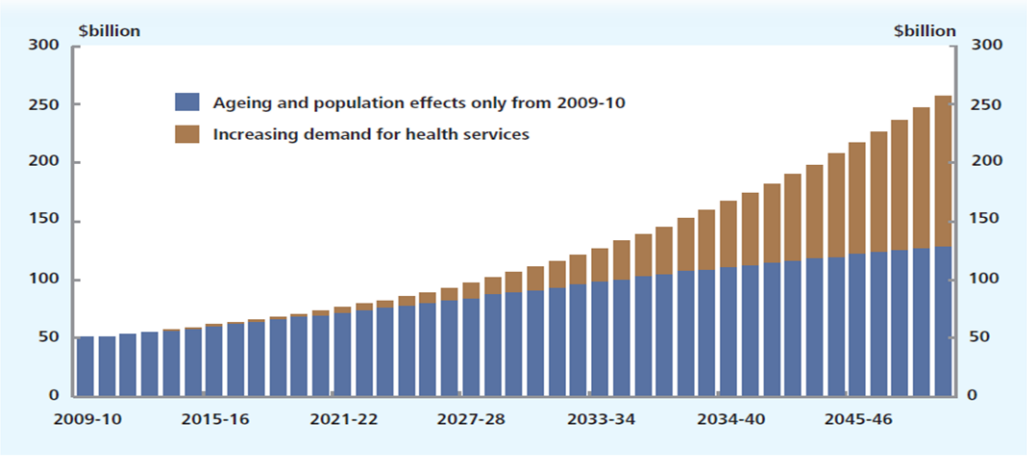
South Australia's Public Health System

SA Health, the public health system of South Australia, named Allscripts as the Vendor of Choice (VOC) in 2011 for a strategic initiative to improve patient care, satisfaction and clinical workflow across its network of hospitals and health clinics. SA Health planned to deploy the Sunrise Enterprise(TM) 5.5 suite. SA Health has 80 metropolitan and rural hospitals and numerous health clinics serve a population of 1.6 million of advanced clinical, access management and financial solutions.
Allscripts has been selected to provide the project's central hub, called the Enterprise Patient Administration System (EPAS), which will give healthcare professionals timely, secure access to a patient's vital information wherever and whenever they need it.

The Sunrise Enterprise suite helps healthcare organizations save time, costs and lives by supporting best practices across the enterprise and the continuum of care on a single, integrated technology platform. The Allscripts Sunrise Enterprise suite will be replacing more than 30 obsolete information systems and databases across SA Health.

FUTURE SPENDING ON HEALTH IT IN AUSTRALIA: FORECAST

Australia is expected to invest huge funds in Health care market in near future and as IT implementation and integration is the foremost thing on everyone's mind, a bulk of these funds will flow into IT market. In 2012, BMI forecasts Austalian IT market growth of 5%, with spending of US$21.8bn, compared with US$20.8bn in 2011



Source: Treasury projections. Based on current arrangements.

Figure 8: Projected Australian government health spending

New services such as **cloud computing will pay a large part** in the market's continued growth. The government's six-year cloud computing strategy has been joined by a number of private and public sector organisations launching their own initiatives.Local IT health expenditure is expected to reach **$2.1 billion by 2016**, according to a report by analyst firm Ovum, which is driven by increased spending on electronic health records (EHRs), picture archiving and telehealth services.

In the firm's latest IT healthcare market forecast, the drive to cut costs in the sector, as well as improve patient services were highlighted as key reasons for increased spending. Telehealth services, such as the monitoring of conditions via telecommunications technology and EHR, were predicted to provide the strongest growth. The software for health information exchanges, which allow the exchange of information stored in disparate IT systems, will be heavily invested in.

Digital imaging solutions, especially picture archiving system (PACS), will continue to be the key investment area for Australia, closely followed by expenditure on electronic health records (EHRs). However, telehealth, where services such as the monitoring of conditions are delivered via telecommunications technology and EHRs, are expected to have the strongest growth. Software for health information exchanges (HIE) that allow the exchange of health information stored in disparate IT systems both within healthcare organizations as well as among them, will also see growth in investment. This is an area where we will see more and more investment. Indeed, sharing health information electronically helps providers gain a more complete picture, giving them a holistic view of patients and their history.

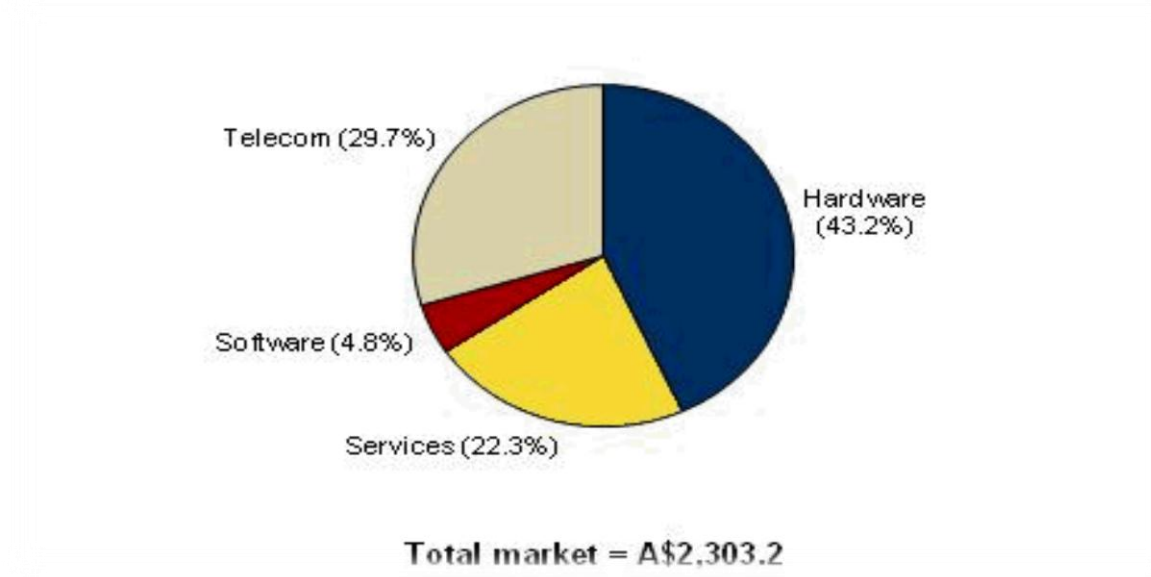


Figure 9: Healthcare ICT Spending in 2011

Source: IDC's Forecast for Management Survey, 2011

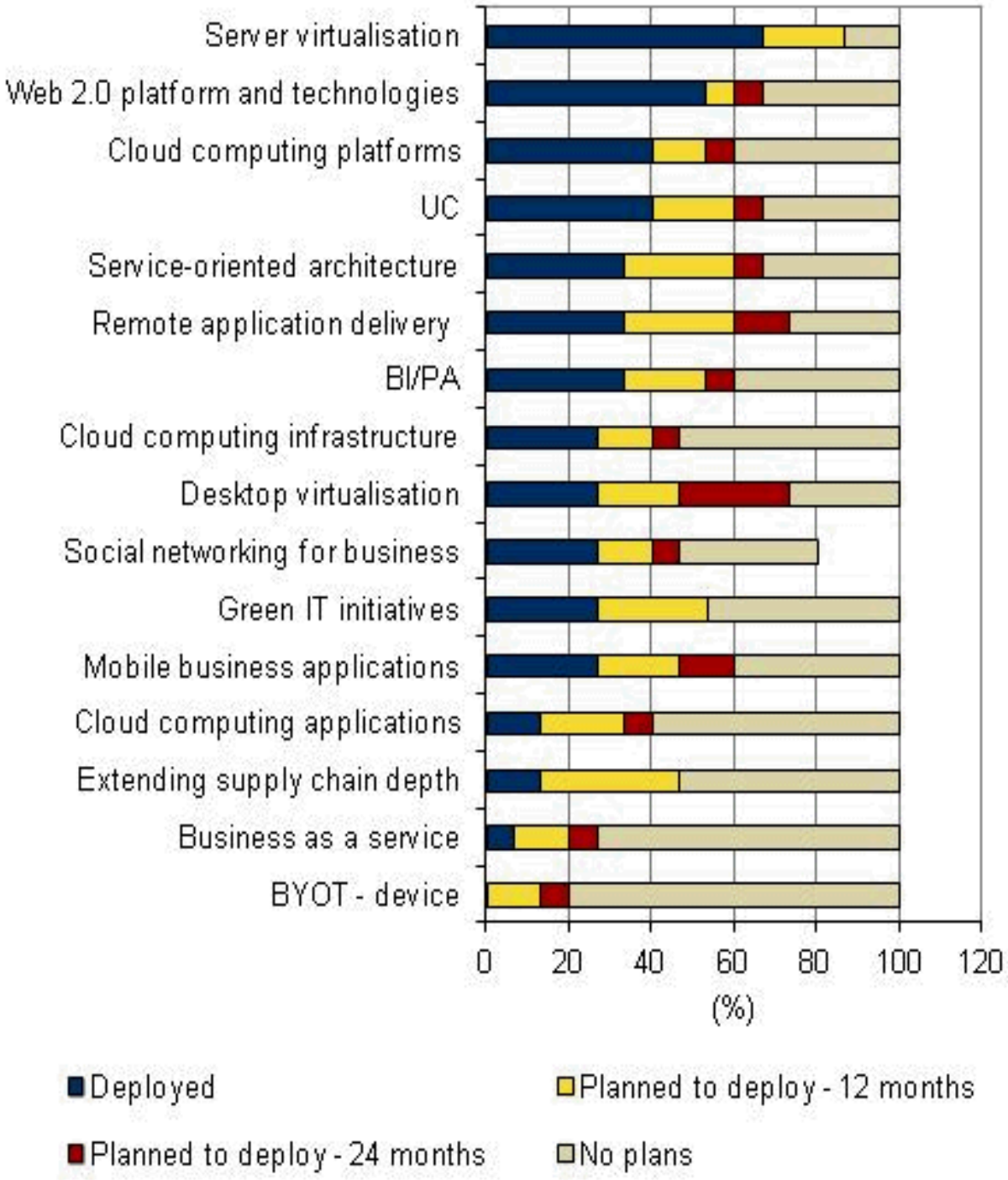


Figure 10: Deployment Plans Within the Health Sector in the Next 24 Months

Source: IDC's *Forecast for Management Survey*, 2011

TELEHEALTH IN AUSTRALIA

Telehealth in Australia is ideally placed to support major national programs associated with dementia, mental health, diabetes and regional concerns related to rehabilitation, acute waiting list relief and outpatient support. The main systemic expansion areas associated with the Australian health system are:

- A well funded desire to address mental health service divides especially between rural and urban areas with a focus on depression.
- A restructure of the aged care system and strengthening the current policy setting associated with aging in place
- Deliberate but undirected funding for telehealth
- The emerging opportunities to deliver health and wellness services via the National Broadband Network
- The plan to coalesce the current jurisdictional video networks to form a national fabric for the public acute sector.

According To National Telehealth Strategy for Australia prepared by a sub-committee of the Australian National Consultative Committee on Electronic Health **(ANCCEH)**
The Key principles and observations include:

- The requirement to regard the carriage of telehealth data, voice an image as a utility;
  Such carriage needs to be based on open standards and of consistent quality irrespective of geographic location
- Service content needs to be focused nationally on the main four or five key medical conditions which offer most return to the community
- Telehealth services need to be combined with other services in order to achieve widespread adoption by the clinical community.

The situation in Australia is that there are many **hundreds of pilot tests** and demonstration telehealth services scattered across the country in both acute and primary care. Some combine voice, data and video while others concentrate on monitoring data capture and transmission. The vast majority of these innovations are personality lead by one or a few highly energetic clinicians, operating on a shoe- string budget without any detailed plans for scalability or sustainability. In other words, these flowers of innovation will and do whither quickly. The fundamental question as a nation is to define the key priority areas and focus resources towards these.
The current large video networks available in each of the public health jurisdictions are to be integrated with the northern areas of Australia beginning the process this year. In addition to this

movement the National Broadband Network (NBN) will be deployed with a major health services component. These two significant public sector actions offer enormous potential for interconnectivity and the consequently offer the ability to provide much greater national reach for health services delivery. The NBN provides the catalyst to ensure that telehealth carriage is standards based and is treated as a utility for all to access. On July 1 2011, the Australian Government introduced the telehealth initiative. This initiative aims to address the barriers to accessing medical services for eligible telehealth areas. Telehealth provides financial incentives to eligible residential aged care services that enable patients to participate in a telehealth consultation with a specialist, consultant physician or consultant psychiatrist.

Currently, **there is a lack of standards, lack of standard solutions, poor interoperability** (devices, communication protocols, data formats, and application environments) and high development costs. AAL is striving to provide a universal open platform and reference specification that can consolidate telehealth projects. Currently, projects in Australia are limited to pilots with no single open universal platform available that will allow devices to interoperate and information to be shared.

There is a requirement for a body that is respected by both industry and government to perform a mixed role related to standards developments and industry catalyst. There is no national governance body for the deployment and development of telehealth from a national perspective. We would argue that such a body should exist and look forward to tripartite participation from national government, private health and private industry.

One of the major constraints in the widespread adoption of telehealth in Australia has been the lack of high-speed broadband, especially in remote regions. This will be improved significantly by the deployment of the NBN, which will ensure widely available, high-speed connections and clear image sharing, to enable real-time data streaming to a much greater proportion of the Australian population. With the NBN, small hospitals and medical centres, individual doctors,
And private homes will all be able to participate in telehealth. Australia is providing up to $20.6 million for innovative telehealth pilots over the next two years.

Potential RFID Market for Accenture in Australia

Radio frequency identification (RFID) has received considerable attention within the healthcare and pharmaceutical industries in 2004. The technology's promise to efficiently track hospital supplies, medical equipment, medications and patients – as well as personnel - is an attractive proposition to the healthcare industry.

Feasibility studies, such as the one conducted by **Accenture** regarding pharma value chain gains through RFID; clinical pilots, such as the Operating Room of the Future (ORF) initiative by the Center for the Integration of Medicine and Innovative Technology (CIMIT), an alliance of Harvard teaching physicians and MIT scientists and engineers; as well as advances in other vertical industries, such as retail, where Wal-Mart has mandated all its suppliers to RFID tag their deliveries, have jointly driven RFID to the forefront of many healthcare providers' as well as pharmaceutical companies' minds as a tool for operational efficiency.

RFID in Healthcare

High price, fragmented value chain, proprietary standards

Apart from prohibitive pricing averaging $.50 per tag as compared to 0.15 $ per barcode, another issue historically plaguing the RFID market is the highly fragmented nature of the value chain and the existence of multiple, proprietary standards for tag frequencies as well as reader infrastructure, making broad adoption unlikely. Having said that, certain recent developments signal steps in the right direction, and a more promising future for RFID in both the healthcare provider and technology vendor arena.
Large IT software, hardware and systems integration vendors have entered or are entering the RFID market. Notable players include Accenture, IBM, Microsoft, Sun, SAP and BearingPoint.

Accenture study demonstrating RFID advantages in pharma

On the end-user side, Accenture had concluded its work with some of the most prestigious healthcare and pharmaceutical companies2 on an eight-week study on the use of RFID tags on individual bottles of medication. The study found two main advantages of RFID tags over bar codes:

- RFID tags allow individual packages inside an entire crate of medication to be recorded electronically, while bar codes require an individual to record each package.

- RFID tags would also allow suppliers to better track each bottle and identify where each product is in the distribution system as well as to identify counterfeit drugs

.

ACCENTURE IN AUSTRALIA

Accenture has 5 offices in Australia. They are at Sydney, Melbourne, Brisbane, Canberra and Perth.
The ambitious PCEHR project is being handled by a consortium led by Accenture as the National Infrastructure Partner. This one deal gives Accenture enormous scope to contribute in Australian Healthcare market. The project costs for a sum of as huge as A$ 77 million and involves majority of healthcare segments. Hence, it provides Accenture a wide spread in Australian market.

The Federal Government has promised all Australians will be able to register for a PCEHR by July 2012. Significant budget has been committed (AUD $467M). To deliver a solution capable of meeting this need, the Government is seeking a National Infrastructure Partner to work with the Department of Health & Ageing and the National E-Health Transition Authority.

It will be the responsibility of the National Infrastructure partner to
1) provide system integration services to build the PCEHR system infrastructure;
2) deliver solutions across 7 functional domains or bundles; and
3)deliver support services into the wider programme.

Accenture & Telstra combined cloud computing Innovation lab initiative is part of the alliance between Telstra cloud computing company and Accenture. Accenture has a range of services that have developed around the world that are applicable in Australia and are able to offer cloud services and client base so it made sense to join forces to create this laboratory to provide services in the cloud to the next level. For Accenture, this is an important evolution of their partnership with Telstra and a real opportunity to bring proven solutions cloud Australia.

MARKET COMPETITORS

Just like any other country, Australian market is also full of competition for Accenture as all the leading local as well as international organizations are trying to make the best of the situation because this is the time when Australian government is investing enormous funds in the field of health IT. Market has all the leaders doing one or the another coveted projects.
Prime competitors for Accenture are:

CSC –

is doing well in E-Health. In past few years, it has shown increased presence in health System Integration market. It had 7.9 % share in IT services supplier market in 2011.

IBM –

is another player in Australian E-Health. IBM has a history of System Integration and Infrastructure Technology Outsourcing work with federal government, Department of Health and Ageing and Medicare, and recent win at National E-Health Transition Authority. IBM was also one of the final four bidders in the PCEHR deal which was ultimately bagged by Accenture. IBM is the leader with the top most position in the list of IT services supplier in Australian market wit 15.1% share. IBM is designing and building NASH (National Authentication Service for Health) too.

Deloitte –

Deloitte is doing a great job in E-Health and more significantly in the field of Health Reform. The most significant role played by Deloitte in Australia is in the National ehealth strategy where Deloitte is the founder of the strategy and working in close coordination with government bodies like DoHA. It also has a relationship with Aged Care Association and guiding national coordination and collaboration in e health.

Ernst and Young – Health Reform

In respect to Health Reform; Ernst and Young won early share of MC work at Department of Health and Ageing (federal). PMO and Implementation plan for National Health and Hospitals Network. It has also bagged the role of External Delivery partner in the PCEHR deal.

Fujitsu – E-Health

It is working extensively in e-health track record with various States (Victoria, Queensland).

KPMG :

It is also working in the Health Reform. It has done certain clinical reform capability/ experiences with NSW Department of Health.

PricewaterhouseCoopers :

It is again a player in Health Reform and is a strong competitor in 'audits', strategic reviews, and clinical change management. The consortium that won the benefits evaluation partner project in PCEHR deal is led by PWC.

McKinsey and Company:

It leads the consortium for National Change and adoption partner in PCEHR project. It is also working with PWC in a consortium as Benefits evaluation partner.

HP:

It has a strong presence in the hardware market and recently it has bagged a deal to supply and maintain ICT services to Royal Adelaide Hospital, Australia.

Allscripts:

Allscripts is implementing the foundation for South Australia's e-health record system as the as the Vendor of Choice (VOC) for a strategic initiative to improve patient care, satisfaction and clinical workflow across its network of hospitals and health clinics. They were chosen over other contenders because of their excellent track record delivering health information solutions for organizations around the world, including the Asia Pacific region.

	e health	HARD WARE	ICT SERVICES	NATIONAL REFORM	PCEHR PROJECT	CHANGE MGMNT	SYSTEM INTEGR.
CSC	☆						☆
DELOITTE	☆			☆	☆		
IBM	☆	☆	☆	☆	☆		☆
PWC				☆	☆	☆	
HP		☆	☆				

FUJITSU	☆						
ALLSCRIPTS	☆						
MCKINSEY					☆		
KPMG				☆			
ERNST AND YOUNG				☆	☆		

The top players in various IT markets are:

Ranking	Company	Market Share (%)
1	Cisco	59.8
2	EMC	9.1
3	Sun Microsystems	7.4
4	HP	4.1
5	Alcatel-Lucent	3.1

Table 9: Australia's Health Top 5 Hardware Suppliers, 2011

Source: IDC's Forecast for Management Survey, 2011

Ranking	Company	Market Share (%)
1	IBM	15.1
2	CSC	7.9
3	Fujitsu	7.6
4	HP	3.2
5	Datacom	2.6

Table 10: Australia's health top 5 IT services suppliers, 2011

Source: IDC's *Forecast for Management Survey*, 2011

MAJOR DOMESTIC PLAYERS ARE:

Top Companies in Product Market	Top Companies in Service Market
1) **AusBiotech Ltd** Product / Service Categories Diagnostic Devices Medical Devices Research & Development 2) **The Australian e-Health Research Centre** provide Health IT and Communications. Product / Service Categories Health IT and Communications Health-Related software Healthcare Services 3) **Clintel** is a leading supplier of intelligent software and services to the healthcare industry in Australasia. Product / Service Categories Aged Care Health IT and Communications Health-Related software 4) **Emerging Health Solutions** provides EHS - next generation electronic health records. A Clinical Information System that is patient centric & web based that captures and provides appropriate, timely information in a secure and suitable environment Product / Service Categories Health IT and Communications Health-Related software 5) **I Soft Group Ltd** provides Health IT and communications and Health-related software. Product / Service Categories Health IT and Communications	1) **TAHPI** is the largest specialist health design firm in Australasia, with an unmatched depth of experience and specialist technology. TAHPI or Total Alliance Health Projects International provides a complete range of consultancy services for Health Product / Service Categories Aged Care Health IT and Communications Health-Related software Healthcare Services Hospital Architects and Planners Miscellaneous 2) **The Health Team Australia (HTA)** consortium has been created in response to the increasing global demand for fully integrated turnkey delivery of healthcare facilities and services. Product / Service Categories Consultants inc Training & Education Healthcare Services Hospital Architects and Planners Hospital Management Ward Equipment 3) **Magellan Technology Pty Ltd** Product / Service Categories Health IT and Communications Healthcare Services Research & Development 4**) Real Time Health Pty Ltd** Product / Service Categories Health IT and Communications 5) **SMS Management & Technology Ltd** Product / Service Categories Consultants inc Training & Education Health IT and Communications 7. CIMAAS is an Amityone service developed and marketed for over 5 ye

OPPORTUNITIES FOR ACCENTURE

From the pedestal where Accenture stands today globally, the best zones of Opportunities for Accenture include:

At the Federal government level:

IT Systems Performance Governance:
The support services hold a good scope because specially as all the government institutes and departments are getting IT enabled and probably moving towards cloud computing, the support becomes indispensable.

Public Hospitals –

Accenture can make good business in almost all the sectors of hospital sector. This is because currently the entire Hospital Sector is being reformed. Main areas of opportunities are:

Models of Care
Bed Management & Patient Flow
Performance Management for various departments
Business Intelligence [Clinical Services Redesign Program]

GP Clinics, Primary & Aged Care –

Chronic Disease Management
Super clinics
Service Configuration & Patient Flow
Community EMR

TPP

The appetite for TPP (a leading product from the United Kingdom) is increasing in Australia. TPP's ambition is to grow internationally via local franchises. Opportunity to develop a model in Australia which can be extended to the other markets.

Market for Clinical HIS: PACS, RIS, LIS, Pharmacy, etc

MedicaImaging

In Australia, there are over 25million imaging studies conducted annually and medical imaging demand will continue to grow by approximately 4% annually over the next 5 years. Currently, most Hospital / Medical Imaging environments are dependent on PACS vendor platforms and related proprietary archiving solutions. Coupled with this, the raw storage required for medical images is expected to grow by over 600% over the next five years due to continued advances in imaging techniques (e.g. CT slices, 3D imaging, interventions).

Healthcare providers are under increasing pressure to improve performance, flexibility and cost for Medical Imaging Services and Technologies. Accenture can deliver a solution platform and

managed services which will help enable our clients to adopt a truly vender neutral enterprise archiving and image distribution strategy that helps improve service flexibility while helping to reduce total cost of ownership for image management.

Health Information Exchange:

Australia lags behind in HIE (Connected Health).

SWOT ANALYSIS FOR ACCENTURE'S AUSTRALIAN HIS MARKET

Internal	
Strengths	Weaknesses
• Brand value • NEHR system Implementation, Singapore has given it a proven track record. • PCEHR deal: gives Accenture a widespread access and presence into Australian health care market. • Partnership with eminent local player: Telstra enhances Accenture's potential by multiple folds.	• Majority of Healthcare funds in Australia so far are diverted towards hardware component where companies like HP are making the most while Accenture leaves a total gap there. • Accenture is primarily looked up as a service oriented company hence it is not able to make it big in solution building aspect of business.
External	
Opportunities	Threats
• Market for clinical systems hold high growth potential in Australia. Now the market for clinical systems s going to get a high as there are huge funds directed towards hospital IT growth. • Adoption of PACS, EMR, LIS, and RIS by Australian HIS market is rampant.	• In the field of cloud computing, Oxygen has partnership with SAP so it has easy access to all SAP partners in Australia. • Deloitte being the developer of National e health strategy has an upper hand in those initiatives. Hence, it may win many other projects in future too.

• Government has invested $16.4 billion in elective surgery waiting list reduction: scope for Business Process Transformation • Of all the parameters of Health IT, Australia lags behind in HIE (Connected Health), being a pioneer for them Accenture can leverage the establishment of Health Connect. • Health programs with Medicare • Accenture should continue and better its terms with Telstra and tap on its 'local' status and expand into other markets apart from cloud computing. • Should concentrate on Victoria and New South Wales. • Telehealth is expected to have the fastest growth in near future. Australia is funding numerous pilots in next 2 years and has kept $20.6 million for this. Accenture should tap on this opportunity.	• PCEHR project is Accenture's greatest accomplishment in Australia but PCEHR's individual existence and adoption has many questions unanswered still, this may affect Accenture's plans adversely. • To perform successful business in Australia, adherence to government regulations and address attrition issues is a constraint. So, Accenture has to keep the external environment in mind.

PORTERS ANALYSIS FOR ACCENTURE FOR AUSTRALIAN HIS MARKET

Figure 11: Porter's Analysis

Porter's five forces analysis is a framework for industry analysis and business strategy development derived on analyzing five forces that determine the competitive intensity and therefore attractiveness of a market. Attractiveness refers to the overall industry profitability. Porter's five forces include - three forces from 'horizontal' competition: threat of substitute products, the threat of established rivals, and the threat of new entrants; and two forces from 'vertical' competition: the bargaining power of suppliers and the bargaining power of customers.

The Five forces are:

Threat of new competition

Profitable markets that yield high returns will attract new firms and Australian Health IT market though is not new as such but is experiencing the ‘spring’ of its existence with loads of funds flowing into it. This makes it a dream destination for many new entrants.

- The TPP (a leading product from the United Kingdom) is increasing in Australia. TPP’s ambition is to grow internationally via local franchises. This is one threat which Accenture certainly has to be aware of. TPP is a leading firm in UK which has partners from almost all the segments of the industry and has a long experience in the industry.

Threat of substitute services

There is an existence of numerous firms with alternate or substitute services similar to what Accenture provides. For Accenture probable substitutes can be:

- Deloitte: It is doing a great job in E-Health and in the field of Health Reform.Deloitte is the founder of the national e health strategy and working in close coordination with government bodies like DoHA. It also has a relationship with Aged Care Association and guiding national coordination and collaboration in e health. So, any of the future federal projects may be bagged by Deloitte on account of this close coordination.
- In hospital sector,Ernst and Young is doing a great job in PMO and Implementation plan for National Health and Hospitals Network.

- PricewaterhouseCoopers : It is again a player in Health Reform and is a strong competitor in 'audits', strategic reviews, and clinical change management.
- Clintel is a leading supplier of intelligent software and services to the healthcare industry in Australasia.
- TAHPI or Total Alliance Health Projects International provides a complete range of consultancy services for Health. It is the largest specialist health design firm in Australasia, with an unmatched depth of experience and specialist technology.

1. **Bargaining power of customers (Clients)**

The bargaining power of customers is also described as the market of outputs: the ability of customers to put the firm under pressure, which also affects the customer's sensitivity to price changes.Buyer information availability: the clients are very knowledgeable and aware of all the IT trends. This is because many of our clients will have their own in house IT teams. Hence they can equally estimate our investments and profits anticipated.

2. **Bargaining power of suppliers**

The bargaining power of suppliers is also described as the market of inputs. Suppliers of raw materials, components, labor, and services (such as expertise) to the firm can be a source of power over the firm, when there are few substitutes.

Suppliers for Accenture are the vendors who supply the Solutions that we implement at various organizations. As vendors are having many clients like Accenture to sell their product to clients, we have to listen to their demands and prices. However, for Accenture the bargaining extent of suppliers is lessened because there are numerous vendors available in the market with best of the products available. The major suppliers for Accenture (being a service oriented company) are actually the Human Resources. The contractual professionals who come through agencies can quote for higher prices because they come with experience and skills that are much desired and are aware of the fact that there presence can make a difference. However, being a much desired organization, Accenture can also pull in fresh graduates on reasonable rates and train them in house. It can also negotiate the prices with experienced people on account of its magnificent brand image.

3. **Intensity of competitive rivalry**

For most industries, the intensity of competitive rivalry is the major determinant of the competitiveness of the industry. Sustainable competitive advantage through innovation:

the competition in this field is enormous because all the giants of IT sector want to plunge in and make profits. Every firm is trying to bring up more and more innovative solutions to impress the clients.

> **For example: Emerging Health Solutions** provides EHS - next generation electronic health records. A Clinical Information System that is patient centric & web based that captures and provides appropriate, timely information in a secure and suitable environment

CONCLUSIONS AND RECOMMENDATIONS

- Accenture can avoid the competition with new entrants in the market using its 2 strong plus points: brand Value and the potential to do Capital Investments. It can always show the power to expand and set bases in Australia if the business requires, which a new entrant may not be able to do. Apart from that, Accenture can utilize the Loyalty its customers hold on account of best business offered in the past and keep making new business.
- Accenture should price its services meticulously after extensive market research so that it should not miss out good business opportunity on the account of unreasonable prices because to win contracts, the rivals may provide cheaper options to the clients. However, in rage to win competition Accenture should not under price our services and neither should we compromise on the quality. A brand and quality will have its own justified price.
- To combat fear of substitution, Accenture should keep our clients up to date with the newest upgrades and also keep a check on client's satisfaction from time to time.
- Accenture's price should be justified beforehand itself, so that the client's internal IT team also feels the relevance of that price and we should hence start following a no bargain policy.
- To match the market needs and get a good hold on suppliers (Human Resource) Accenture should keep a bank of skilled people ready to work on future projects. They should hire the best of the talents and keep them delighted with the job so that they retain with the organization for the long term.
- Join Hands with Domestic giants to multiply the competitive advantage further:
- TAHPI or Total Alliance Health Projects International (based in Sydney) is the largest specialist health design firm in Australasia, with an unmatched depth of experience and specialist technology and provides a complete range of consultancy services for Health.

- The Health Team Australia (HTA) consortium has been created in response to the increasing global demand for fully integrated turnkey delivery of healthcare facilities and services. Since, they provide minimum consultation we can join hands with them to compliment their services or reengineer the work processes on the provider's side to use the turnkey solutions to the best of their efficiency.

- Division of Intellirad Solutions Pty Ltd. Voyager Imaging is Australia's pioneering medical imaging company specializing in Teleradiology, Radiologist Workstation,

Radiology Information Systems (RIS) and Picture Archiving and Communications. To enter the market of clinical information systems, an alliance with this company can be a good idea.

- Companies like Ernst and young are doing a great job in PMO and Implementation plan for National Health and Hospitals Network. A good move to enter that arena may be to join hands with a well established player like **Trend Care Systems Ltd, which** is the leading clinical decision support & workload management software for the public & private hospital sector in Australia.

- As there is a strategic shift in adoption of Clinical systems like PACS, LIS, RIS; Accenture can build in Domain specialists' teams to provide services to these specific domains including radiologists, pathologists, etc.

- Business Process Transformation is another window which has enormous scope for Accenture being a services organization. This is because Australian government's prime focus is improving the quality of services and they are investing enormous funds in issues like elective surgery waiting list reduction in various government hospitals.

- Telehealth is the next prime focus for Australian Healthcare; Accenture should

Indulge in numerous pilot projects that are coming up in next two years especially because all hospitals, GPs will need specialist assistance to update their technology and processes. To get involved in such pilot projects with medicare, the 4 steps process can be used.

- If regional focus is concerned, Accenture should concentrate on Victoria and New South Wales regions because those are the real goldmines for business.

- Focus more on Government plans to get into the market right at the onset of a reform itself for example PCEHR deal for Accenture and E health strategy for Deloitte.

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CASE STUDY

TITLE:
To study the work-life balance and use of IT for health promotion activities among IT professionals.

OBJECTIVES:

1. To understand the general health seeking behavior of respondents towards attaining a good healthy state.
2. To find out if respondents are aware of and willing to use IT in modulating their health seeking behavior.
3. To find out if there is any relation in the number of working hours and stress amongst IT professionals.

INTRODUCTION:

Around the world, Health promotion programmes have long been based on the idea that providing knowledge about causes of ill health and choices available will go a long way towards promoting a change in individual behavior and towards more beneficial health seeking behavior. However providing education and knowledge at the individual level is highly essential in itself to promote a change in behavior. An abundance of descriptive studies on health seeking behavior, highlighting similar and unique factors, demonstrate the complexity of influences on an individual's behavior at a given time and place. IT professionals, due to their professional implications are bound to sit in front of their systems for more than 8-10 hours in a day. This brings them into the prone zone of enormous stress and physical ailments arising due to lack of physical exercise.

Increasingly, consumers have started to engage in health information seeking via the Internet. Taking a communication perspective, public health professionals should be concerned about the topic, considers potential benefits, synthesizes quality concerns, identifies criteria for evaluating online health information and critiques the literature. More than 70 000 websites disseminate health information; in excess of 50 million people seek health information online, with likely consequences for the health care system. The Internet offers widespread access to health information, and the advantages of interactivity, information tailoring and anonymity.

Public health professionals need to focus on health-information seeking via the Internet for a variety of reasons. These include magnitude and diversity of use; diversity of users; and, ultimately, implications for the health care system, in terms of structure, health care interaction and quality of medical outcomes. Using the Internet to find health and medical information can help you make more informed decisions about your health care, but it is not a substitute for seeing a registered medical doctor. Although some health information available on the Internet can be valuable, you need to be aware of the risks because medical misinformation or 'cyber quackery' which is currently rife on the Internet.

The present study aims to study these aspects specifically in context to IT professionals.

METHODOLOGY:

The study is a quantitative study done on a sample of 76 people working in IT sector. The type of sampling used was convenience sampling as all the respondents who were available within the vicinity were involved in the study and constituted the target population. The tool used to gather information was a survey questionnaire that was mailed to around 150 people electronically. Out of 150 only 79 people replied back. Out of these 79, 3 responses were incomplete so they were not compiled while the final analysis was done.
The final analysis was done using SPSS

RESULTS AND DISCUSSION:

Section1 deals with achieving information regarding objective 1, i.e.

To understand the general health seeking behavior of respondents towards attaining a good healthy state.

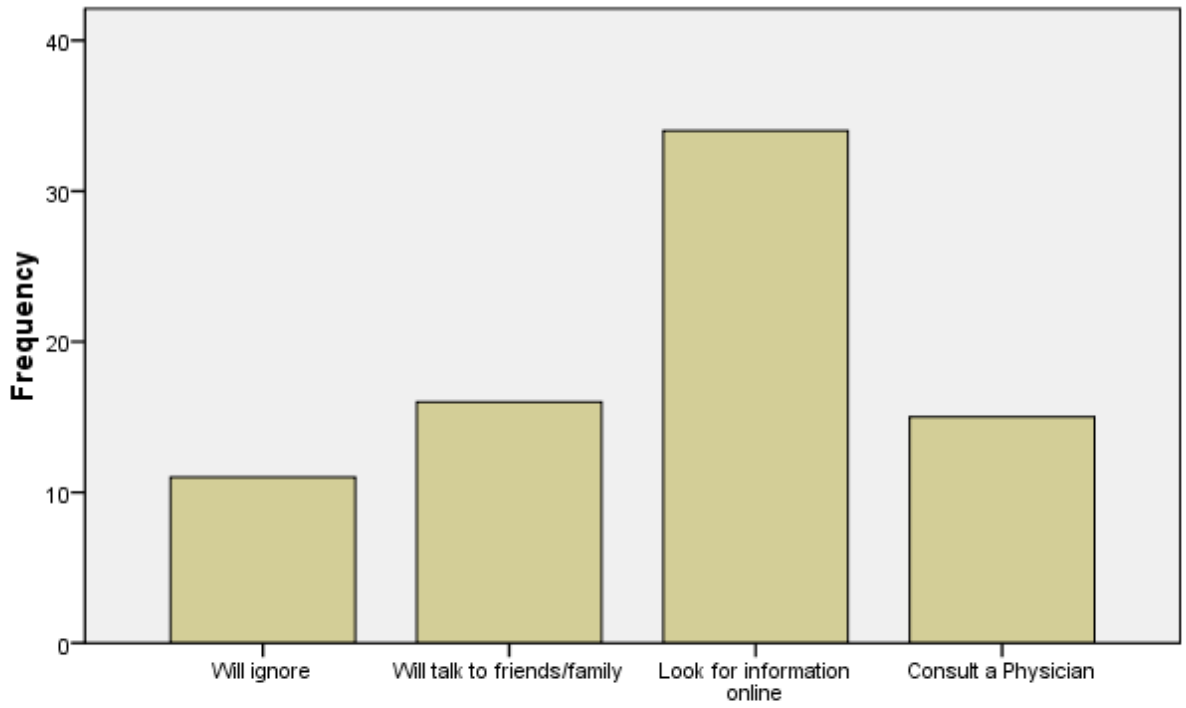
The response to following questions was as follows:

Question 1:

What would be the first point of contact if you get a chronic painless rash on your skin?

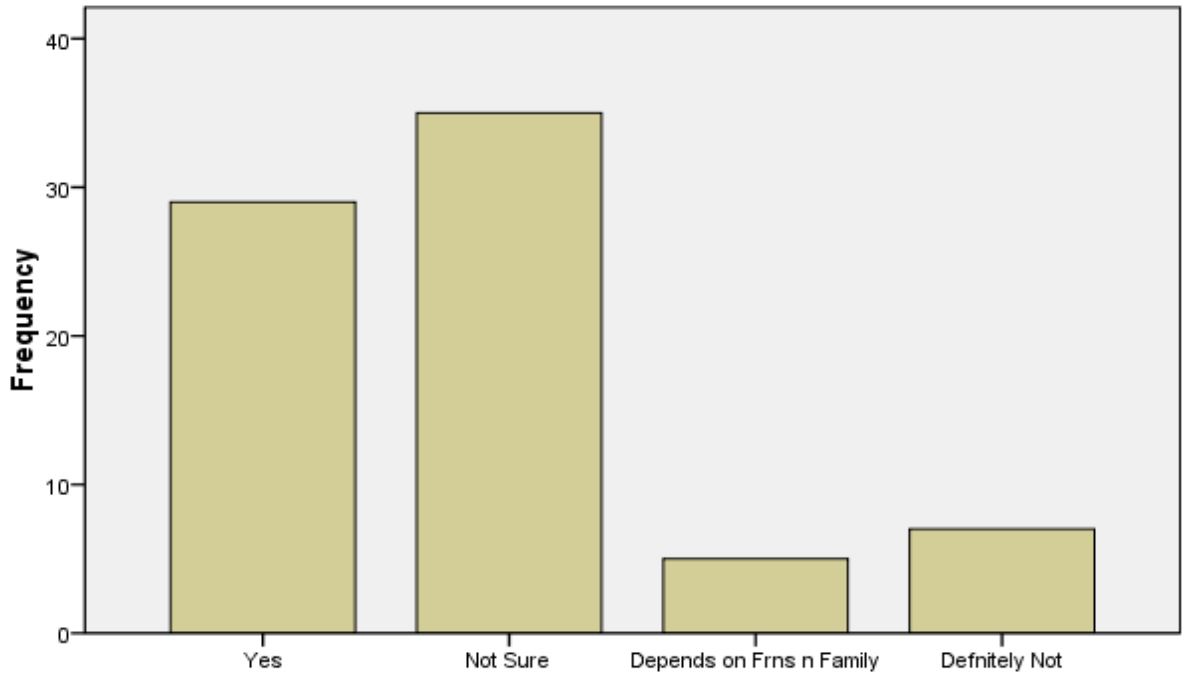
	Frequency	Percent	Valid Percent	Cumulative Percent
Will ignore	11	14.5	14.5	14.5
Will talk to friends/family	16	21.1	21.1	35.5
Look for information online	34	44.7	44.7	80.3
Consult a Physician	15	19.7	19.7	100.0
Total	76	100.0	100.0	

34/76 respondents agreed that they would first of all look for an online informative help in case they develop a skin rash. This shows that the respondents are quite comfortable with the online access of medical help.



What would be the first point of contact if you get a chronic painless rash on your skin?

Question 2:



Would you feel embarrassed to consult a practitioner for a mental ailment like depression or stress?

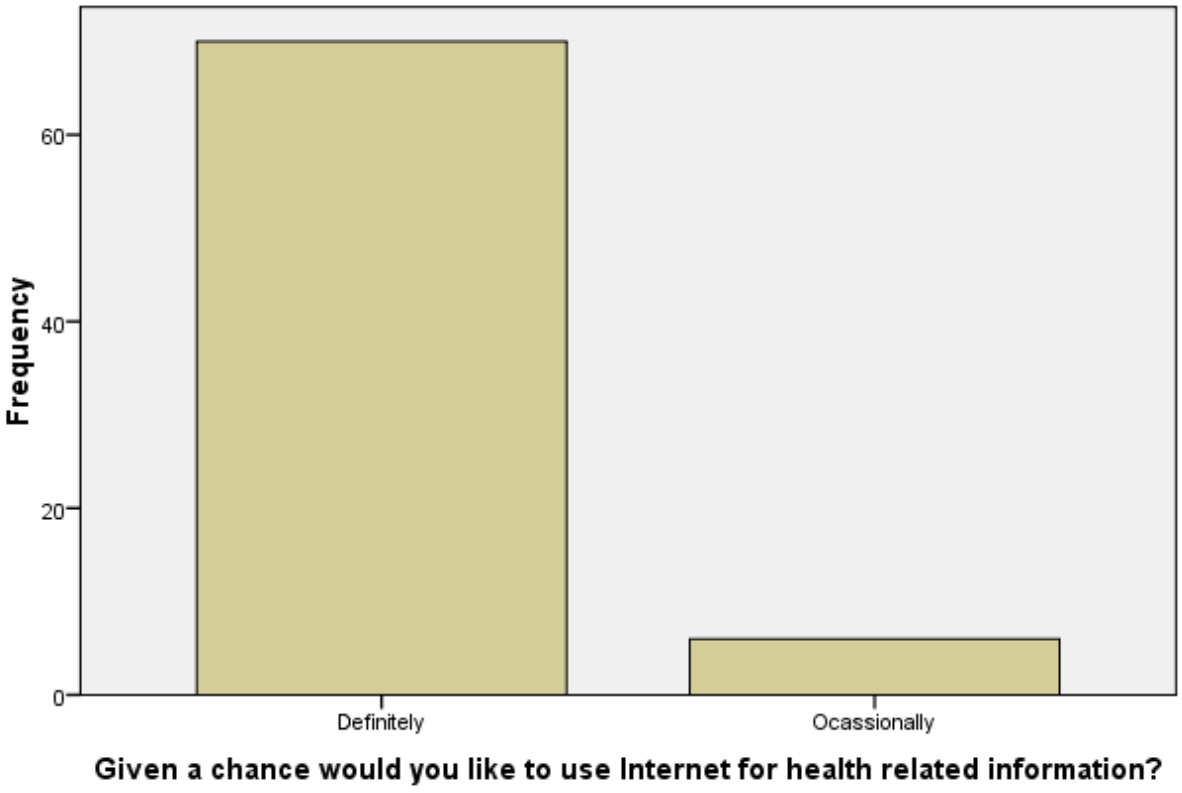
In spite of the respondents belonging to highly educated group, 29 were embarrassed to share their psychological illness with the physician and around 35 were not even sure of their choice.

Section 2: was aimed towards the second objective. i.e.

To find out if respondents are aware of and willing to use IT in modulating their health seeking behavior.

The related questions asked were:

Question 3:



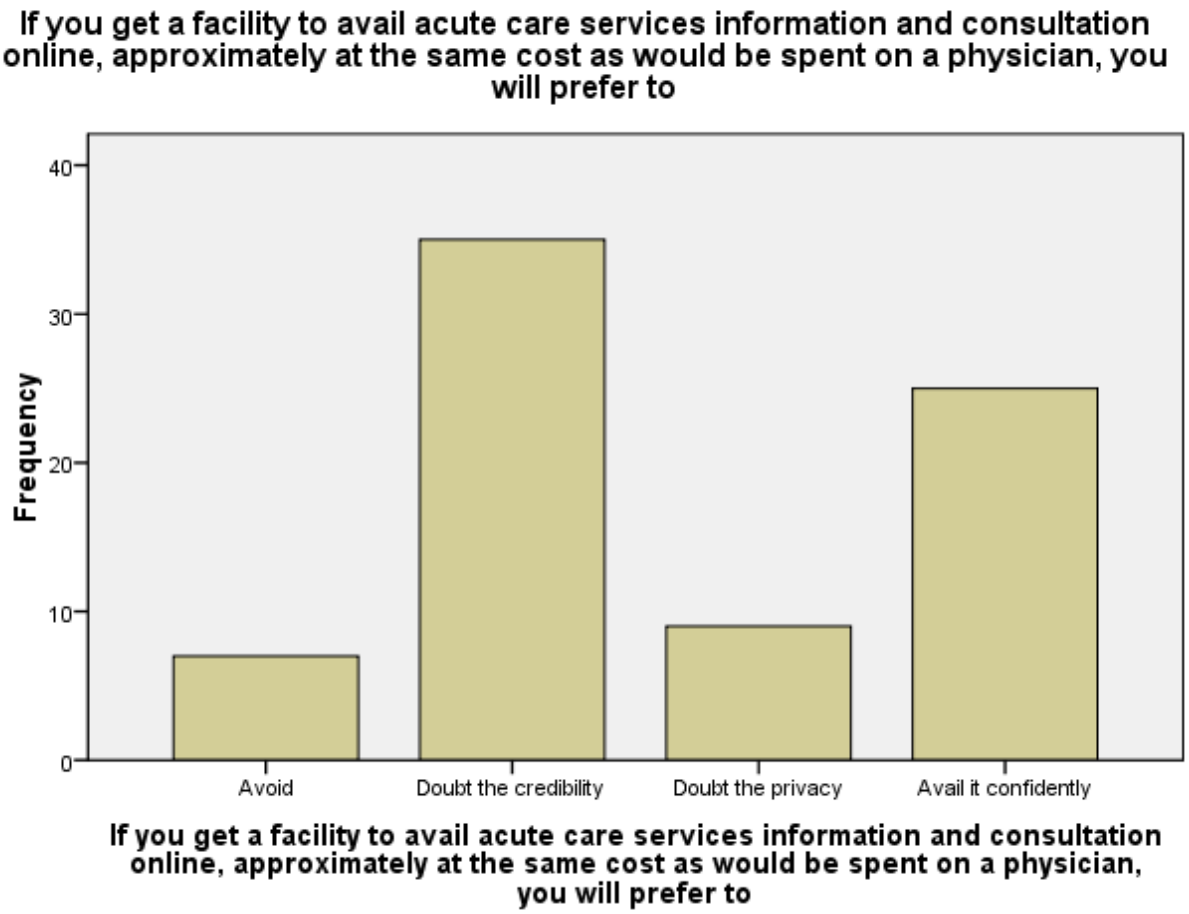
This was a pleasant result as around 95% of respondents agreed that if given a chance, they would certainly use internet to seek health related guidance.
The tendency of respondents to shift from conventional methods to online consultation was determined by the next question

Question 4:

If you get a facility to avail acute care services information and consultation online, approximately at the same cost as would be spent on a physician, you will prefer to

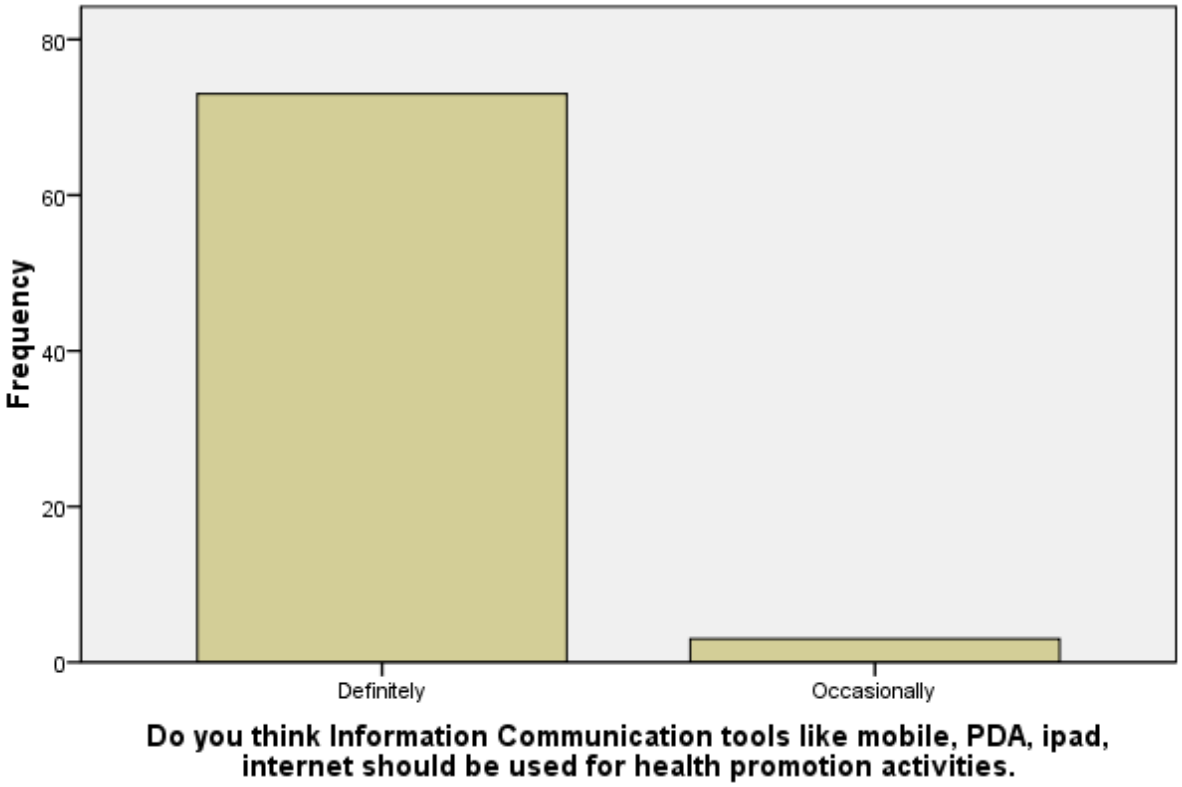
	Frequency	Percent	Valid Percent	Cumulative Percent
Avoid	7	9.2	9.2	9.2
Doubt the credibility	35	46.1	46.1	55.3
Doubt the privacy	9	11.8	11.8	67.1
Avail it confidently	25	32.9	32.9	100.0
Total	76	100.0	100.0	

35 respondents said they do not trust the credibility of online medical assistance.



79% people would still not avail online consultations for fear of privacy and credibility issues.

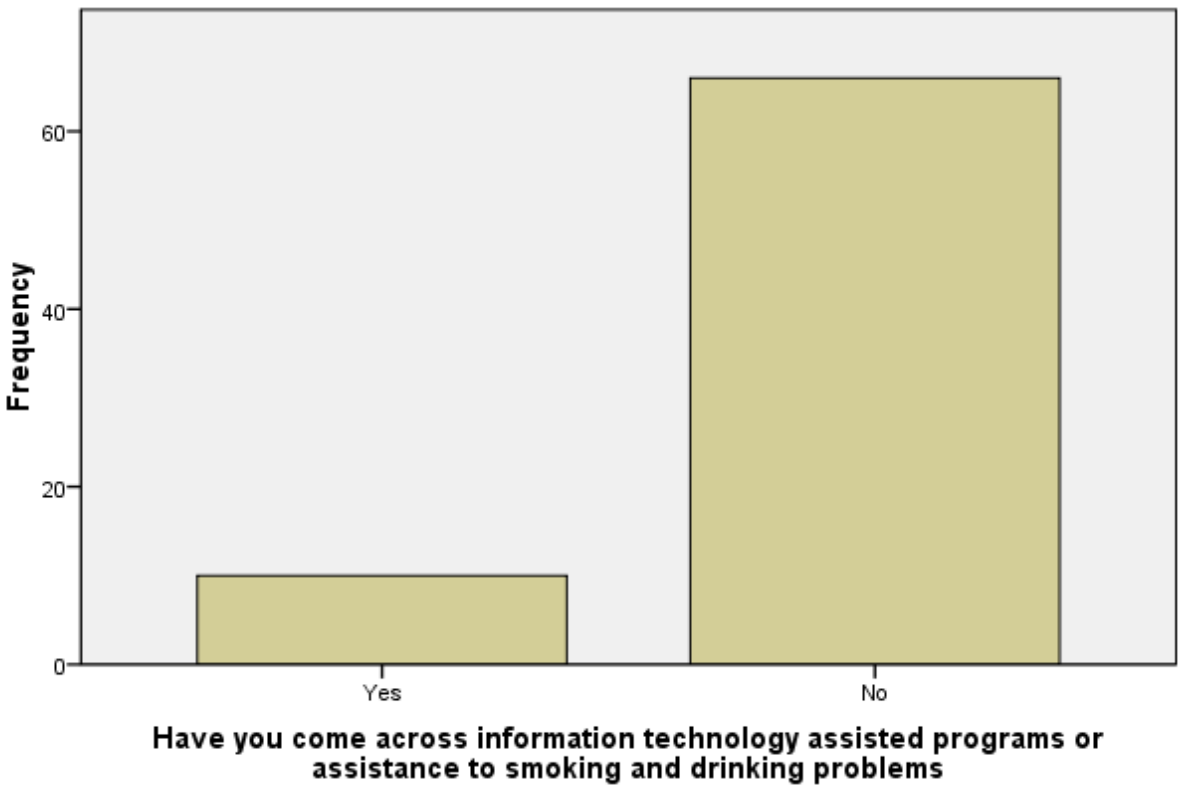
Question 5:



However 74 respondents still were open to the idea of using communication tools for health promotion activities.

Question 6:

The surprising part was that in spite of governments numerous anti smoking and anti alcohol initiatives, these respondents who are almost totally into the IT sector, are in majority (66/76) unaware of any IT assisted programme for smoking and drinking problems.



Section 3:
This section asked questions related to official working hours of the people and to what extent (if any) respondents are striving behavioral issues or stress.

Out of total 76 respondents, following are their working hours:

7-8 hours	20
8-9 hours	30
9-10 hours	18
10-12 hours	5
>12 hours	3
Total	76

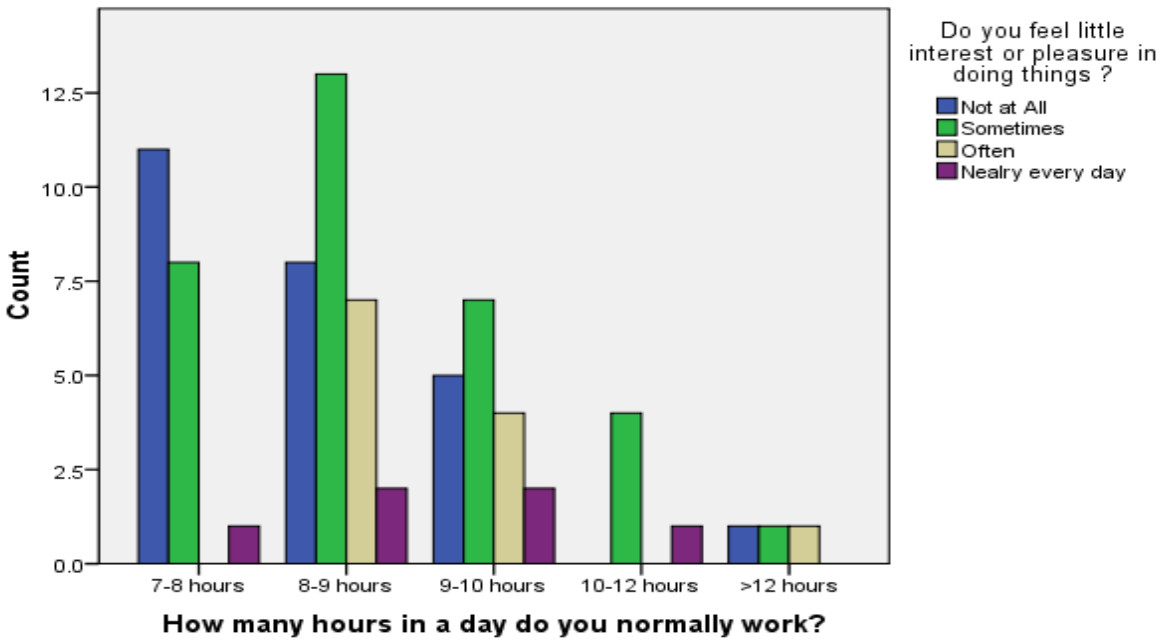
Question 7:

How many hours in a day do you normally work? * Do you feel little interest or pleasure in doing things ?

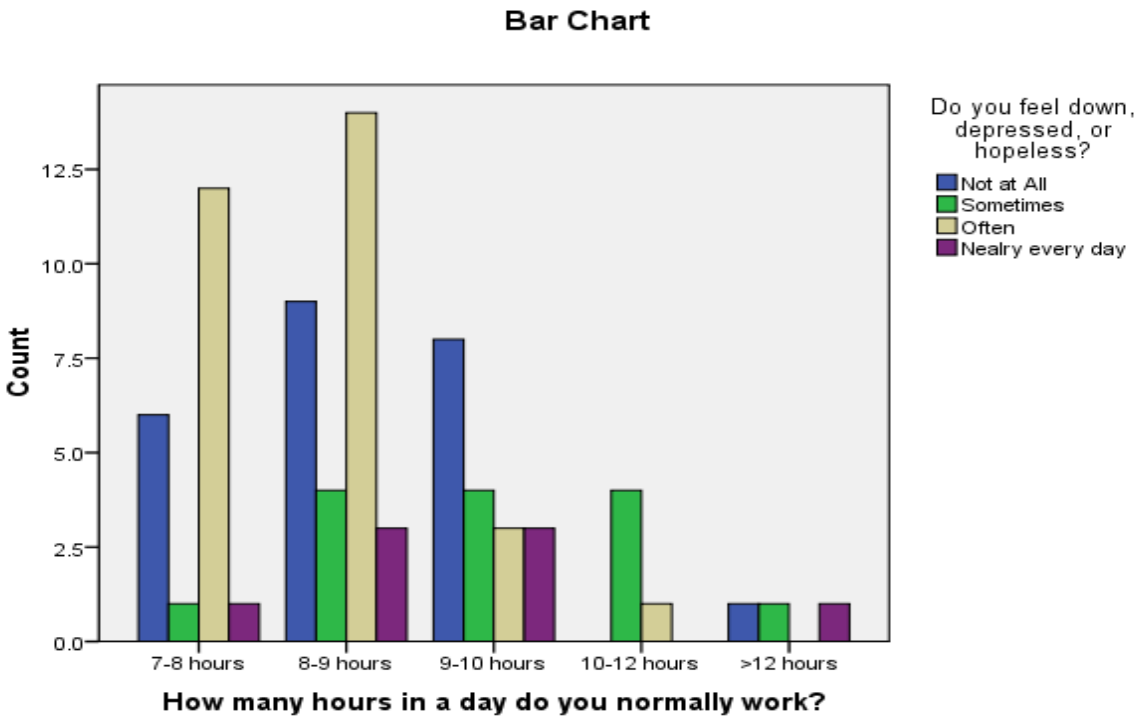
Count

		Do you feel little interest or pleasure in doing things ?				Total
		Not at All	Sometimes	Often	Nearly every day	
How many hours in a day do you normally work?	7-8 hours	11	8	0	1	20
	8-9 hours	8	13	7	2	30
	9-10 hours	5	7	4	2	18
	10-12 hours	0	4	0	1	5
	>12 hours	1	1	1	0	3
Total		25	33	12	6	76

People working in shifts of 10-12 hours (4/5= 80%) and 8-9 hours (13/30=43%) sometimes feel little interest or pleasure in doing things.



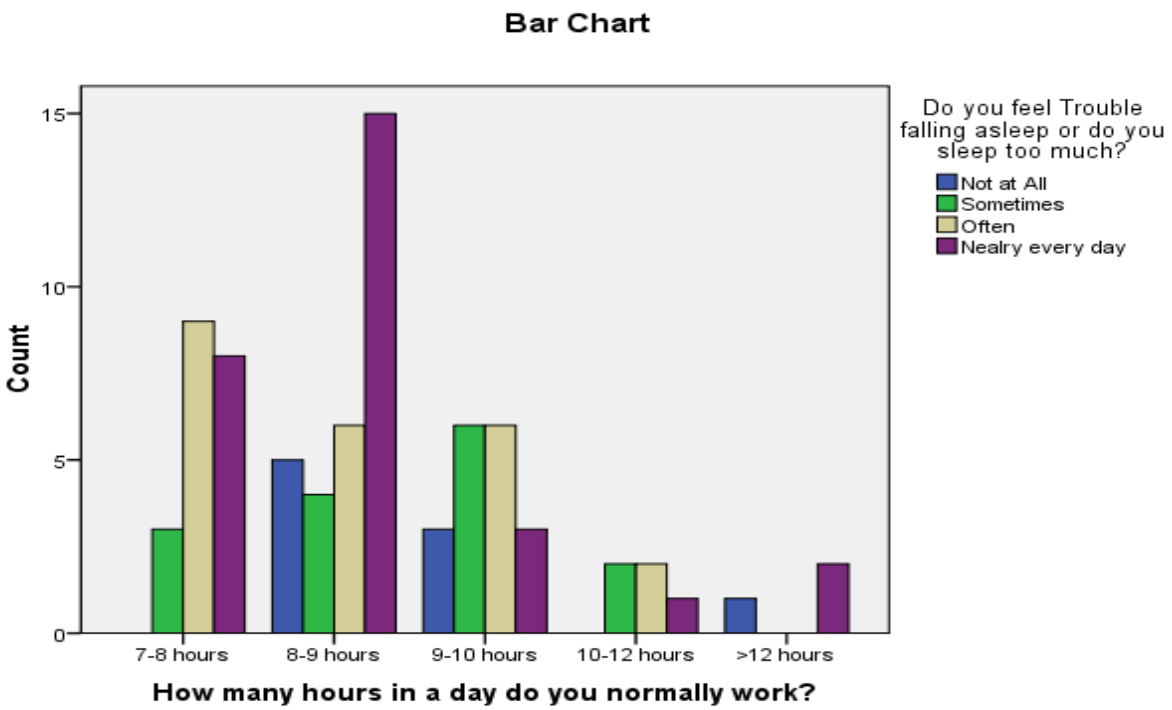
Question 8:



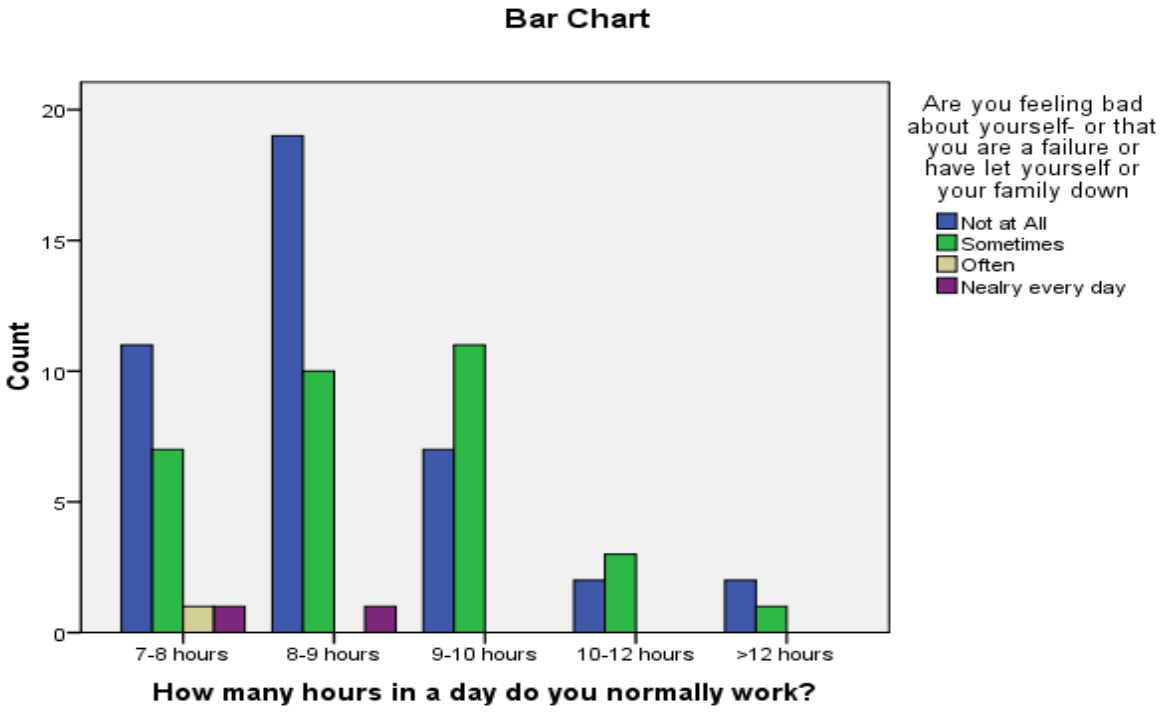
Again the respondents from 10-12 hours shift sometimes felt depressed as compared to others (4/5=80%). However, 8-9 hours working respondents felt depressed often. (14/30=47%).

Question 10:

66% of respondents working for >12 hours suffer from sleep issues everyday and
50% of respondents working from (8-9 hours) suffer disturbed sleep every day.

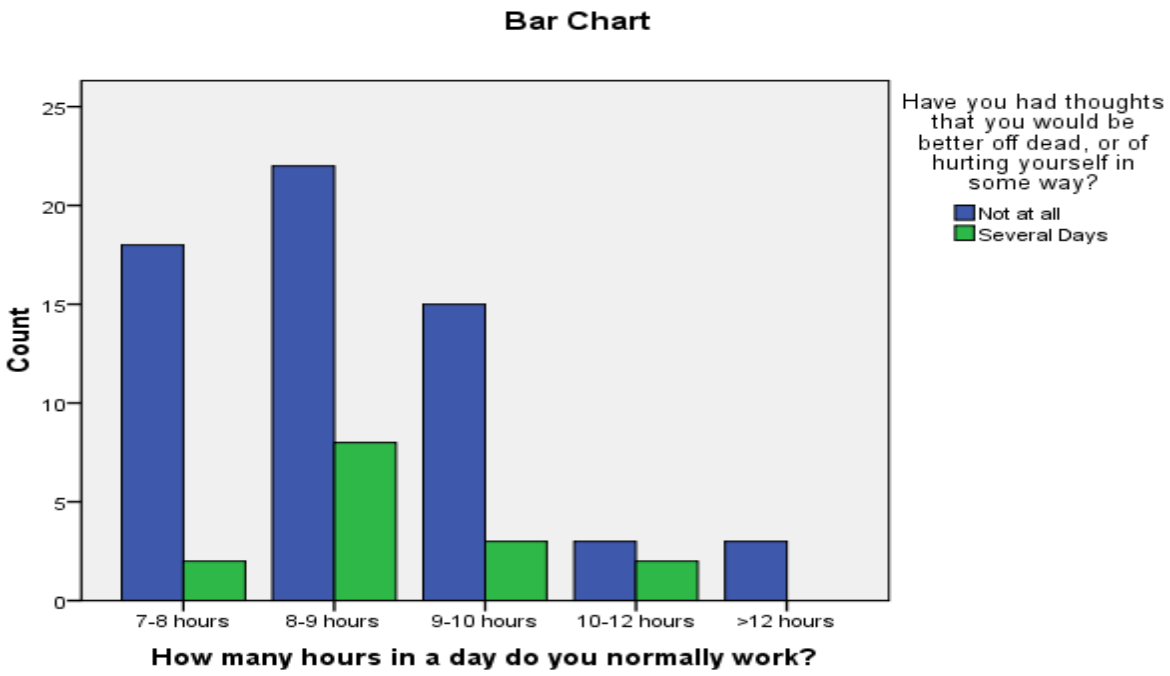

Bar Chart
Count
15
10
5
0
7-8 hours
8-9 hours
9-10 hours
10-12 hours
>12 hours
How many hours in a day do you normally work?
Do you feel Trouble falling asleep or do you sleep too much?
Not at All
Sometimes
Often
Nealry every day

Question 12:


Bar Chart
Count
20
15
10
5
0
7-8 hours
8-9 hours
9-10 hours
10-12 hours
>12 hours
How many hours in a day do you normally work?
Are you feeling bad about yourself- or that you are a failure or have let yourself or your family down
Not at All
Sometimes
Often
Nealry every day

11/18= 61 % respondents working from 9-10 hours a day sometimes feel that they are a failure or have let themselves or their family down.

Question 13:



40% of respondents in 10-12 hours group for several days feel that they would have been better off dead or hurting themselves in some way.

CONCLUSION:

On the basis of analysis of the filled in survey questionnaire, we can state that:

- The general health seeking behavior of respondents towards attaining a good healthy state is poor because only 44% of respondents are openly accessing internet for health related information and not more than 10% feel free to consult a physician for psychological help without feeling embarrassed.
- The respondents are not aware of IT assisted programs to tackle smoking or alcohol problems but 95% of respondents are open to use internet to seek health related guidance, however 79% people would still not avail online consultations for fear of privacy and credibility issues. While 74 respondents were open to the idea of using communication tools for health promotion activities still the majority (66/76) is unaware of any IT assisted programme for smoking and drinking problems.

The number of working hours and stress amongst IT professionals is certainly evident by the results because:

- People working in shifts of 10-12 hours (4/5= 80%) and 8-9 hours (13/30=43%) sometimes feel little interest or pleasure in doing things.
- The respondents from 10-12 hours shift sometimes felt depressed as compared to others (4/5=80%).
- 8-9 hours working respondents felt depressed often. (14/30=47%).
- 66% of respondents working for >12 hours and 50% of respondents working from (8-9 hours) suffer disturbed sleep every day.
- 11/18= 61 % respondents working from 9-10 hours a day sometimes feel that they are a failure or have let themselves or their family down.
- 40% of respondents in 10-12 hours group for several days feel that they would have been better off dead or hurting themselves in some way.

RECOMMENDATIONS:

1. The point to be highlighted here is that the common working hours in most of the IT companies is 8-9 hours per day and when analyzed the people working in these hours only showed the maximum behavioral issues. Hence IT companies may take up this as a serious challenge to the health and hence working potential of their workforce. Hence they may incorporate certain stress buster activities and steps to ensure employee satisfaction and delight within their professional lives.

2. The individuals on their own should aim to strike a balance between their professional and personal lives.

3. As IT professionals are easily with in access to internet, they can utilize free time to attain and incorporate maximum best health practices within their routine. However, this information should be taken only from best authentic sources only.

4. The health organizations can take up IT as a new means to disseminate Health related information; and especially anti alcohol, anti tobacco information, amongst masses. The simplest tool for this is mobile applications as today mobiles have the greatest amount of accessibility amongst people.

5. Health Organization may address the stress related concerns of IT sector because it is the single issue which is leading to a distressful life for these individuals. For this, the best medium would be IT itself. Online portals, discussion forums to spread awareness and promote healthy behavior are the need of the hour.

LIMITATIONS OF THE CASE STUDY:

- The case study was based on a modest sample size of 76 people.
- Most of the respondents were working for 8-9 hours so the results were based on a smaller sample size for other groups.
- The sampling used was convenience sampling as only the respondents who s email Id's were available were sent and who ever responded back was included in the study.

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