

Building Better Work



**Measuring what gets done: a task
analysis approach for the health sector**

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The purpose of this document is to provide an overview of applications of the Building Better Work approach to current agendas within health workforce reform and development. It includes information about a purpose-built tracking tool with work impact options and the process of a methodology that measures work activities to generate solutions to perceived impediments to effective work.

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The data and analysis used as examples in this document are not intended to represent work actually performed within any hospital unit nor does it represent work actually performed by any occupational group.

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What is the *Building Better Work* approach?

The *Building Better Work* approach is a task centred approach for examining work. It is an action research methodology that draws on sophisticated task taxonomy to describe and measure actual work performed by an individual, a profession, a team or a service. The approach stems from a Functional Job Analysis framework¹, and was established to examine the work of doctors in public hospitals in South Australia. The approach:

- Provides a clear picture of the kinds of tasks and activities that constitute the workload of individuals in the units being studied
- Identifies barriers to achieving a high standard of outcomes for all patients in the units being studied
- Captures ideas for improving the way that work of individuals is organised in the units being studied with a view to better outcomes for patients and increased job satisfaction for those workers
- Is tailored to individual units to capture specific dynamics between core tasks and people, data and things that may impact on effective workflow

The approach is a package comprised of three principal components:

- Pre and post tracking questionnaires
- Tracking of workers by trained analysts, and
- Feedback sessions designed to facilitate capture of potential solutions and innovative developments that will achieve better work organisation for departments and individuals.

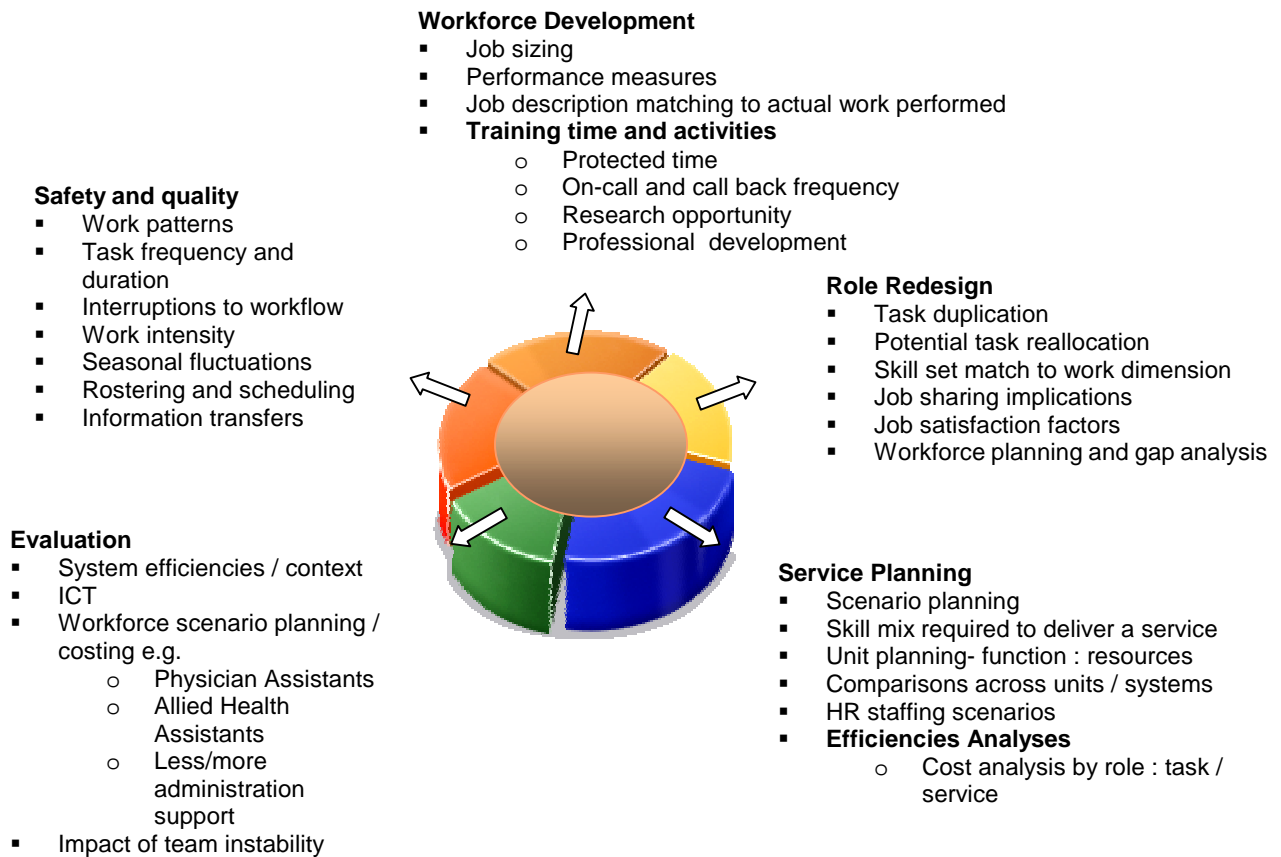
The approach has been designed with cost in mind – a purpose-designed electronic tool has been developed that captures precise data about work activities. The technology is low cost and the software used is underpinned by commonly available software. The cost of training job analysts to use the tool is relatively small. High levels of competence are generally achieved after 8 hours of training and 2 hours of on-the-job experience.

For additional details regarding the methodology see Appendix I.

¹ Fine, Sidney A and Cronshaw, Steven F *Functional Job Analysis: A Foundation for Human Resources Management*, Lawrence Erlbaum Associates, Publishers, Mahwah, New Jersey 1999

What are the benefits of the *Building Better Work* task-centred approach?

The process captures data and generates information that informs individuals, teams and management about their work. This information has a number of uses as illustrated in the following diagram:



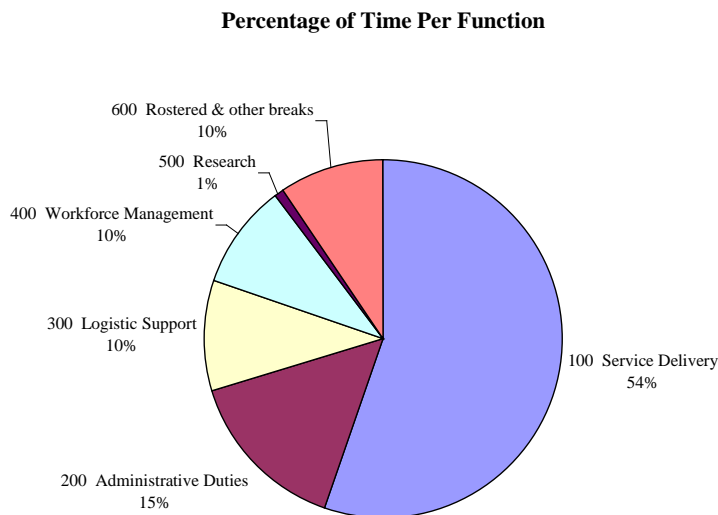
This is a powerful approach to investigate workforce issues. Some examples of results are provided.

Some examples of results that can be obtained using the *Building Better Work* approach

The simplest analysis is based upon single variables from the data². Typically, this might relate to an analysis of actual work performed to inform individuals and management for a range of purposes including:

- measuring how much work is directly related to patient care
- finding out what other activities support direct patient care
- finding out what activities (or situations) are impediments to direct patient care
- finding out what activities disrupt work and create intensity or complexity for the worker and
- measuring impacts of teaching and research on service delivery in a tertiary environment (public teaching hospital).

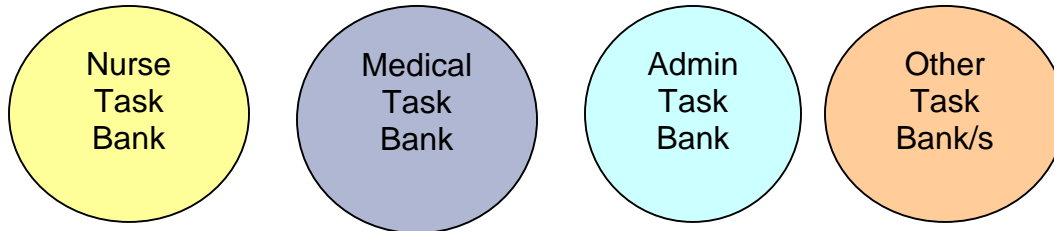
For example, the percentage of time devoted to particular functions within a unit can be presented as:



² Data refers to the raw observations and the variables created prior to analysis. See page 9 for more details.

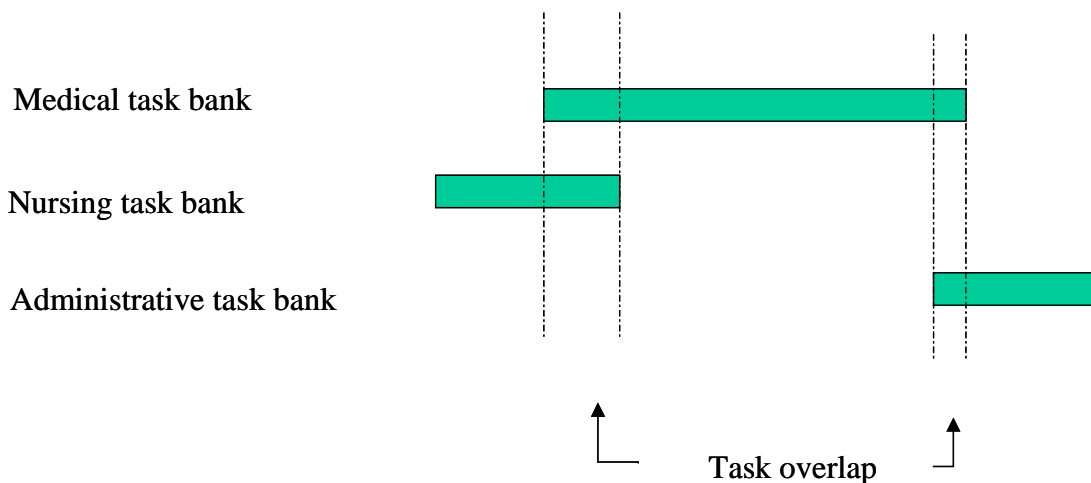
Task overlap and role redesign

The *Building Better Work* process generates task banks, that is, sets of activities that are performed by particular roles within particular units and across units.



The aggregation of the task banks provides insight into the tasks that constitute the service being delivered by the unit.

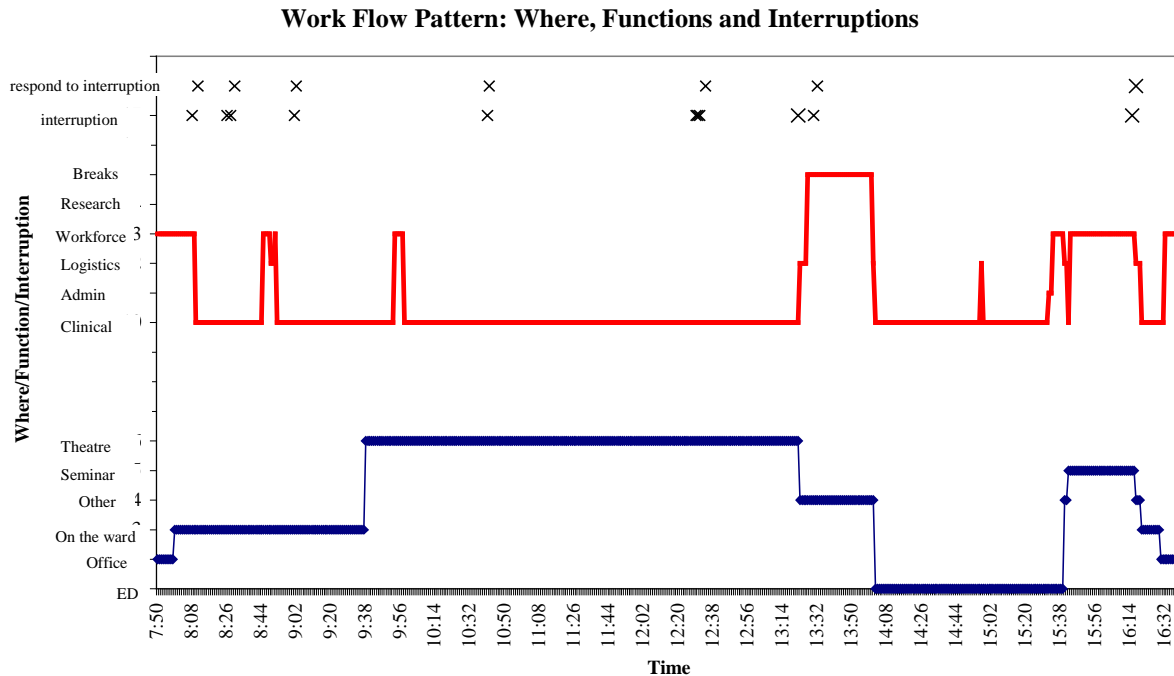
Examination of duplication involves understanding the work dimension of each task as it is performed by each role or person. Work dimension takes into account the purpose of the task being performed, required levels of cognition, training and decision-making to perform the task, and consequence of error. Task overlap analysis is illustrated in the following diagram.



Reorganising tasks by allocating to alternative roles, removing duplication, or creating new roles to perform specific tasks may result from task overlap analysis.

Workflow

More complex analysis renders information in relation to time, place, tasks and factors impacting on efficient service delivery (for example, interruptions). This is illustrated in the following diagram. The diagram shows where activities occur, what functions are being performed and what interruptions are disrupting work-flow for a doctor during a sample day.

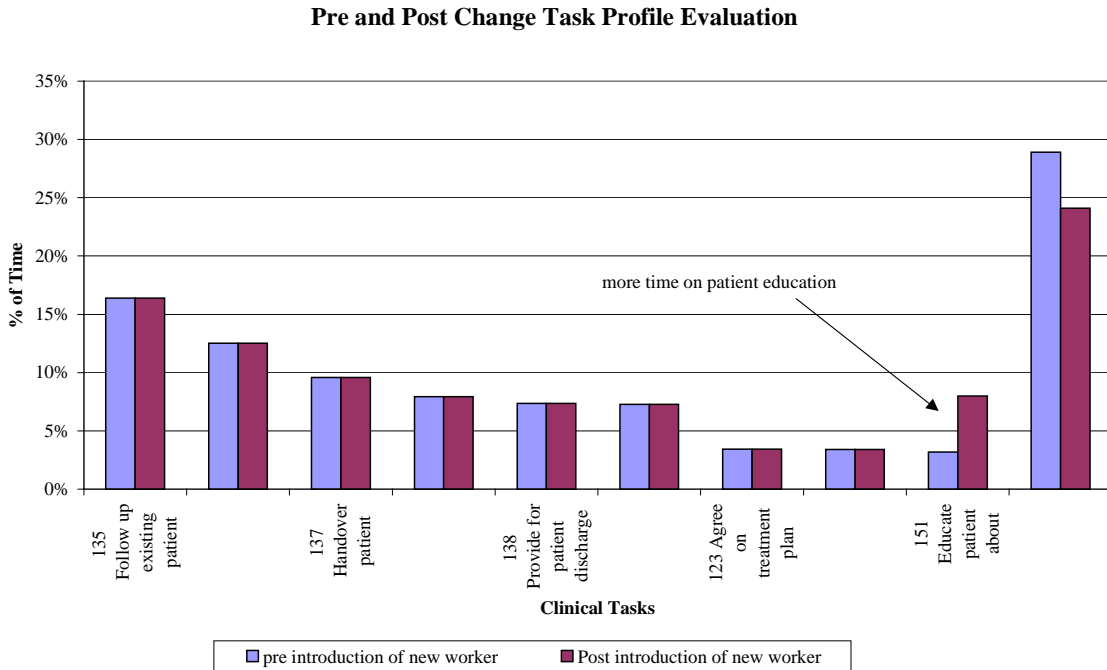


Service Planning and Evaluation

Scenario planning is possible from perspectives of economics, skill sets availability and service requirements. For example, the time spent taking blood tests by different professional workers (say, doctors and nurses) can be analysed. Assuming there is no need for both types of workers to be involved in doing this particular activity the effect of implementing a practice requirement that only one of these categories of workers (say nurses) can be assessed in terms of:

- looking at how much additional time doctors will gain that can be spent doing other work
- looking at how much additional time nurses will be required to spend taking blood tests and what this might mean in terms of increasing pressure on existing work patterns, and
- the cost efficiencies that might be achieved.

The impact of new roles on other team members and overall unit efficiency can be measured by comparing tracking data captured prior to role redesign with tracking data captured with the new role/s in place. For example, a worker's clinical task profile was established prior to the introduction of a new worker role in the unit in which they worked (say a physician assistant). Following the change, the same worker was found to be able to devote more time to patient education, as seen in the following diagram.



Precipitating Change

The action research/action learning process engages the subjects of the task analysis in solving problems to inefficiencies in the work place. Participants contribute to solutions setting the scene for improvement strategies that may be directed by management.

Reporting

Quality and integrity

Quality analysis relies upon quality data. The purpose-built electronic data tool ensures the capture of clean data in one step.

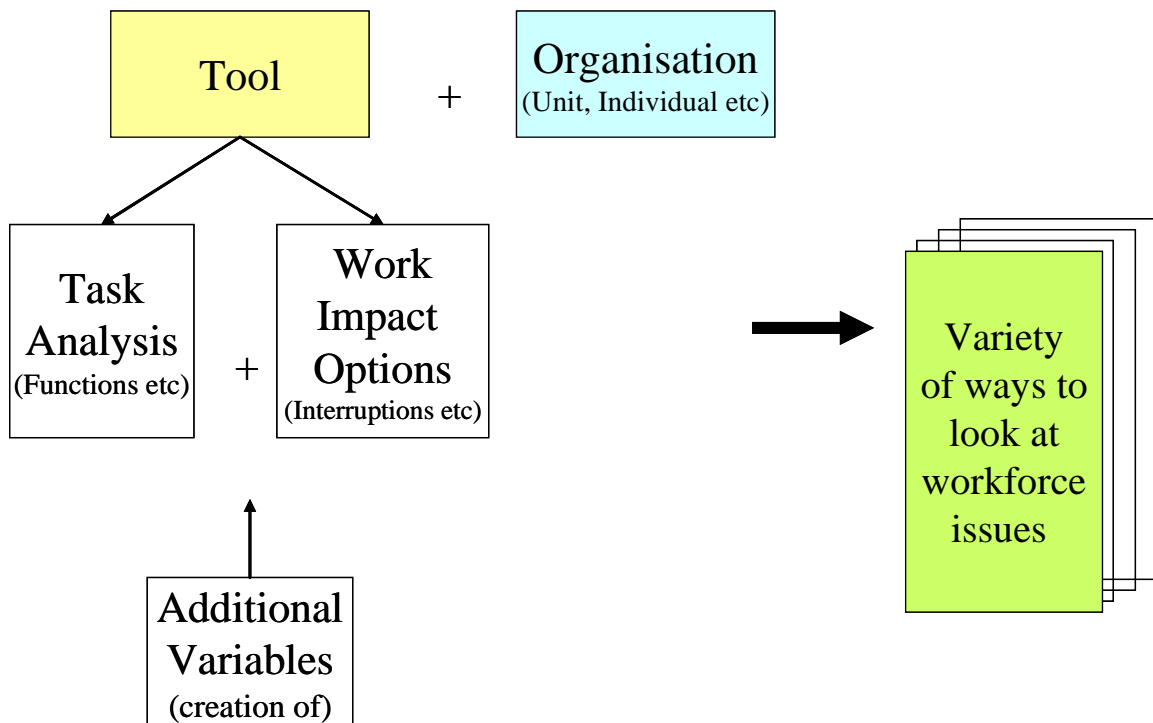
Additional quality assurance analysis has been designed to ensure that data quality and integrity remain a key focus.

Data analysis

The *Building Better Work* process provides answers to a range of questions posed about health workforce structure, safety and quality and work conditions through a regime of analysis contingent on both the task taxonomy and the purpose specified work impact options.

Data analysis is enhanced through the incorporation of additional variables that enable the extraction of the maximum value from the raw data.

The combination of organisational qualitative and quantitative data and task analysis data provides a variety of ways of looking at workforce issues, as shown in the following diagram.



The ability to combine different aspects of the task analysis data, work impact option data, and organisational data enables tailoring of output to suit the specific needs of the user.

Analysis occurs using the following stepped process:

1. Checking quality and integrity of data
2. Individual role/person analysis
 - a. By taxonomy
 - b. By taxonomy and work impact options
3. Role/unit/department analysis
 - a. By taxonomy
 - b. By taxonomy and work impact options
4. Scenario planning based on observed data and generated solutions from questionnaires and focus groups

The approach facilitates analysis of simple issues through to extremely complex issues.

The table below provides examples of questions for which answers may be generated.

Analysis process	Data Quality and Integrity	Task Analysis	Work impact options	Examples
1	X			<ul style="list-style-type: none"> ▪ Was the planned number of data captured? ▪ Is there missing data? ▪ Is the performance of job analysts consistent? ▪ Has industrial action during period of tracking impacted on tracking results?
2a		X		<ul style="list-style-type: none"> ▪ What proportion of time is spent on direct patient care? ▪ What is the duration of tasks? ▪ What proportion of administrative tasks do not relate to direct patient care? ▪ How much training time is being achieved – including both accredited training and opportunistic training?
2b		X	X	<ul style="list-style-type: none"> ▪ Do interruptions occur during a particular activity block? ▪ How much 'waste' is there in waiting for test results prior to admission? ▪ What is the cost of "waste"?

(cont.)

Analysis process	Data Quality and Integrity	Task Analysis	Work impact options	Examples
3a		X		<ul style="list-style-type: none">▪ What are the major clinical tasks performed within the unit?▪ What tasks or activities are not performed to standard within the time allocated in which to perform them?▪ What proportion of time is about mandatory OH&S training (e.g. fire safety, safe lifting)?▪ How much time is demanded of Consultants for training younger doctors during normal work routines?
3b		X	X	<ul style="list-style-type: none">▪ What are the main impediments to workflow within the unit?▪ What impact does the need for accessing computers during ward rounds have on numbers of patients seen during ward rounds?▪ How frequently do tasks or focus change within a given period?
4		X	X	<ul style="list-style-type: none">▪ What will be the cost benefit of reallocating additional administrative tasks to other roles?▪ What skills sets are required to deliver the service and what are the role options to consider when determining staffing allocations?▪ How might work be reorganised so as to attract and retain highly skilled professionals, and what impact might the change have on other workers?▪ What solutions to identified impediments to effective work are likely to be supported by staff?▪ What innovations from staff may improve attraction and retention for employees?

Want to learn more?

To discuss how this approach may help you explore your workforce issues or for further information about task analysis and the tools mentioned in this document contact:

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Understanding the components of the *Building Better Work* action research process

The *Building Better Work* methodology is comprised of:

- Pre-tracking questionnaire;
- Task tracking tool (see Appendix 2);
- Post tracking questionnaire;
- Work Context questionnaire;
- Evaluation;
- Feedback and review session (including generation of solutions to identified issues).

The *Building Better Work* Task Tracking Tool tracks individuals by one minute intervals and records:

- Function (service delivery, administration, logistics, workforce development, research, breaks);
- Sub-function (e.g. patient assessment, preventative healthcare, medical management);
- Output (to 2 levels – e.g. waiting for patient, responding to GP referral, preparing discharge report);
- Work dimension (e.g. task complexity drawing on knowledge, skills, training, adaptive skills and aligned to role accountability and consequence of error);
- Patient Status (e.g. new patient);
- Activity Block (where the task/activity occurs);
- Interruptions (e.g. pager, people, frequency);
- Optional variables (e.g. computer interface).

The tracking tool is comprised of a rigid task taxonomy and a series of flexible 'work impact options' that can be tailored to suit individual professions, unit or project needs. The tracking tool is complemented with face-to-face discussions, questionnaires and open feedback sessions.

Task Taxonomy and Work Impact Options

The following is a brief outline of the TASK TAXONOMY that underpins the *Building Better Work* tracking tool for acute care settings. The comprehensive task taxonomy breaks sub-functions down into more than 120 outputs.

FUNCTIONS

CLINICAL SERVICE

SUBFUNCTIONS

Pre-patient Intervention
 Patient Assessment and Monitoring
 Patient Treatment
 Patient Coordination
 Preventative Healthcare
 Patient Education
 Medication Management
 Co-ordination of Patient Care
 Assist with activities of daily living

ADMINISTRATIVE DUTIES

Patient Records and document control
 Exchanging Information/Meetings
 Administrative Support
 Unit management
 Corporate Marketing
 Legal matters

300 LOGISTIC SUPPORT

Clinical Set-up /Maintenance
 Supply Maintenance
 Maintaining Equipment
 Downtime due to travel or waiting
 Hospitality services

400 WORKFORCE DEVELOPMENT

Training/Supervising
 Mandatory training
 Continuing Medical Education
 Performance Management & counselling
 Recruitment
 OHS&W

500 RESEARCH

Planning
 Research activities
 Reporting and publishing

600 BREAKS

Breaks

Work Impact Options

The work impact options are separate to the taxonomy and relate to various factors that are important to understanding the context of the work being performed. These can be varied according to the purposes of the investigation being performed. They may include but are not limited to:

- where work occurs (e.g. outpatients or emergency)
- routines (e.g. ward rounds)
- interruptions to workflow (e.g. is the interruption by a pager, a person, a phone or something else?)
- is the work or interruption necessary
- patients seen, and
- access to computers or facilities/equipment (e.g. does this activity require a computer or specialised equipment?).