The Safe Staffing: Unit Management Resource is a comprehensive document developed to assist in the business planning process for managing nursing resources and workload.

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The Department of Health and Human Services acknowledges Queensland’s Business Planning Framework: A Tool for Nursing Workload Management developed by Queensland Health and the Queensland Nurses Union.

Department of Health and Human Services Tasmania
July 2011
Introduction

Overview

This document is part of a suite of resource documents for Nurse Managers to assist with effective management of their unit/service within the Department of Health and Human Services (DHHS). Nurse Managers include Nurse Unit Managers (NUM) and senior nurses who are responsible for managing clinical service areas or clinical nurses acting-up in a management role.

DHHS nurse managers are encouraged to take an active role in the development, implementation and evaluation of their business plan (in conjunction with the business manager); and workload management strategies relevant to the services they deliver. A sound understanding of business and workload management strategies are essential in delivering safe, quality patient care in today's dynamic health care environment.

Nursing workloads within Tasmania are based on, Nursing Hours per Patient Day (NHPPD) model. The NHPPD model was introduced in the DHHS during 2003 through the Nurses (Tasmanian Public Sector) Enterprise Agreement 2001 and has been included in Nurses Enterprise Agreements to date.

The Tasmanian NHPPD Model Guiding Principles however, can not be applied to all areas where nurses work so consequently, the information in this document may be considered as a guide to resource planning, allocation and management within these areas.
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Introduction

Business planning is a systematic process for examining an organisation and its environment in order to best allocate resources to meet service demand. A business plan (sometimes referred to as an operational plan) is the working document that articulates strategies for achieving the goals of the service. It is through the use of this process that nursing resources will be allocated to most appropriately manage workloads.

The *Unit Management: A Resource Manual for Nurse Managers* provides nurse managers with a business planning process to assist in allocating appropriate nursing staff levels to meet service requirements and evaluate the performance of the nursing service. The business planning process should be based on demand and supply that is responsive to the changing health care delivery environment and the subsequent nursing resource requirements.

This approach to nursing resource management focuses on achieving a balance between service demand and the supply of nursing resources necessary to meet identified demand.

Purpose of this manual

This document is a comprehensive reference and education resource to assist nurse managers with the process of determining nursing human resource requirements (supply) in the context of the demands placed on the service (demand). The outcome of this process is the development of a business (or operational plan) that relates to the effective management of nursing resources and workloads in the service.

The document has been designed primarily to address business planning needs for nurse managers. However it has the potential to be used as an effective resource by other professional groups. The document guides the user through analysing a unit, service, or department, allocating required nursing resources and evaluating the performance of the nursing service in order to develop an achievable business plan.

Principles

Business planning is underpinned by three principles including:

1. **The patient/client:**
   - applied workload models of clinical care and clinical practice are evidence based;
   - patient care outcomes are met; and
   - safe, quality patient care is delivered.

2. **The staff:**
   - supply of nursing staff is balanced with service demand to effectively manage nursing workloads;
   - integration of workforce planning; workplace flexibility; evidence based practice; clearly identified required competencies; appropriate training; and systems are in place for managing safe, equitable workloads.
3. The organisation:

Business Planning is in line with the DHHS Strategic Directions to deliver safe, effective, high quality, value-for-money services for the Tasmania population.

**Business planning**

Business planning consists of three stages:

- **Stage 1** Assessment of patient profile, service activity, environment (demand)
- **Stage 2** Resource planning, allocation and management (supply)
- **Stage 3** Evaluation of performance (analysis of the balance between demand for resources to resources allocated).

The overall aim of business planning is to achieve a balance between service demand and resource allocation. The underlying principles of this document provide nurses with knowledge to develop a flexible, responsive business plan that is relevant to a particular service/unit. These principles can be applied to a variety of DHHS health care services in rural, remote, tertiary, regional and community settings where nurses are employed.

The business planning framework is depicted in the diagram below. Each stage should not be considered in isolation, or as separate from the desired outcome of developing a business plan for your service. Your Business Support Unit and Business Manager is available to assist you as and when required.
Understanding service demand and supply

Service demand relates to meeting patient care needs and is established by considering factors such as:

- activity;
- acuity/complexity;
- performance targets;
- technology;
- physical layout and environment of work area;
- supply issues of health professionals and support staff;
- service quality;
- patient and staff safety;
- models of service delivery;
- financial outcomes;
- government initiatives and policy direction; and
- public/private interface.

Calculating nursing human resource requirements (supply) necessary to meet service needs (demand) involves measuring demand in terms of the total number of required nursing hours.

Factors affecting the supply of nursing resources include:

- budgeted full-time equivalents (FTE);
- employment conditions including leave entitlements;
- supply issues of health professionals and support staff;
- recruitment and retention;
- workforce skill mix and allocation;
- workforce requirements such as training/staff development and performance management; and
- direct and indirect patient care hours.

Matching the supply of nursing resources to service demand is an integral part of developing a business plan for any health service.

This resource manual will assist the user to systematically work through understanding aspects of their business, nursing resource planning, allocation, management and evaluation of their service.
Module 1: Developing a business plan

1. Introduction
2. Objectives
3. What is business planning?
4. What is a business plan?
5. Why develop a business plan?
6. How to develop a business plan

1. Develop a Service Profile (Demand)
   • Aims
   • Objectives
   • Environmental analysis
   • SWOT analysis
   • Activity
   • Acuity/complexity
   • Other factors

2. Resource Planning, Allocation, and Management (Supply)
   Balance:
   • Service demand
   • Activity
   • Acuity/complexity
   • Other factors
   With:
   Resource allocation (Supply)

3. Evaluate Performance
   • Routine monitoring of performance against the plan
   • Scorecard reporting
   • Analysis of the balance of demand for services/activity with resources allocated
1. **Introduction**

Business planning is a systematic process for examining an organisation and its environment in order to allocate resources to meet service demand in the most appropriate way. This module introduces the concept of business planning, its relevance to the Tasmanian DHHS and includes a brief overview of the process involved in developing a business plan.

2. **Objectives**

On completion of this module, the nurse manager will be able to:

1. Determine how the local service agreement is aligned with the DHHS Strategic Directions.
2. Analyse and summarise how the local health service meets the relevant goals of the DHHS.
3. Identify those who need to participate in the development of a business/operational plan for the health service.
4. Describe the sections of a business plan.

3. **What is business planning?**

Business planning is the process of determining actions to support strategic directions. It should be undertaken for the development of either a new planned or every 12 months for an existing service. Throughout the process, the total operation of the planned or existing health service is critically examined. Health care organisations exist in a complex and changing environment. Undertaking planning will assist in adapting to these changes.

Business planning can be viewed as a three-part process.

1. **Aims**
   The business planning process should begin with identifying the aims and objectives of the service.

2. **Analysis**
   The second stage is where a systematic analysis of the service and its environment is undertaken, including an evaluation of the previous year’s implementation. This stage encompasses the critical measuring of whether resource allocation (supply) meets current and future service demands.

3. **Action**
   In this stage of the business planning process, actions to achieve the aims of the service are developed, decisions are made regarding the allocation of resources and evaluation measures are determined.

4. **What is a business plan?**

A business plan (sometimes referred to as an operational plan), is the working document that articulates the strategies for achieving the goals of the service/unit. It is a statement of what the service/unit expects to achieve over a set period as a step towards fulfilling the organisation’s, and Area Health Services strategic plan.
In the DHHS, there is a connection and interdependency between different planning processes. These include whole of government priorities and DHHS Strategic Directions. DHHS Strategic Directions articulate the DHHS vision, mission, objectives, initiatives, resources and values.

Health service planning must define what and how services will be provided. The relevant corporate and Area Health Service priorities and strategies need to be reflected in the service level business plans and as per the service agreement. The performance and outputs of the Area Health Service’s will be achieved by the various business units within that Area Health Service.

A business plan usually has a one year timeframe based on the financial year. Adjustments to the plan may be required as key factors such as patient/client activity and nursing supply change over the time period.

5. **Why develop a business plan?**

Nursing is the most visible service in health care organisations and as such, requires a significant proportion of budgetary allocation. The business plan provides a sound basis for projecting the required nursing resources.

There are many factors impacting on the nursing resources needed to deliver services. These require careful and thorough consideration. The number of nursing hours required in one organisation will not necessarily be transferable to another organisation, as there are a number of key variables which impact on the workloads of nurses. It is important to determine the key variables that have a significant impact on nursing workloads within each business unit. Effective staffing levels need to be developed from both a service and whole of organisation perspective.

Participation in the development of a business plan for the work area will assist nurses to actively engage in decision making in regard to resource utilisation. Nurses are then involved in how their workloads are managed in their work area.

**Benefits of a business plan**

- Assists the nurse to plan for the delivery of services.
- Clearly defines the goals/objectives (in line with the strategic plan) to give purpose and direction to the work of the team members within the services.
- Identifies tasks and priorities.
- Determines the resources required to deliver services.
- Provides guidance with the monitoring and evaluation of service performance.

6. **How to develop a business plan**

In developing a business plan, consultation with key stakeholders (and in some instances consumers) needs to occur. Involving the service staff in the planning process has the advantage of assisting the staff to see the service as a whole. There will potentially be a better understanding of the concepts, as well as greater ownership and commitment to the plan. The following points are important considerations when developing a business plan.
**Who you need:**
Use a small group of stakeholders to develop the business plan (stakeholders being people who will be influenced by the plan). While the majority of the group would usually be members of the service, external people may also participate, for example:

- a person with expertise in business planning such as your Business Manager; and
- a member of the senior nursing management.

**What you need:**

**Documents**
Relevant key information contained in the following documents will assist in the planning process.

- DHHS Strategic Directions
- Other relevant policy/planning documents including past business plans
- Area Health Service agreements
- Nurse’s Enterprise Agreement
- Performance documents
- Quality reports
- Financial and activity reports

**Time**
It is important to commit sufficient time to undertake the process.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Review the current <em>DHHS Strategic Directions</em>.</td>
</tr>
<tr>
<td>2. Review other relevant policy/planning documents.</td>
</tr>
<tr>
<td>3. Review the current Service Agreement for your Area Health Service.</td>
</tr>
<tr>
<td>4. Note how the service agreement is aligned with the goals of the <em>DHHS Strategic Directions</em>.</td>
</tr>
<tr>
<td>5. Summarise how your business unit/organisation/service meets the relevant goals of the <em>DHHS Strategic Directions</em>.</td>
</tr>
<tr>
<td>6. Consider who needs to participate in the development of a business plan for your service.</td>
</tr>
</tbody>
</table>
Structure of a business plan:
The business plan is a formal document and as such needs to be retained as a reference for future planning. Tailor the plan according to the preferences of the users.

Size and format
The size of the business plan will depend on the size and complexity of the service. It shouldn’t be too long or it won’t be read or used as intended.

Content
The plan needs to contain sufficient information for the users to understand how it is used for the delivery of services. The plan should be informed by the following modules. Each of these sections of the business planning cycle will be further discussed in the later modules.
Module 2: Develop a service profile

1. Introduction
2. Objectives
3. What is a service profile?
4. Identifying the aim
5. Developing objectives
6. Describing the present service
7. Environmental analysis
8. Strength, weakness, opportunity, threat analysis

1. Develop a Service Profile (Demand)
   • Aims
   • Objectives
   • Environmental analysis
   • SWOT analysis
   • Activity
   • Acuity/complexity
   • Other factors

2. Resource Planning, Allocation, and Management (Supply)
   Balance:
   • Service demand
   • Activity
   • Acuity/complexity
   • Other factors
   With:
   Resource allocation (Supply)

3. Evaluate Performance
   • Routine monitoring of performance against the plan
   • Scorecard reporting
   • Analysis of the balance of demand for services/ activity with resources allocated
1. Introduction

Developing a service profile (demand) is the first stage in the development of a business plan. This module will outline how to identify the aim, develop the objectives and describe the service. This process includes a comprehensive description of external and internal environmental factors that may impact on the service. The process of exploring environmental factors and grouping them into categories of strengths, weaknesses, opportunities or threats (SWOT) is also explained.

The service profile should be reviewed and amended annually to reflect any agreed service change and to ensure it is in line with budget allocation. The final document is recognised as the ‘agreed service profile’. It is important to remember that the service profile is only one step in the development of a business plan.

2. Objectives

On completion of this module, the Nurse Manager will be able to:

1. Outline the aims and objectives of the service
2. Describe the current service including recent achievements and priority areas for service development
3. Summarise the internal and external environmental factors impacting on the service
4. Classify the environmental factors according to the categories of Strength, Weakness, Opportunity and Threat (SWOT)
5. Develop an agreed service profile that reflects the negotiated annual operating budget and activity level for the financial year

3. Outlining the aims and objectives

When developing a business plan at a local service level, the aim of the service needs to be clearly identified. This aim must be consistent with the vision and mission statements of the DHHS Strategic Directions:

Vision:
To provide high quality, safe services for the people of Tasmania when they need them, so they can live well and live longer.

Mission:
To design and implement a sustainable, people-focused health and human services system which supports individuals and communities to be active partners in the management of their own health and wellbeing.

State the aim of your service in a succinct, broad sentence, describing how your service contributes to achieving the DHHS goals.

Example of a service aim:
To provide holistic care for cardiology patients, utilising a coordinated multidisciplinary approach, resulting in optimal patient outcomes.
The objectives of the service need to flow from the aims. Aims are the strategies that indicate the key outputs for the service to achieve and therefore form a basis for assessing the performance of the organisation. The objectives of the service will need to be aligned to corporate goals. In developing objectives, consider past non-achievements of the service and incorporate any new activities or programs that need to be undertaken. Ensure the stated objectives are:

- easy to understand
- specific
- realistic and achievable
- time oriented
- outcome focused
- measurable
- prioritised

Objectives of the service must remain in line with the aim of the service and the current DHHS Strategic Objectives.

Example of a service’s objectives:
1. Provide pre/post care for patients undergoing interventional/diagnostic procedures in the cardiac catheter laboratory over the next 12 months.
2. Implement the reviewed cardiac patient education program within six months.

4. Describing the present service

Now describe the present service (or the service being planned). This includes:

- service location (geographical and physical)
- service boundaries (geographical)
- recognised type of service (e.g. a cardiac service)
- functions of the service
- clinical service capability.

You may need to reference past commitments that were not achieved. Priorities for future development might also be included if they are considered valuable in the context of the business plan.

Activity

1. What is the aim of your service?
2. What are the objectives of your service?
3. Describe your service, including location, type and level. What significant achievements were made in the last 12 months?
4. List the current priorities for service development (this may change once you have undertaken an environmental and SWOT analysis).
5. Environmental analysis

Internal and external environmental factors can affect the functions of the service. The impact, or potential impact, of any of these factors on the service, and therefore nursing workloads, can be identified by systematically analysing the service environment. Understanding the environmental factors affecting the service assists when making a comparative analysis with other services and benchmarking.

5.1 Internal factors

Internal factors are those the service can potentially influence. There is a comprehensive list of internal environmental factors that can impact on the service, and these have been categorised under four headings:

1. Structural
2. Human resource management
3. Information technology management
4. Performance

5.1.1 Structural - the environment in which the services are to be delivered.

Location and size

- Describe the physical environment in which the service exists.
- What factors can impact on the amount of nursing resources required? For example, remote areas where transport is difficult to obtain can delay the discharge of patients; the size of the local services can affect community and outreach services (travelling distances and time).

Design of facility

- The design of the facility/health service can impact on nursing costs. Geographically isolated units may incur higher fixed nursing costs by requiring a minimum staffing level that is far greater than patient care requirements.

Services within facility

- What services are located within the facility/health service?

Organisation and unit structural design

- Does the unit structural design support the service to be delivered?
- Some units/services within the DHHS may have matrix structures where staff have responsibilities to both operational and professional leaders. This can create conflicts of interests in decision making.

Cost centre structure

The structure of the service may comprise one or more units/cost centres.
- Do the number, size and type of cost centres meet the current need for reporting? Are there too many or too few cost centres?
- Do these reflect the needs of the service and service managers?
**Structure of the service**

- What teams are involved in service delivery?
- What are the roles, responsibilities and accountabilities of team members?
- What are the reporting relationships of team members?

**Nursing structure**

- What are the number, roles and functions of all categories of nursing staff?
- What are the accountabilities of nursing staff?
- What impact does the nursing structure have on the clinical and non-clinical workload?

**Model of care/service options**

A ‘model of care’ can describe broadly how the delivery of care is provided in the context of the whole health system or a care delivery model at a ward or unit level which is supported by the organisation (Duffield et al, 2010, p. 2242-3)

- Current model of care
  - Is the current model of care aligned to the health care requirements of the service?
  - What are the outcomes for patients/clients?
  - Is there good evidence to support the current model of care?
  - Does the existing structure support the model of care?

- Alternative models of care
  - Are there other models of care preferred in terms of economic effectiveness and patient/client outcomes?

**5.1.2 Human resource management**

**Leadership and management**

- Describe the environment in which the service exists.

Leaders are needed to achieve the objectives and direction set of a work unit or service. Leadership relates to the ability to motivate and guide others in a specific direction. Management encompasses leadership but also includes the tasks of planning, organising, controlling and communicating in a manner that influences and makes optimum use of resources.

In order to optimise outcomes, leaders and managers of the whole service (and individual units within the service) need to consider and be aligned to:

- What are the skills of the leaders/managers in the organisation?
- Do they have the level of knowledge required to achieve the outcomes?
- Who is accountable for the service?
Organisational culture
Leadership also influences organisational culture. Leaders need to assess the level of trust, communication, devolvement and commitment in order to change what exists within their service.

Core staff working in the service – categories, scope of practice, skills
This refers to those staff members either directly employed to work in the service or rostered to work in the service, whose primary roles and responsibilities lay within the service.

- What are the categories of core staff working in the service?
  - medical staff
  - allied health staff
  - nursing staff
  - health care support workers
  - administrative staff
  - operational staff

- What is the nursing staff complement in terms of full time equivalents (FTE):
  - registered nurses (management, education, clinical and specialists)
  - enrolled nurses

- What are the roles and functions of nursing staff within your service?
- What is the current scope of practice of the clinical staff?
- What potential is there to extend the scope of practice?
- Is there a particular lack of knowledge or skills within your service?
- What opportunities are there for staff to develop further skills? For example, through education, rotation through work areas, and secondment to other services.

- How many of the staff are practising at the following levels:
  - novice
  - advanced beginner
  - competent
  - proficient
  - expert

- Do the competency levels of the staff match patient/client needs?

Support staff
This refers to staff who are not directly employed by the service, and not rostered exclusively to the service. They have roles and responsibilities across multiple services that may impact on service delivery. For example:

- allied health
- clerical/administrative
- business support
• operational
• volunteers
• specialist nurses
  o What are the numbers, hours of work, skills and duties of these staff?
  o What duties/activities in the service do these staff perform that impact on the workload of nurses? For example, support personnel may perform bed cleaning; however this may be limited to 0800 – 1700, Monday to Friday only. Clerical staff provide ward reception and main reception work between the hours of 0800 – 1630 Monday to Friday. In smaller organisations, the phones may be switched through to the ward from 1630 hours.
  o Are nurses performing any other tasks that could be done by other categories of staff?

**Teaching and learning commitments**

• What is the teaching role of the service?
• Are there any agreements with universities or registered training organisations in place or under development?
• What is the impact of these agreements? For example:
  o costs
  o opportunities for funding
• What clinical placements are required?
• What structures/processes are in place to support the teaching requirements/commitments?
• What time allocation is required for activities such as:
  o orientation of new staff
  o orientation of relief staff
  o mandatory competencies
  o clinical supervision and evaluation
  o continuous professional development
  o practice development
• What time has been allocated previously? Was this time sufficient?
• Are needs likely to change?

**Other indirect patient/client care commitments**

• What management/administrative responsibilities do team members have? For example:
  o portfolio work
  o quality improvement activities, risk management, accreditation
  o research, implementation of evidenced-based practice
Module 2: Develop a service profile

5.1.3. Information technology/management

**Information technology (clinical and management)**

- What level of information technology is in place?
- What is the access to systems?
- How reliable are the systems?
- What plans are there for future developments in IT systems?

**Information management**

- What information sources and systems are in place?
- Which information sources and systems is the service dependent on to operate?
- Is there sufficient information provided?
- What access is there to this information?
- Who collects/supplies the information?
- How timely and accurate is the information from these systems?
- Does the staff know how to access and use the information?

5.1.4. Performance

Consider the performance of your service for efficiency, effectiveness and economy. This requires you to review:

- financial performance against budget

In reviewing these items, major areas to focus on are complexity of care requirements, activity and financial and service quality.

**Comparative analysis**

It can be helpful to compare key performance factors with a similar service focusing particularly on the resources used by other services. Ideal services for comparative purposes are those with a similar patient/client complexity and activity level.

- **Patient/client complexity/acute**

Patients and clients differ in the amount and complexity of resources required to care for them. Casemix is the term used to describe the different categories of patients.

The term ‘acute’ is used to describe the severity of illness of a patient/client. The higher the acuity, the greater the amount/complexity of resources required to care for them.

- For hospital units, what are the major Diagnosis Related Groups (DRGs) of your patients?
- What are the nursing care needs of the most significant DRGs, including co-morbidities? Consider these as an indirect measure of patient acuity
and complexity, together with Nurse-sensitive Clinical Indicators as they are developed.

○ For community based services, what is the complexity of the care needs of your clients within the context of where and how care is provided?

- **Patient/client activity**

  Key activity data for your service should be reviewed. Activity areas to consider are listed in the following table.

<table>
<thead>
<tr>
<th>Number of separations</th>
<th>Number of day surgery cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted separations</td>
<td>Outpatients occasions of service</td>
</tr>
<tr>
<td>Total occupied beds</td>
<td>Number of births</td>
</tr>
<tr>
<td>Average daily occupancy</td>
<td>Retrievals</td>
</tr>
<tr>
<td>Occasions of service</td>
<td>Transfers</td>
</tr>
<tr>
<td>Emergency department presentations</td>
<td>Home visits</td>
</tr>
<tr>
<td>Numbers per triage category</td>
<td>Number of group sessions, numbers of attendees at group sessions</td>
</tr>
<tr>
<td>Number of operations</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** these are some of the major activity areas that need to be examined by the service. However, within individual units there may be other types of activity that need to be reviewed. Consider:

○ What were the trends in the activity areas listed above over the last two years?

○ Is any significant change anticipated?

- **Financial outcomes**

  ○ What were the financial outcomes; over-budget, under-budget, trends in costs?

- **Quality of service - current/preferred/evaluation methods**

  ○ What quality measures are currently in place?

  ○ What is the current performance of the organisation as measured against clinical, financial and employee indicators?

  ○ Is current performance acceptable?

**Activity**

List the internal impacts that are influencing your service under the following major headings:

1. Structure
2. Human resource management
3. Information technology/management
5.2 **External factors**

The external environment consists of conditions and forces that are usually beyond the control of the service. These can be categorised under five headings.

1. Policy/legal factors
2. Economic factors
3. Interaction and referral with external service providers
4. Social factors
5. Technological factors
6. Research and evidence based practice.

The following external environmental factors can impact on the unit or service.

5.2.1 **Policy/legal factors**

**Commonwealth direction/policies/funding**

Commonwealth direction and policies include the setting of National Health Priorities where changes in health care reform may be required.

**DHHS direction/policies/initiatives**

For information on these see:

- *DHHS Strategic Objectives*
- Service agreements, which outline the funds allocated to Area Health Services and the corresponding service and corporate responsibilities
- Other DHHS policies, plans and proposed plans that may have an impact on nursing resourcing and workload management
- Capital works programs including re-development
- Other relevant corporate documents.

**Legislation**

The DHHS is responsible for administering a number of Acts and associated Regulations. These may be viewed at [www.thelaw.tas.gov.au](http://www.thelaw.tas.gov.au)

Examples of legislation that are relevant to health services include:

- Health Practitioner Regulation National Law (Tasmania) Act 2010
- Health Act 1997
- Health Services Act 1960
- State Services Act 2000
- Poisons Act 1971 and Regulations 2008
- Public Health Act 1997
Licensing organisations

- How do the requirements of the nursing, medical and allied health registration boards impact?

Professional groups

- Do professional groups mandate standards of practice and/or training impacting on nursing resources? Examples include the Australian College of Operating Room Nurses (ACORN) and Australian College of Midwives Inc. (ACMI)

Industrial groups/issues

- Examples are award conditions, enterprise bargaining agreements, or variations across the continuum of care.

Education imperatives

- What educational imperatives are impacting on the service? For example, is there a high level of demand for tertiary/Tasmanian Polytechnic clinical placements (for any of the health professions) within the organisation?

5.2.2. Economic factors

International/national economy
The state of the international and national economy will influence funding policies and expenditure patterns. For example, the cost of supplies imported from overseas can be affected by the exchange rate.

Public/private interface

- Are there services similar to yours provided by a local private hospital?
- Does this have an impact on your activity levels?
- Are there plans for this to change?

External providers

- What are the role, type and level of services currently provided by these groups e.g.: private providers such as general practitioners, midwives, allied health services, nursing agencies?
- What are the external referral processes?
- Are there plans for this to change?

Capital works

- What future capital works are planned?

5.2.3 Social factors
Tasmania has a growing aging population and high rates of chronic disease. These need to be considered when planning for service delivery.
Demographics
The demographics of the population being serviced will determine the types of health services required. For example:
- Is it a young or ageing population?
- What is the growth rate of the population (by age groups)?
- What is their socio-economic profile?
- Are the health needs of the community matched with the national and state priorities for health outcomes?

Cultural
- How diverse is the population?
- Is there a high proportion of Indigenous or ethnic persons?

Morbidity/mortality
- What are the local morbidity/mortality and disease trends of your population base?
- Do local industries impact on the service?

The demographics of the population being serviced can influence the resources required. For example, a large non-English speaking population will require the use of interpreter services. Organising these services consumes resources and the actual time taken to give nursing care may be increased by having to use interpreters.

Community expectations
- What does the local community expect from its health services?
- Are these expectations realistic and/or deliverable?
- What is their level of awareness of the health services they require and that are provided?
- What involvement does the community have in local health service planning?

Workforce issues
- Are there enough nurses with the skills required for your health service?
- What other workforce recruitment and retention issues are there?
- Are there difficulties with attracting medical staff that impact on the workload of the nursing staff?
- What is the utilisation of casual staff?
- Is there a changing workforce profile, e.g. ageing workforce?
- What are the links to the direction of Area Health Service workforce planning?

5.2.4. Technological factors
- What is the impact of technology on the service?
- For example, internet availability, advances in medical equipment capability?
5.2.5. Research and evidence based practice

What research developments are impacting, or will impact on services? For example:

- Are you required to take part in data collection?
- What research activities/projects is your service planning to undertake?
- Is this affecting your workload?
- To what extent have you incorporated evidence based practice in your service?
- What resources are available to support research?

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>List the external environmental factors that are influencing your service under the following headings:</td>
</tr>
<tr>
<td>1. Policy/legal</td>
</tr>
<tr>
<td>2. Economic</td>
</tr>
<tr>
<td>3. Interaction and referral with external service providers</td>
</tr>
<tr>
<td>4. Social</td>
</tr>
<tr>
<td>5. Technological</td>
</tr>
<tr>
<td>6. Research and evidence based practice.</td>
</tr>
</tbody>
</table>

Review of environmental analysis
The environmental analysis serves as a guide for determining the long-term direction of the service. It is not always necessary to undertake a comprehensive analysis each year; however, the analysis needs to be reviewed annually to:

- make adjustments as significant changes in the environment occur
- serve as a basis for review of where the service status is currently.

6. Strengths, weaknesses, opportunities and threats analysis
Once the factors impacting on the service have been identified, these can be assessed under the categories of strength, weakness, opportunity or threat. This is referred to as a SWOT analysis.

**Strength**
A strength is a distinctive competence of the service.

**Weakness**
A weakness is a deficiency that limits the performance of the service.

Strengths and weaknesses are identified when analysing the internal business drivers/impacts. Weaknesses highlight where organisational development may be required. The following example shows internal strengths and weaknesses in an Intensive Care Unit.
Example: Internal strengths and weaknesses in an Intensive Care Unit

**Strength**
60% of the nursing staff have a postgraduate qualification in critical care.

**Weakness**
80% of the monitoring equipment is six years old and breaks down frequently.

**Opportunity**
An opportunity is a factor external to the service that presents an area of potential for the service.

**Threat**
A threat is an unfavourable factor in the external environment.

Opportunities and threats are identified when analysing the external environment to determine how these may impact on the service when trying to achieve its objectives. The following example shows an opportunity and a threat to a Community Health Service.

Example: External opportunity and threat to a Community Health Service

**Opportunity**
The Government recently announced a series of grants for improving services to residents of caravan parks.

**Threat**
Funding is only available for defined timeframes, e.g. one year, therefore permanent recruitment to these positions cannot occur.

Note that environmental factors can only be one of the four categories of strength, opportunity, weakness or threat.

**Activity**
Categorise the external and internal environmental factors for your service into each of the following categories:

<table>
<thead>
<tr>
<th>Strength</th>
<th>Weakness</th>
<th>Opportunity</th>
<th>Threat</th>
</tr>
</thead>
</table>

5. Agreed service profile

Using the agreed workload model, the service profile informs the annual budget. This is always done in conjunction with your Business Manager and with the management team overseeing the area/cost centre. The final document is recognised and should be signed off by the relevant Area Health Service Chief Executive Officer, and Departmental Directors.

If you do not have an agreed workload model, negotiation will be required as to budget requirements for the allocation of nursing resources/FTE to meet the level of activity.
Module 3: Costs, reports and budgets

1. Introduction
2. Objectives
3. Types of staffing costs
4. Patient acuity/activity
5. Activity
6. Reports
7. Budgets
1. **Introduction**

It is essential to understand how a budget is built up, the types of costs occurring and the measures of acuity and activity. Various reports need to be reviewed and used in the development of the budget and in turn, the development of the business/operational plan. A brief description of the different types of budgets, some examples and the role of nurses in budgeting will be described in this module.

2. **Objectives**

On completion of this module, the Nurse Manager will be able to:

1. Understand the composition of a budget – types of staffing costs and common terminology.
2. Explain acuity and list key activity factors for the service.
3. Identify the data that informs the composition of a budget and the reports that are generated from that data.

Describe variance analysis and trends together with their importance in validating and managing a budget.

3. **Types of staffing costs and common terminology**

A number of cost types can be used to describe budgets.

<table>
<thead>
<tr>
<th>Types of costs</th>
<th>Explanation</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Costs</td>
<td>Costs that do not change regardless of other influences</td>
<td>Nurse Unit Manager (NUM), Clinical Nurse Educators (CNE), minimum staffing requirement for safety</td>
</tr>
<tr>
<td>Variable Costs</td>
<td>Costs that vary with changes in level/type of activity</td>
<td>Cost of agency nurses, increased nursing hours during periods of high demand e.g. seasonal</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td>Sum of fixed cost + variable costs + semi-variable cost</td>
<td>Total cost of staffing</td>
</tr>
<tr>
<td>Direct Clinical Hours – converted to costs</td>
<td>The nursing hours utilised to support direct care to patients converted to costs</td>
<td>The nurse who is involved in planning and assessment of patient care provides direct care</td>
</tr>
<tr>
<td>In-direct Clinical Hours -converted to costs</td>
<td>The nursing hours utilised to support the delivery of direct care – converted to costs</td>
<td>Eg: NUM, CNE</td>
</tr>
<tr>
<td><strong>Total Productive Hours – converted to costs</strong></td>
<td>Sum of Direct and Indirect Clinical Hours – converted to costs</td>
<td>Cost of NUM + CNE + RNs + ENs</td>
</tr>
<tr>
<td><strong>Non-productive Hours – converted to costs</strong></td>
<td>Those hours paid to nurses that are over and above Total Productive Hours. Called ‘on-costs’ for the purpose of costing staff.</td>
<td>Eg: sick leave, and annual leave etc</td>
</tr>
</tbody>
</table>
**TOTAL NURSING LABOUR COST = Total Productive hours + Non-productive hours**

Nursing staff require a full understanding of what the definitions mean, particularly for budget preparation and reporting.

**Example:**

<table>
<thead>
<tr>
<th>General Ledger Account Code</th>
<th>On- Costs</th>
<th>Monthly expenditure $</th>
</tr>
</thead>
<tbody>
<tr>
<td>500030</td>
<td>Salaries &amp; Wages</td>
<td>86,005</td>
</tr>
<tr>
<td>PLUS Nursing On-Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>501030</td>
<td>Overtime</td>
<td>416</td>
</tr>
<tr>
<td>502030</td>
<td>Penalties</td>
<td>18,069</td>
</tr>
<tr>
<td>502130</td>
<td>Shift Allowances</td>
<td>2,517</td>
</tr>
<tr>
<td>502930</td>
<td>Other Allowances</td>
<td>229</td>
</tr>
<tr>
<td>5035302</td>
<td>Sick Leave</td>
<td>3,589</td>
</tr>
<tr>
<td>503630</td>
<td>Maternity Leave</td>
<td>0</td>
</tr>
<tr>
<td>503030</td>
<td>Annual Leave nursing</td>
<td>11,121</td>
</tr>
</tbody>
</table>

### 4. Patient Acuity

Acuity is a measure of patient complexity and can assist nurses in identifying and planning resources required to meet the provision of care. Acuity can be considered as a qualitative and/or a quantitative measure.

**Qualitative**

A reflection of acuity levels is integral to decisions relating to nursing care and the allocation of resources required for the provision of optimal patient care. The skilled nurse makes these decisions daily by drawing on their assessment skills, clinical knowledge, previous experience and an understanding of the skills required to meet patients’ needs. Generally as patient acuity increases, there should be a review of the resources needed to care for the patient/client. In areas such as mental health, legislation governs some aspects of patient acuity. For example, a patient requiring suicide watch is on a ‘one nurse to one patient’ ratio. Another example of the qualitative aspect of patient acuity relates to patients in early phase of a cardiac rehabilitation program, who might initially require more intensive support. It would be expected that this support would reduce over the course of the program.

**Quantitative**

A retrospective method used to determine patient acuity is the utilisation of the diagnosis related group (DRG) classification system. This system classifies diseases/conditions into like groups. Every *acute* patient admitted to the DHHS is assigned a DRG upon separation (discharge, death or transfer).

**Classifications**

The term ‘casemix’ refers to the type or mix of patients that are treated by a hospital or unit. Casemix based funding is one of the key funding models currently used in Australian health care services for reimbursement of the cost of patient care. Australia developed Diagnostic Related Groups (DRGs) that reflect Australian clinical practice and use of hospital resources. These are known as the Australian
Refined Diagnosis Related Groups (AR-DRGs). Each DRG can be grouped into similar conditions that use similar levels of resources.

The basis of the AR-DRG is the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10). Australia uses a modified form (ICD-10-AM) to suit Australian conditions which includes the principal Diagnosis, Procedures (based on the Australian Classification of Health Interventions (ACHI) used in the Medicare Benefits Scheme) and additional Diagnosis.

Classification is undertaken by Clinical Coders who code the available information in a patients clinical record and allocate patient admissions to an AR-DRG class. Procedures and additional diagnosis include nursing and allied health interventions that can be coded.

Allocation of patient hospital episode using ICD-10-AM/ACHI, then AR-DRG

A hospital’s AR-DRG aggregated profile reflects the mix of patients treated by the hospital or other health care facility (casemix) and can help to explain the relationship between service activity and costs. Casemix is used in a variety of Activity Based Funding or Casemix funding models.

The AR-DRG systems is also used in a number of data collections by state health departments, the Australian Institute of Health and Welfare and the Australian Department of Health and Ageing for evaluation and planning. Some examples of the use of aggregated AR-DRG profiles are population health need assessments, chronic disease trends, evaluation of interventions, and health system planning.

Patients’ secondary diagnoses (complications or co-morbidities) and are categorised into Patient Clinical Complexity levels (PCCL) ranging from 0 – 4 depending on the level severity or number of complications/co-morbidities. The PCCL is an additional
diagnosis that is likely to result in greater resource consumption. Tasmania does not currently have access to accurate PCCL levels.

**Determination of Cost Weights based on medical diagnosis**

Each DRG has an associated ‘cost weight’ which indicates the use of resources in caring for the patient on State and National levels. Each separation is then multiplied by its assigned cost weight to give a weighted separation.

Examples of factors used to calculate quantitative value of acuity in Tasmania are as follows:

- average length of stay for the particular DRG
- number of separations (discharges) converted to ‘weighted separations’
- if average daily occupancy is constant but weighted units for inpatient activity have increased, there may be a requirement to increase nursing resources.

A weighted separation is a method of quantifying patient discharges to reflect the cost and complexity of the patient’s treated condition. They are only applied to patients admitted in ‘acute’ episodes of care, and exclude patients changed into ‘non-acute’ episodes of care. Examples of non-acute case types include rehabilitation and palliative care patients.

5. **Activity**

Activity is the work performed to produce outputs. In nursing, this relates to patient and family focus care and the health outcomes achieved. There will be peaks and troughs in activity. It is important to analyse these peaks and troughs in order to achieve a balance between supply and demand.

Key measures of activity may include the following:

- number of separations (discharges, transfers, deaths)
- weighted separations
- total occupied beds
- average occupancy
- occasions of service
- emergency department presentations
- numbers per triage category
- number of operations
- day surgery cases
- outpatients occasions of service
- number of births
- retrievals
- home visits
- client separations
- number of group sessions
- number of clients attending group sessions.

Agreed units of activity need to be monitored and reviewed as activity is one of the measures of organisational performance. While the listed measures are the major ones to be considered on a whole of organisation basis, within individual services, there may be other types of activity that need to be reviewed.
6. Reports

6.1 Types of reports
A range of reports/indicators will be provided that are relevant to service delivery and the ongoing management of the allocation of resources.

Nurse Managers should receive monthly reports but the format of these reports may vary between area health services (including Mental Health and State-wide Services), and are important in the analysis of variance between projected budget and actual budget. *(If you are not receiving these reports please contact the Business Manager).*

Data sources that form the basis of the reports include: TMD, ProAct, Payroll reports, Finance 1, EIMS, OH&S and ACHS Clinical Indicators. Reports/indicators include, but are not limited to the following categories:

- Establishment list
- Paid FTE utilised against budgeted
- Sick Leave
- Annual leave
- Overtime
- Skill mix category
- Activity (including average daily occupancy and turnover %)
- full-time/part-time numbers/ratios
- award entitlements/ allowances/ paid penalties
- on call / casual / agency usage
- assisted study leave, professional development, parental, long service, workers compensation
- leave liability

Financial - labour
Financial reports show the actual cost for labour by discipline and type of cost, for example, ordinary hours, overtime, annual leave, sick leave. Financial data can be reported by pay fortnight, by calendar month, or year to date.

Activity
Patient activity reports provide information such as the number of separations, occasions of service, client visits and length of stay. Areas of activity that should be reviewed are listed previously in Module 3. Activity reports usually show activity on a per month basis.

Casemix
In the future with Activity Based Funding - Casemix reports will be available.

Quality
Quality reports vary across Area Health Services indicating the performance of the service with regard to outcomes of the activities of the service, eg: EIMS, ACHS
Clinical Indicators. This information must be considered along with the financial information in evaluating the total performance of an organisation. This topic is examined in more detail in Module 5 – Evaluation.

### Activity

1. Obtain current staffing, financial, activity, Casemix and quality reports for your service.
2. Identify the key items as per above.

#### 6.2 Reviewing reports

For all reports it is important to:

- determine their source
- identify the items and know their definition
- determine any relationships that may exist between the items
- determine whether they contain enough information
- assess the reliability of the data: for example, payroll reports should be checked to ensure that staff have been accurately charged to the right cost centre
- note the timeframe of the report, which is particularly important when looking at the relationships between reports. Is the report fortnightly or monthly? Consider the impact of public holidays occurring in the timeframe of the report.

Reports should be presented in order to facilitate trending for analysis, with details for:

- predicted/budgeted result
- actual result
- the current month
- year-to-date average
- year-to-date total
- same month in previous year.

The reports should be analysed to determine any changes (variances) and patterns in the changes over time (trends).

#### 6.3 Variance analysis

Variance analysis is a process of measuring the differences between the expected result and the actual result. The variance may be described according to volume, price or quantity. Variances can be described as favourable or unfavourable. A *favourable* variance for labour costs would be where expenditure was less than expected, while a variance would be described as *unfavourable* when labour costs exceeded the budget. Through analysis, the cause of the variance can be determined.

**Types of variances**

Variance analysis identifies probable or actual reasons for favourable or unfavourable results, e.g. if an increase in activity has resulted in the use of additional nursing
hours above the agreed funded level. The additional nursing hours and costs are explained through this analysis. If the activity increase is estimated to remain at the higher level, it would be appropriate to renegotiate the funded nursing hours in line with adjustments to the business plan, taking into account the increased activity. Public holidays occurring during the time period of the report are also a variance to consider when analysing the results.

- A fixed budget assumes a constant level of activity. A fixed budget can have a total variance. The total variance of a fixed budget is the difference between the original fixed budget and the actual expenditure incurred. Once the activities have occurred, a total variance can be calculated. The total variance will include volume, price and quantity differences.

- **Quantity variance** - A quantity variance occurs when there is a difference in the number of nursing hours budgeted to care for a given number of patients and the actual number of hours used. This may occur due to an inability to replace staff on sick leave.

- **Price variance** - An example of a price variance is where one type of clinical supply is substituted for another, thereby costing less (Enrolled nurse replacing a registered nurse)

- **Volume variance** - An example of volume variance is when the number of admissions to the unit is greater than was predicted.

- **Quality variance** – an example of a quality variance may include the additional costs associated with the facilitation of students, or extra Quality Improvement Officer required during accreditation periods.

**Example: Variances**

Five nursing hours per patient day at a cost of $20 per hour has been budgeted for in this unit. The forecast level of activity is average daily occupancy of 25 occupied bed days per day each month.

<table>
<thead>
<tr>
<th></th>
<th>July</th>
<th>August</th>
<th>September</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Budget</td>
<td>Actual</td>
<td>Variance</td>
</tr>
<tr>
<td>AOBD</td>
<td>775</td>
<td>775</td>
<td>0</td>
</tr>
<tr>
<td>Nrs. Hrs</td>
<td>3,875</td>
<td>3,700</td>
<td>(175)</td>
</tr>
<tr>
<td>$</td>
<td>$77,500</td>
<td>$74,000</td>
<td>($3,500)</td>
</tr>
</tbody>
</table>

**Analysis**

*July:* the actual number of nursing hours used was less than budgeted for, and the cost of the nursing hours was less; there was no difference in the level of activity, therefore a *quantity* variance occurred (inability to replace staff).

*August:* the budgeted amount of activity occurred and the number of nursing hours used was as budgeted; however, actual expenditure in dollars was greater than budgeted, therefore a *price* variance has occurred (use of agency staff).
September: while the actual number of nursing hours used and the cost of the nursing hours were as budgeted for, the level of activity was less than expected, therefore a volume variance occurred (fewer than normal admissions to the ward).

**Actioning variances**

1. Determine the absolute and relative size of the variance.
2. Is the variance large enough to be of concern? Predetermined levels of variance requiring action may be in place. *Management by exception* is a method whereby analysis of variances focuses only on those that are significant.
3. Determine what is causing the variance, that is, is it due to changes in price, quantity or volume?
4. Is there a trend or is it only appearing periodically?
5. Determine whether the variance is caused by something within your control, e.g. if a significant variance in nursing hours used has occurred in your unit, then you will need to be able to explain why it is occurring.

**6.3 Trend analysis**

Trend analysis is used to understand the relationship between items and groups of items over a given period of time. Trends need to be identified and monitored because they will assist in forecasting future activity and resource requirements. Having the information presented in graphical form assists with identifying trends.

**Example:** Sick leave trend nursing - the number of sick leave hours taken as a % of the hours worked for the period. For example, if during a month 40 hours of sick leave were taken and 1000 hours were worked, the sick leave versus worked hours would be 4%.

![](image.png)

Trends may occur on a daily, weekly, monthly, annual, seasonal or other regular basis. Factors in trends to be considered include:

- why they exist
- how they occurred
• the degree of change
• the relationship among the changes.

Trends can indicate:
• increasing or decreasing activity at a steady rate
• fluctuations due to seasonal factors
• areas that require further investigation and action, for example, increasing sick leave.

6.4 Forecasting
Forecasting is a method of determining what may happen in the future, based on analysis of trends from the past and considered judgement.

Activity and acuity/complexity forecasting
Accurate forecasting of activity and acuity/complexity levels will assist with the allocation of resources. There are complex statistical methodologies for forecasting demand; however, these are outside the scope of this document.

Past data (a minimum of 12 months) can be analysed to determine the impact of factors that cause variability of demand (activity) for services, such as:
• seasonal, e.g. winter/summer, significant events held in rural communities, peak tourist times
• school holidays
• senior medical staff annual leave
• annual clinical meetings
• public holidays.

Annual activity targets set by the Area Health Service, Business Support Units (outlined in the service agreement) need to be factored into forecasting. Once the data has been analysed, activity levels can be estimated for the following year. It is important to record assumptions made during the forecasting. Forecast activity levels provide the basis for the allocation of nursing resources. Acuity levels may be forecast by analysing past data, considering the future Casemix of the service or changes in clinical practice.
7. **Budgets**

### 7.1 Overview of funding model and budgets

#### DHHS Funding Model

Health in Australia is funded from a mix of Commonwealth and State funds. Under the National Partnership Agreement on Hospital and Health Workforce Reform, the Agency is committed to Activity Based Funding (ABF) for public hospitals. The benefits of ABF include more efficient use of taxpayer funding; increased transparency in the use of those funds; and enabling comparisons of efficiency across public hospitals.

Currently hospitals are funded on a global basis through the National Healthcare Specific Purpose Payment. ABF is intended to replace this with payments based on procedures performed. ABF will fund hospitals based on the services they provide. The focus of the model will be to link funding to the services provided by the hospital. It will also provide funding for clinical education, research, special grants and high cost patients. Payments on an ABF basis are scheduled to be gradually implemented from 1 July 2012 onwards.

The DHHS is primarily funded from the Consolidated Fund and therefore has a major direct impact on the State Budget. In addition to the Consolidated Fund, the Department receives other revenue that is not identified for return to the Consolidated Fund and is retained for the provision of recurrent goods and services.

Generally, both sources of funding are considered to be discretionary in nature, that is, expenditure of the funds is not prescribed or governed by specific policies and agreements for which formal acquittal processes are required, and there is some flexibility at the Agency level in how these funds can be applied in the delivery of goods and services.

Funding is also received from the Australian Government and non-Government organisations, which is designated for specific purposes. Generally, expenditure of these funds is prescribed and governed by specific policies and agreements for which formal acquittal processes are required and there is limited flexibility within the Agency to apply these funds beyond the scope of their prescribed purpose.

The Agency also receives revenue from the public for services provided on a fee for service basis. Certain receipts from operations are paid to the credit of specific accounts in the Special Deposits and Trust Fund to be utilised by the Agency for approved programs.

Budgets are generally historically based and adjusted for specific initiatives and one off projects. While the budgets in the Budget Papers are prepared on an accrual basis, internally budgets are managed on a cash basis, which reflects the funding received from the Department of Treasury and Finance.

### 7.2 What is a budget?

A budget is simply a plan for the allocation of resources.
7.3 **Purpose of a budget**
Developing a budget ensures that the service is able to optimise the achievement of its objectives within the given resources, and enables the performance of the service to be measured.

7.4 **How DHHS budgets**
The external Budget (as identified in the Budget Papers) is developed on an accrual basis of accounting, using an Output Methodology which focuses attention on the Outputs that the Government provides to the community and whether these Outputs (goods and services produced by the Agency) are having the intended effect on the Government's policy objectives or outcomes.

Internally, budgets are developed on a cash basis and in line with the organisational structures. It is therefore difficult when viewing the Budget Papers to see the link between the internal and external budgets. The external budget is based on the internal budget allocation and incorporates historical and special initiative funds and Commonwealth funding for projects and specific programs, for example, Home and Community Care (HACC).

The Agency's Budget for the coming year is generally based on the current year Budget, amended to include the effect of indexation, increased funding relating to prior year decisions, current year initiatives and other approved requests for additional funding.

Expenditure from the Consolidated Fund represents the majority of the Agency's Budget, and the Budget development process focuses primarily on the level of Consolidated Fund appropriation the Agency will receive. Notwithstanding the above, the Agency is also required to supply estimates of receipts and payments from other sources of funds.

Budget development is the result of a continual process of planning, monitoring and reviewing. Monitoring of actual results against the budget is essential to provide early warning of problems or to identify emerging trends. The resultant understanding of these variances greatly assists in the Budget development process for the coming year.

**Accounting method**
While externally, in the Budget Papers and Annual Report and Financial Statements, (the Department operates on an accrual basis), internally the Department still manages on a quasi-cash basis, taking into account outstanding creditors and accrued expenditure when viewing its year to date cash position.

Accrual accounting records revenue and expense transactions at the time they occur, even though they may not have been paid or received. For example, expenses such as wages are recognised at the time the activity occurs.

Cash accounting records revenue in the period in which the cash was received at the bank, and expenses were recorded as money left the bank.

It is important to note that the expenditure figures reported in the Budget Papers do not represent just the direct cost of clinical service delivery. The Output Methodology adopts a full cost approach and as such includes all the factors that contribute to production of the outputs including a share of indirect costs. Direct
costs in this regard refer to costs that are directly traceable to a cost centre. Indirect costs refer to those costs that are required to produce outputs but cannot be specifically attributed to that cost centre.

The indirect costs are called overhead costs or support costs. Examples of such costs are administrative costs associated with the delivery of payroll, the payment of invoices and the delivery of hotel services within the hospitals. They need to be allocated in some way that reflects the total cost of the output. Allocations are often based on a variety of methods at the whole of Department basis and have no obvious cause and effect relationship.

Entities external to DHHS are playing an increasingly important role in resource allocation. Associated with this development is a move to a more nationally consistent approach of reporting, which is required for appropriate comparison between jurisdictions and allocation of funding based on activity. Accrual reporting is the accepted method of reporting externally.

Underpinning the proposed activity based funding is the use of an efficient price for services. The business planning framework provides a useful tool in working through the objectives of efficiency and quality.

It is also important to note that if costs cannot be attributed to individual service or service families, there is likelihood for the cost of these services to be reported at an average level, which is not conducive to services being managed efficiently. For that reason where possible costs should be allocated to the relevant direct service cost centre.

7.5 Nurses’ role in budgeting
The DHHS requires all Area Health Services to implement devolved management systems for resource and activity management. Nurses in many areas are appointed as cost centre managers and as such need to:

- understand the budget for the service they provide
- have control of items charged against the budget for their service
- receive and review regular timely reports of actual expenditure versus budgeted expenditure
- be accountable for the financial results of those items that they control
- analyse and explain the reason for variances

7.6 Types of budgets
Global budget
A global budget is an allocation of a block sum of money to a department or organisation. The manager then allocates these funds in whichever way they decide is most appropriate.

Historical budget
A historical budget is based on the activities and expenditures of a previous year or years.
**Zero-based budget**
A zero-based budget is developed ‘from the ground’, based on the analysis and costing of each factor comprising the budget.

**Flexible (variable) budget**
A flexible budget is a budget adjusted according to differences in activity levels. Within this flexible budget however, it is only the variable and semi-variable (stepped) costs that will differ with changes in activity levels; fixed costs remain static. A flexible budget is usually prepared at the end of each accounting period once the level of service provided is known. It shows the expected costs for the given period of time. This may then be compared with the actual costs that occurred.

**Fixed budget**
A fixed budget assumes the level of activity is constant. For example, a ward is assumed to have an occupancy rate of 90% at all times over the budget period. Proportion of an annual fixed budget assists management as expected costs for a given level of service is known. This budget method is used by most services within the DHHS.

**Annual operating expenses budget**
An annual operating budget is the allocation of resources for a one-year timeframe. It is based on the forecast level of service demand and expenses. This type of budget can be prepared using a historical, zero-based, fixed or flexible approach. The operating expense budget consists of labour and non-labour costs. The business planning framework focuses only on the labour expenses for nursing.

### 7.7 Budget preparation pre-requisites
Preparing a budget is a formal process. The following pre-requisites will assist in ensuring an effective budget preparation:

- a supply of reliable data
- a list of budget assumptions
- a timeframe for preparing budget

This module has examined nursing costs, budgets, and the types of reports that will be analysed when managing nursing resources.
Module 4: Resource planning, allocation & management

1. Introduction
2. Objectives
3. Understanding the annual operating expense budget for nursing
4. Nurse staffing budget
5. Staffing requirements according to service needs
6. Strategies to address an imbalance of supply and demand
7. Monitoring the use of resources

1. Develop a Service Profile (Demand)
   - Aims
   - Objectives
   - Environmental analysis
   - SWOT analysis
   - Activity
   - Acuity/complexity
   - Other factors

2. Resource Planning, Allocation, and Management (Supply)
   - Service demand
   - Activity
   - Acuity/complexity
   - Other factors
   With:
   - Resource allocation (Supply)

3. Evaluate Performance
   - Routine monitoring of performance against the plan
   - Scorecard reporting
   - Analysis of the balance of demand for services/activity with resources allocated

Balance of Service Demand and Resource Allocation
1. Introduction

Resource allocation is the second stage of the business planning cycle. This module will provide an overview of how the unit budget is collated and organised; and explains where the staffing model is situated in the unit budget. The Nurse Manager should work in collaboration with the Business Manager on this module.

2. Objectives

On completion of this module, the Nurse Manager will be able to understand (in collaboration with the Business Manager):

1. the annual operating expense budget for the nursing service and nursing workload models;
2. the components of workload including skill-mix, on-costs and the relationship between service demand and resource allocation (supply); and
3. strategies used to address an imbalance between resource allocation (supply) and service demand.

3. Understanding the (nursing) annual operating expense budget

The (nursing) annual operating expense budget is the financial part of the business plan. It encompasses all labour expenditure (i.e. salaries and wages) for nursing staff, including productive costs (indirect and direct costs) and non-productive costs (annual leave, sick leave etc.). Understanding the annual operating expense budget provides a guide/framework for allocating and controlling nursing resources.

Understanding the budget required for each service can occur once the following activities have been undertaken:

- service analysis and profile completed;
- analysis of nursing hours per patient day (NHPPD) / unit of activity used in the past;
- analysis of patient activity, turnover and acuity data;
- levels of activity forecast; and
- consultation with staff providing the services. The staff who deliver the services have the professional judgment, knowledge and experience to advice on the level of resources required to deliver care.

3.1 Electronic calculation of the total nursing budget

3.1.1 The total nursing budget

A total nursing budget incorporates both productive and non-productive components. Module 3 introduced the types of staffing costs to be considered when developing the productive and non-productive components of the annual operating expense budget for nursing. This module outlines the key components of the total annual operating expense budget for nursing.
3.1.2 Productive nursing hours

Productive hours are those that contribute to patient care and include both direct clinical and indirect clinical hours.

- **Direct clinical hours**
  - Direct clinical hours relate to the activities nurses do that directly relate to care provided to the patient/client. Examples include planning and assessment of care, care for the patient/client, and documentation.

- **Indirect clinical hours**
  - Indirect clinical hours include nursing hours that are not available for patient care. Examples include work undertaken by the Nurse Unit Manager and Clinical Nurse Educator. Additional indirect hours are negotiated with management at site level and require a business case proposal.

- Total productive hours = Direct clinical hours + Indirect clinical hours

3.1.3 Non-productive nursing hours

Non-productive hours are those that are over and above the direct and non-direct hours described above. For example: personal leave and annual leave. Therefore, it is the total of the productive and non-productive components that are calculated and converted to the required dollars for the nursing budget.

3.2 Nursing Workload Models

3.2.1 The Nursing Hours Per Patient Day (NHPPD) Model

Within Tasmania, determining the direct nursing hours for inpatient areas is made by applying the NHPPD model. Nursing hours are determined by allocating a ward category with an associated NHPPD value over 24 hours from the NHPPD Guiding Principles.

The NHPPD category is determined by applying the criteria within the NHPPD Guiding Principles and professional judgement. Retrospective data relating to patient activity (ie: average daily occupancy, turnover percentage and percentage of emergency admissions) is obtained through the patient administration system.

The NHPPD category and associated nursing hours should be reviewed annually (or as required) if clinical judgement indicates a change in patient activity, turnover and consequently nursing workload. For further information regarding the application of the NHPPD model, please refer to the current *Nurses Enterprise Bargaining Agreement – NHPPD model Order by Consent, and Safe Staffing - User Manual.*

For areas where the NHPPD model does not apply, alternative methods to arrive at total productive hours can be used. The use of alternative methods must be approved through a joint DHHS/Union Committee (however titled). Some examples are:

1. Using historical payroll or electronic rostering information
2. Applying a base staffing model
3. Benchmarking with like services
4. Using a Clinical Information System
However, patient acuity and activity must be taken into account in all cases. In some specialty areas where a pre-determined nursing workload model is not applicable, consideration needs to be given to the measurement of agreed units of activity and acuity when determining the staffing model.

### 3.2.2 Historical payroll or electronic rostering information

When using historical data derived from payroll or electronic rostering information, it is important to recognise that this information does not differentiate between direct clinical and indirect clinical hours. Additionally, historical nursing hours may not accurately reflect current or future changes in the service. The calculation of total productive nursing hours (direct and indirect clinical) based on the amount of time (converted to hours) used to deliver services in the past only reflects the historical hours supplied. This approach combines direct and indirect clinical hours.

However, it is a starting point when there is little change in the service profile from one year to the next and if a valid and reliable clinical information system is unavailable. For all calculations it is preferable to use at least 12 months – 2 years retrospective data sourced from the Patient Administration System, Nursing Information System or through the Business Support Unit.

Units of activity include:
- occasions of service
- home visits
- procedures.

Average nursing hours per unit of activity for outpatient, ambulatory care and community care (e.g. Nursing Hours per Occasions of Service-NHPOS) see Glossary.

For outpatient, ambulatory, community and mental health (non-acute), nursing hours per patient or client activity can be calculated as follows:

\[
\text{Average hours per patient/client activity} = \frac{\text{Total no. of nursing hours worked} \times \text{in a specified period}}{\text{Total no. of patient/client activities} \times \text{in the corresponding period}}
\]

### 3.2.3 Base nursing staff model

Some nursing services may require a minimum number of nursing staff based on factors other than average hours per unit of activity, e.g. rural facilities.

**Example:** Base nursing staff model – rural facility

To ensure safe staffing for optimal patient care on night duty, a rural hospital or multipurpose health service will require a minimum of two nurses rostered for the night duty shift. This is despite the fact that nursing care hours calculated may indicate less nursing hours are required for the night shift.

### 3.2.4 Benchmarking against like services

Benchmarking is a quality improvement methodology that involves comparison of a range of performance indicators across like services/facilities, or internal comparison of previous with current performance. The average number of nursing hours per patient for particular case groups can be validated through the process of benchmarking.
When benchmarking average nursing hours, performance indicators and type of service provided need to be similar. For example, if the nursing hours for the inpatient orthopaedic service at one hospital were calculated using direct clinical hours only and the nursing hours for inpatient orthopaedic services at another hospital were calculated using both direct and indirect clinical hours, this comparison alone, would not be valid. Similar characteristics such as role delineation, casemix and activity should be taken into account when comparing benchmarks.

To effectively strengthen the validity of benchmarking, the service variances identified in the service profile need to be considered and added/subtracted from benchmarked nursing hours. For example, the nursing hours for Unit A is 4.4 hours, but support services of an administration officer, phlebotomist and allied health staff are available. If the nurses in Unit B are required to take on those additional duties; they will need 4.4 direct hours plus extra nursing hours as these duties then become nursing duties in order to accommodate the additional workload.

Similarly any impact from external influences on the unit/facility (such as minimum staffing levels, impact of technology or environmental design) needs to be factored into any benchmarked nursing hours. These would have been identified in the service profile.

3.2.5 Clinical Information Systems
Clinical Information Systems can provide data to indicate the nursing requirements (demand) during different shifts, for example, by day, evening or night shift. This information can assist with the allocation of nursing resources over the various shifts on each day.

When using Clinical Information Systems, the following must be considered:

- does the system calculate direct and indirect clinical hours as separate or combined components?
- when comparing hours per unit of activity, staff need to have a clear understanding of the inclusions and exclusions in the make-up of the hours per unit of activity
- hours per unit of activity generally refer to nursing hours only, but there can be exceptions
- ensure reliability testing is in place and the required accuracy levels are achieved. This means that the clinical information system information is valid and reliable.

In Australia other workload models are used and mandated within the State/Territory’s Industrial Agreement.

3.3 Nursing Workload Models design for areas where the NHPPD Guiding Principles do not apply:

In areas where the NHPPD model and guiding principles do not apply, an alternative model will need to be developed. The information within this resource manual will assist in this process. The development and implementation of an alternative model needs to be achieved following the two stages outlined below including:

- Model design
- Model application.
**Model Design**
Form specific ‘working party’ to include NUMs, CNEs, Clinical RNs, CNAH staff, Union Reps

- Conduct literature review / research
  - Current best practice guidelines

- Determine unit/ area/ sector throughput / usage/
  - patient care requirements

- Establish local conditions/ constraints for unit/ area/ sector

**Design/ Develop Model**

- Nursing and Midwifery Executive (NMEEx) committee for consultation and review

- Agreement by DHHS and Unions to trial Model

---

**Model Application**
Test/Trial model

- Evaluate model and its application to unit/area/sector

**Finalise model**

- NMEEx for consultation and review

- Agreement by Unions

- Senior Management Executive (SME) for consultation

- Apply in settings / establish nursing hours required
DHHS e-Staffing Tool

The e-Staffing Tool is an automated spread sheet that can be used in conjunction with the NHPPD User Manual. This will allow you to create a staffing unit profile that has the potential to be used with any nursing workload model to establish nurse staffing requirements. The e-Staffing Tool can also be used for prospective modelling for potential service changes.

3.4 Skill mix:
Each service needs to determine an appropriate skill mix/category of nurses. Once the total number of productive nursing hours required to deliver services has been determined, then consider how many total hours of care could be given by each category of nurse, that is, all levels of Registered and Enrolled Nurses. This mix of skills (and therefore category of nurses required) will be unique to each service and should be based on:

- careful analysis of the needs of the patients/clients being cared for
- the scope of practice of each category of nurse
- the outcomes required

The skill mix/category required for any particular service may differ by time of day, day of the week etc.

3.5 Full time equivalent:
Once the total productive nursing hours and skill mix/category required for your service has been determined, this needs to be converted to full-time equivalents for the purpose of:

- workforce planning
- recruitment decisions
- calculating the budget costs

A full-time equivalent (FTE) nurse works 38 hours per week which equals 1976 hours per year. To calculate the number of annual full-time equivalent direct care staff required, divide the number of annual required hours by 1976.

\[
\text{Number of direct FTE nurses required annually} = \frac{\text{Total direct annual nursing hours required}}{1976}
\]

To calculate the number of weekly full-time equivalent staff required, divide the number of required hours per week by 38.

\[
\text{Number of direct FTE nurses per week} = \frac{\text{Total direct nursing hours required per week}}{38}
\]

When a nurse works part-time, the full-time equivalency of their hours worked is calculated as follows:

\[
\text{Number of hours worked per week} = \frac{\text{FTE}}{38}
\]
Example: Converting productive hours into FTE

A nurse works 3 x 8 hour shifts (24 hours) per week.

24 hours divided by 38 hours = 0.63 FTE

Note: In calculating part-time hours, the FTE equivalent is based on the standard 38 hour week (see above). Therefore when a part-time staff member works in excess of 7 hours 36 minutes per shift (38 hours divided by 5), the extra time needs to be taken into account when calculating total FTEs hours.

3.6 Calculating Non-Productive Hours
Non-productive hours include all leave. While not used to calculate nursing hours per patient day or unit of activity, non-productive nursing hours will determine such strategies as recruitment of additional staff to cover service requirements when staff are on leave.

- To calculate the leave relief factor for shift-working FTEs:
  Total number of FTE cover required to supply direct nursing hours × 1.23
  = Direct FTE including leave relief
  (1.23 = 52 weeks per year ÷ 10 weeks leave)

- To calculate the leave relief factor for day-working FTEs:
  Total number of FTE cover required to supply indirect nursing hours × 1.18
  = Indirect FTE including leave relief
  (1.18 = 52 weeks per year ÷ 8 weeks leave)

3.7 Sick Leave
Each FTE accrues 152 hours sick leave per year. An analysis of sick leave trends and a process of benchmarking is part of business planning.

3.8 Orientation
Standard orientation consists of up to five (5) days for new staff, and up to ten (10) days for new graduates. This includes standard agency induction and the facility/health service based orientation. These hours are indirect nursing hours.

3.9 Continuous Professional Development
All nurses and midwives must meet the continuing professional development (CPD) standards in accordance with the Health Practitioner Regulation National Law (2010). It is the individual nurse or midwives responsibility to ensure they participate in 20 hours of CPD per year. The CPD must be directly relevant to the nurse or midwife’s context of practice. The allocation of time to undertake CPD within working hours is managed and negotiated at the local level.

3.10 Core Competencies
Full analysis of dedicated nursing time required to achieve annual competencies should be documented on the service profile. While there are core competencies to be met by all clinical staff, additional learning requirements may vary between clinical specialties, for example mental health, critical care services and nurse practitioners.
4. Nurse Staffing Budget

4.1 Converting FTEs into dollars
The nurse staffing budget is determined by calculating FTE and converting it into dollars. This is done in conjunction with the business manager; however the Nurse Unit Manager is responsible for monitoring their budget.

4.2 Cash flowing
Once the annual budget has been calculated, it is divided into months of the year to provide a basis for monitoring the budget. Cash flowing is the process of allocating dollars across defined time periods. When a budget is cash-flowed, important considerations are differences in the allocation of dollars according to each month of the year factors as activity levels e.g. winter bed demand, compulsory service closure for Christmas period etc.

5. Staffing allocation according to service needs

5.1 Allocating nursing hours to service requirements
The established nursing hours needs to be planned to meet the needs of the services focusing on achieving a balance between the supply of nursing resources and service demands. Variations in demand, particularly for activity, can differ according to:

- time of day
- day of the week
- seasons
- medical officer availability
- other reasons, for example significant events in rural areas such as shearing, etc.

Where there is substantial variation in demand, the allocation of nursing hours can be matched to this demand. This can be achieved by developing a staffing plan. The staffing plan needs to map out the variations in the number of nursing hours required to deliver services over the year. Examples of allocating nursing hours according to seasonal and daily demand follow:

**Example:** Seasonal demand (example only)

<table>
<thead>
<tr>
<th>Month</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Care Days</td>
<td>100</td>
<td>200</td>
<td>200</td>
<td>400</td>
<td>400</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>400</td>
<td>300</td>
<td>300</td>
<td>200</td>
<td>4000</td>
</tr>
<tr>
<td>%</td>
<td>2.5</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>12.5</td>
<td>12.5</td>
<td>12.5</td>
<td>10</td>
<td>7.5</td>
<td>7.5</td>
<td>5</td>
<td>100%</td>
</tr>
<tr>
<td>Req. NHPPD</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total hours required/month</td>
<td>400</td>
<td>800</td>
<td>800</td>
<td>2000</td>
<td>2000</td>
<td>2500</td>
<td>2500</td>
<td>2500</td>
<td>2000</td>
<td>1200</td>
<td>1200</td>
<td>800</td>
<td>18700</td>
</tr>
</tbody>
</table>

The months of April to September account for 67.5% of the activity (PCDs); January - March and October - December had 32.5% of the activity. The data also reveals a higher acuity for the 'winter' months. Assuming four hours per patient per day (rising to five nursing hours per patient day in the winter months) is required for this unit, then the total nursing hours required for each month is as per the bottom line of the table.

So the demand for nursing staff will be greater in the months of April through to September than for the other months due to both higher activity and higher acuity.
5.2 Manual observation
Close observation of workloads at various times of the day may provide a rough guide. When there is variability in the demand for nursing resources, matching the supply of staff exactly to the demand may be difficult; therefore, the staffing roster needs to represent the average staffing needs. Rostering fewer hours than required means that if demand is unexpectedly below the anticipated level then there is less chance of using resources that are not required.

5.3 Supplying the required nursing hours to variable demand
Workforce planning can be undertaken to plan strategies for known demands. Examples of strategies for supplying the required nursing hours include:

For seasonal/other longer-term fluctuations:
- **Recruitment**
  Where there is extended but temporary increased demand for services due to seasonal fluctuations. Additional staff could be employed to cover this period of time; however these resources must be managed within the established nursing budget.
- **Leave arrangements**
  The allocation of annual leave can be adjusted in accordance to demand. For example, when surgical services shut down over the Christmas/New Year period, staff other than those required to cover emergency services could be rostered on annual leave.

For weekly/daily fluctuations:
- **Rostering**
  Rostering is the method by which the nursing hours required to deliver services is allocated on a daily basis. Demand during the 24 hours of a day differs, and therefore the number of nursing hours allocated across the day will need to be tailored. Daily demand can be met by allocating different numbers of nurses to each shift, as well as varying the shift commencement and finish times, and using different lengths of shifts. See Rostering Guide for Safe Staffing: a Guide for Nurse Managers within the DHHS.

6. Strategies to address an imbalance of supply and demand
6.1 Where service demand is greater than the supply of resources
The environmental analysis identifies factors impacting on service demand. Whilst changes to any of these may reduce demand, the following strategies are suggested. Consider:
- nursing team to clearly identify capabilities with the available staff
- changing patient mix
- exploring improved support services
- improving bed utilisation/bed reductions
- exploring alternate funding sources
- prioritising clinical/work unit activity
- exploring opportunities for efficiencies
- changing the nursing skill mix
- modifying the role and function of the nursing staff
• reviewing indicators—patient/client, staff, quality.

6.2 Where supply of resources is greater than service demand
When an over-supply of resources has been identified, the following strategies could be considered:

• reduce nursing hours
• approve leave
• review flexibility of core roster
• review nursing practices
• re-allocation of staff to areas of higher demand
• increase services

There needs to be procedures/agreements in place for managing variances in expenditure and/or activity as they emerge.

6.3 Strategies for managing temporary long-term vacancies
One strategy which may increase efficiency is the establishment of a nursing pool. The purpose of a nursing pool is to provide appropriately skilled, permanent staff to backfill temporary vacancies. In turn this provides employment to additional nurses who then provide backfill for the requirements described. This strategy is not intended to provide backfill for annual leave which is built into the work unit establishment.

For further information, please refer to Rostering Guide for Safe Staffing: a Guide for Nurse Managers within the DHHS.
Module 5: Evaluate Performance

1. Introduction
2. Objectives
3. Measuring performance
4. Balanced scorecard
5. Frequency of measurement
6. Comparative analysis
7. Benchmarking
8. Conclusion

1. Develop a Service Profile (Demand)
   - Aims
   - Objectives
   - Environmental analysis
   - SWOT analysis
   - Activity
   - Acuity/complexity
   - Other factors

2. Resource Planning, Allocation, and Management (Supply)
   - Service demand
   - Activity
   - Acuity/complexity
   - Other factors
   - Resource allocation (Supply)

3. Evaluate Performance
   - Routine monitoring of performance against the plan
   - Scorecard reporting
   - Analysis of the balance of demand for services/activity with resources allocated

Balance of Service Demand and Resource Allocation
1. Introduction

Performance monitoring and measurement occurs at various levels across the DHHS. Monitoring performance aligns with the Tasmanian Government’s priorities and outcomes. The measurement of key performance indicators (KPIs) at area health service or facility level have been identified for a number of issues such as safety and quality, efficiency, activity, budget performance and staffing.

The indicators in the performance reports are used to inform the DHHS Executive Management Team, Patient Safety and Quality Committee and other relevant committees such as the morbidity/mortality committee.

Evaluating the performance of the service and aligning with key performance indicators will:
- determine the extent to which stated objectives are being achieved
- determine the effectiveness and efficiency of the allocation of resources
- highlight changes to the business plan that may be required
- Identify whether a balance between allocated resources (supply) and service demand has been achieved

This module provides a brief overview of measuring performance, benchmarking and comparative analysis.

2. Objectives

On completion of this module, the Nurse Manager will be able to:

1. Describe the importance of evaluating service performance.
2. Align service specific performance indicators with the strategic direction of the DHHS.

2.1 Monitoring the use of resources

Monitoring nursing hours, as well as expenditure, is essential as it is the productive hours per unit of activity that the nurse can manage. The number of nursing hours used can be recorded on a daily basis:
- manually
- electronically
- using a Clinical Information System

Monitoring

By monitoring the use of nursing resources, the effectiveness of the allocation of resources can be assessed. It is important to monitor the use of nursing resources both in nursing hours and by expenditure, in order to explain variances. For example, an increase in the cost of nursing services may be due to an increase in the number of nursing hours used (quantity variance), or an increase in the cost of the nursing hours (price variance)—see the section on ‘Variance Analysis’ (See Module 3).

Reviewing the information allows the early identification of variances. Some issues to be investigated when the nursing budget and actual expenditure do not match include:
- pay point differences for nursing staff
- leave taken is different to that budgeted
- different levels of staff have been substituted
- use of agency/casual nurses (higher hourly rate).

All the above elements will cause variances in costs when the actual number of nursing hours used is the same as was budgeted.

2.2 Dealing with variances

Unfavourable variances
Reasons for unfavourable variances may include increased activity and/or costs. It is important to determine whether the budget allocation is sufficient to meet the demand (for example, if demand was underestimated). Unfavourable variances may be actioned by any of the strategies listed in module 4, ‘Strategies to address an imbalance of supply and demand’.

Favourable variances
It is important to also investigate why favourable variances are occurring. Obvious reasons may be activity is less than predicted or efficiencies have been made. However, savings may also have been made by under-staffing, which may lead to a decrease in the quality of service.

NB: Consider timing differences when investigating variances eg: planned leave taken earlier than expected therefore skewing monthly variances.

3. Measuring performance
Measuring performance is the means of evaluating the overall effectiveness, efficiency and outcomes of the allocation of resources. It involves the evaluation of both financial and non-financial results.

In evaluating performance, actual results are compared with:
- planned indicators, measures and targets
- previous results
- the performance of other services, either internal or external to the organisation.

4. Scorecard reporting
A ‘scorecard’ is comprised of a range of indicators used to measure organisational performance, both financial and non-financial.

Developing a scorecard performance measure involves the following steps:
1. Identify service objectives
2. Consider measures for the objectives
3. Consider whether the set of measures will ensure a sufficient assessment of progress towards the achievement of these objectives (key performance indicators)
4. Develop reporting formats
By developing key performance indicators:

- adverse trends can be identified
- comparisons can be made within or with other organisations

The use of a scorecard and associated indicators will assist the business planning process by allowing the identification and collection of indicators relevant to the service.

Analysis of the performance of a service needs to focus on three principles underpinning business planning in this resource manual. These are:

1. Patient/client
2. Staff

And involve interpretation of patient activity, FTE and financial resources.

4.1 Performance indicators

Relevant indicators are developed to measure and analyse the performance of a service. These performance indicators are aligned with DHHS strategic direction. Examples of key indicators that could be monitored for each of the perspectives are:

**The patient/client**

- Complaints
- Satisfaction
- Incidents (includes falls, medication errors)
- Infection rates
- Waiting times
- Access
- Nurse Sensitive Clinical Indicators

**The staff**

- Absenteeism (including sick leave, workers’ compensation)
- Incidents
- Total hours worked (where staff are salaried)
- Re-deployment
- Turnover
- Education hours
- Satisfaction

**The organisation**

**Financial**

- Budget integrity
- Leave
- Workforce data
- Overtime
- Workers' compensation ($’s)
- Cost per unit of activity

**Process**

- Activity
- The extent to which service objectives have been achieved
- Hours per unit of activity
- The extent to which planned skill mix levels and recruitment strategies have been reached
- Level of non-clinical support
- Types of audit processes that are in place
- The levels of achievement of performance management
4.2 Data set
Each service needs to identify relevant performance indicators and align these with the DHHS strategic direction. The performance indicators should include service specific indicators, measures and targets. The measures developed need to be reliable and valid.

5. Frequency of measurement
The frequency of measurement and evaluation of the indicators developed will vary by indicator and by service. For example, trends in daily staffing need to be reviewed. It is suggested this be done at least every three months, or whenever significant changes occur impacting on the service delivery area.

Most indicators could be reported on a monthly basis, with the data aggregated into three, six or twelve monthly reports. The DHHS is required to report monthly on financial performance and quarterly on non-financial performance; however this is aggregated data from the area health services/facilities and is not nursing specific.

Hours per unit of activity can be reconciled with monthly activity and budget reports.

6. Comparative analysis
Comparisons of the current performance of your service may be made against previous performance or other services.

Internal comparison
Evaluation of the service may include comparing the performance of the specific service in the current month or year with the same service’s performance in previous months or years. This may indicate whether performance is improving or deteriorating. This is referred to as an intra-entity comparison.

Example
- Community health services may compare wait times and response times for clients awaiting service commencement, cost per unit of activity, wound infection rates for a transitional care service or occasions of community engagement for a period of time compared with another similar period of time.

External comparison
An external comparison involves comparison of the performance of a service with other similar services. In comparing your service with other services, particular attention should be paid to the internal and external environmental factors that impact on them. Differences in these environmental factors, such as the size of the service, need to be considered as they may affect resource requirements (for example, a smaller organisation such as a rural hospital may have higher fixed costs than a provincial hospital).

Examples
- Similar community health services may compare cost per unit of activity, wait times and response times for services or occasions of community engagement.
• Similar hospital wards may compare nursing hours, Patient Care Days for a specific patient type, length of stay for specific patient type or cost per Patient Care Day for a specific patient type.

7. Benchmarking
Benchmarking is a particular area of performance evaluation. The process of benchmarking examines the operation, processes and methods used to achieve best practice. It can be done internally within the organisation or externally with other organisations. When benchmarking, select other units/organisations with similar characteristics of:
  • role delineation / Clinical Services Capability (Framework);
  • Casemix; and
  • Activity.

In analysing the use of nursing resources, it is important that where there are differences in the benchmark results, the analysis of the differences need to be carefully considered.

The analysis should particularly focus on:
  • skill mix/category of nurses;
  • support services; and
  • team structure/numbers (other than nursing).

8. Conclusion
Module 5, Evaluating Performance, is the final stage of business planning. Having completed the five modules, it is expected that the Nurse Manager could develop a business plan that balances nursing human resource requirements (supply) with the demand placed on the local health service, and evaluate the performance of the nursing service.
Glossary of terms

**Casemix:** The mix of different types of patients treated in a specific health service

**Cost centre:** A unit or department in an organisation with a manager who has responsibility for costs

**Diagnosis-related groups (DRGs):** A system that categorises patients into specific groups based on their diagnosis and other characteristics

**Favourable variance (expenses):** A variance in which less was spent than anticipated

**Fixed costs:** Costs which do not change as volume changes

**Forecast:** A prediction of some future value, e.g. activity levels, acuity levels

**Full-Time Equivalent (FTE):** The equivalent of one full-time employee working for one year

**Nursing Hours Per Patient Day (NHPPD):** The average nursing hours per patient day for hospital inpatients

**Nursing Hours Per Occasions of Service (NHPOS):** The average nursing hours per unit of activity for ambulatory patients (e.g. ED, outpatients)

**Non-productive hours:** Paid, non-worked hours such as annual leave, sick leave etc.

**Objective:** An objective describes the expected outcome of an activity. It is usually stated in terms that enable the extent of achievement to be measured

**Patient Care Day:** the actual time that patients are present on the ward/unit, presented in decimalised days.

**Operating expenses:** The costs associated with the operations of the service

**Clinical Information System:** A system that is capable of classifying patients according to the intensity of nursing care needs and therefore indicates the amount of nursing hours required.

**Productive hours:** Hours worked and paid for

**Service:** May be a unit, number of units or organisation

**Staffing plan:** A document which identifies the numbers and categories of staff members required for patient/client care
**Trend:** A general tendency in any given direction, for example an upward trend

**Variable costs:** Costs which change with the level of activity

**Variance:** The difference between the expected and actual result

**Variance Analysis:** A comparison of actual results with expected results, and investigation into the reasons for the differences

**Year-to-date:** The sum of the values for all months from the beginning of the year to the current time
Bibliography and recommended reading

Awards and agreements

Nurses (Tasmanian Public Sector) Enterprise Agreement 2007

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**Articles**


**Books**


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