



# **HEALTH ACTIVITY HIERARCHY VER 1.1**

## **ISSUES PAPER**

**NATIONAL ALLIED HEALTH SERVICE  
WEIGHTS PROJECT**

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**2002**

Prepared for: National Allied Health Service Weights Project Steering Committee

## 1. Project Relevance and Background

The primary objective of the allied health service weights project is to produce **robust** composite and (where sufficient data available) discipline-specific service weights for allied health in the acute public hospital setting.

The allied health service weight is dependent on consistent high quality *patient-level* time-based activity data.

Allied health clinicians (in particular in the acute setting) have been collecting *patient-level* activity data for some years. However, the quality and consistency of this data has not been examined in a national project before.

An important outcome of the allied health service weights project is to achieve a standardised approach in allied health activity reporting across participating hospitals. This would ensure that the aggregated patient-level allied health costs were based on robust clearly defined time-based activity data using consistent costing methodology.

The Health Activity Hierarchy ver 1.1 provided the allied health service weights project with a validated activity-reporting tool that would enable the standardisation of allied health time-based activity reporting across all participating sites. (Details re: the use of the HAH ver 1.1 in this project is summarised in the Interim report pp.29-34).

This tool was previously validated by the NAHBC and adopted and endorsed by NAHCC as the Australian standard for describing the range of allied health activities undertaken by allied health professions in any health care setting. The NAHBC developed an audit tool that has been extensively used to assess clinician's compliance with the HAH ver 1.1 in the benchmarking hospitals.

The project steering committee sought permission from the NAHBC to use this audit tool in the service weights project and permission was granted in January 2002.

The implementation and auditing of the HAH ver 1.1 was subsequently written into the project plan and project deliverables.

## 2. Allied Health Data Elements

The project steering committee deliberated for some months on the extent of allied health activity data that should be requested from participating hospitals. It was acknowledged that the time-based IPA data was essential for the production of service weights. The project steering committee considered collecting intervention data (ICD-10-AM version 3) early in the project however, a decision was made to not pursue this additional data as there was little consistency in its collection and it would not add value to the service weights at this stage. Another important factor was extensive non-essential data collection would cause fatigue and would negatively impact on clinician compliance (refer to page 16 in the Interim Report).

The steering group decided on the minimum allied health activity data elements that were as follows (refer also to page 17 in the Interim Report):

- Time-based (in minutes) service data at the individual patient level;
- Time-based activity data, in the HAH ver 1.1 categories, including IPA, NIPA, CSM, T&T and Research
- Workforce data;
- Student data.

Although the time-based IPA data was the key activity statistic required for the production of service weights the steering group considered that an examination of time-based activity data in all the HAH activity categories (IPA, NIPA, CSM, T&T and Res) would be important to enable identification of the Teaching and Training and Research time in each participating department.

In order to be consistent with the NHCDC costing methodology the Teaching and Training and Research costs had to be removed or 'backed-out' of the service weights (refer to extract below from page 35 in the Interim Report).

An important role of the SW project is to standardise allied health activity reporting and allied health costing and the project team has identified State-based and hospital-specific differences in the way that Teaching and Training and Research costs are treated.

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### **Student Activity Data Reporting (extracted from Interim Report p. 35)**

As previously described in section 4.5.5 teaching and training costs are not uniformly defined as part of the operational costs in a hospital setting. According to the NHCDC definitions and costing rules Teaching and Training and Research costs should be 'backed-out' of the costing before the production of service weights (NHCDC Reference Manual, 2000).

There is currently a wide variation in how Teaching and Training are costed in the participating hospitals. In order to standardise the costing approach in this study the project team have asked each participating hospital allied health department to:

- i) standardise the way in which allied health students report activity in-line with the HAHG ver 1.1; and
- ii) provide information to the project team on allied health student activity in the form of IPA time-based data (refer to Appendix 1).

Student IPA time-based data will not be differentiated from allied health clinician IPA time-based data in this project (refer to Allied Health Service Weights Project Costing Guidelines in Appendix 5).

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## **3. Implementation and Evaluation of the Health Activity Hierarchy ver 1.1**

### **3.1 Overview (extracted from Interim Report pp. 31)**

The HAH ver 1.1 activity reporting system was implemented in all participating allied health departments.

The project team conducted training workshops with clinicians in participating hospitals that included the following elements:

- Project background and rationale;

- Discussion on importance of collecting activity data;
- Definition of service weights and other key costing terms;
- Description of potential uses of service weights;
- An overview of the National Hospital Cost Data Collection;
- An overview of the project methodology;
- An intensive HAH ver 1.1 data workshop involving discussion and ‘live’ coding of scenarios;
- Brief description of data collection process and data submission deadlines.

Following the training workshops (usually 1-2 months after the training was complete) the participating hospitals were asked to undertake an audit of the HAH ver 1.1 with a sample of clinicians.

The electronic audit methodology is described in the Interim report on page 31.

Briefly, participating allied health departments were asked to volunteer three clinicians to undertake the audit; namely a clinician manager, a senior clinician and a junior clinician. Clinicians were then asked to complete the audit on-line and send the results to the project team. The electronic audit tool was set up to automatically score the clinician responses. The results received by the project team showed the proportion of correct responses by each clinician for each individual scenario. Some hospital department sent aggregated results that did not indicate results for each scenario and only provided total results out of the total number of 48 scenarios.

At this stage we have results for 29 out of the total 31 hospitals for the HAH ver 1.1 audit. The 2 remaining hospitals have indicated that their audit is complete and they are in the process of forwarding their results.

### **3.2 Health Activity Hierarchy ver 1.1 Audit Results**

#### **Audit Results for Complete (48 scenario) HAH ver 1.1 Audit Tool:**

The results for the HAH ver 1.1 audit overall scores are shown in Figure 1. There were 274 clinicians that submitted results to the project team and as shown 39% achieved the benchmark of 80% or greater correctly assigned scenarios.

The bar chart in Figure 1 has been produced from HAH audit scores returned (electronically) to the project team. It is not possible, from this quantitative data, to determine reasons behind the incorrect scoring of HAH audit scenarios.

#### **Common Errors in Activity Assignment in ‘other than’ IPA scenarios**

Tables 2-5 illustrate the responses of clinicians (by discipline) for the NIPA, CSM, T&T and Res scenarios in the HAH ver 1.1 audit for one of the participating hospitals. The data for other hospitals shows similar trends. The correct responses are coloured and the incorrect responses are shown without a coloured background. As shown in Table 2 the CSM scenarios that were scored very poorly include the following:

- Scenario 4: Clinician works on a clinical pathway with nurses and doctors on the orthopaedic ward (20% correctly assigned – common error NIPA instead of CSM);
- Scenario 21: Workload planning for the day (treatments +meetings+professional development session) (53% correctly assigned – common error NIPA instead of CSM);
- Scenario 23: Time spent with a work experience student explaining hospital practice related to a discipline (20% correctly assigned – common error T&T instead of CSM);
- Scenario 38: Meeting to discuss how to manage ‘did not attend’ problem in physio outpatients (47% correctly assigned – common error NIPA instead of CSM);

- Scenario 41: Audit the process &/or outcomes for a group of clients (47% correctly assigned – common error NIPA instead of CSM);
- Scenario 42: Team planning to write a submission for a new service for stroke patients at home (33% correctly assigned – common error NIPA instead of CSM);
- Scenario 44: Contact a community service for info about their services and referral procedures (40% correctly assigned – common error NIPA instead of CSM).

As shown in Table 3 the NIPA scenarios that were scored very poorly include:

- Scenario 37: Piloting the application of a new technique, product or tool in a clinical area (47% correctly assigned – common error CSM instead of NIPA);
- Scenario 40: Development of content and process of a health promotion strategy (once approved) (33% correctly assigned – common error CSM instead of NIPA).

As shown in Table 4 the Teaching and Training Scenarios that were scored very poorly include: Scenario 48: Clinician discusses specific patient with student, but patient not present (i.e. UR related) (33% correctly assigned – common error IPA instead of NIPA).

Table 5 shows the results for the research scenarios that were scored very well (87% correctly assigned) by all clinicians in this hospital.

In a preliminary ‘focus- group’ exercise with the Bendigo Healthcare Group the project team ascertained reasons why particular HAH audit scenarios were being inappropriately coded and some of the reasons raised included:

- Some scenarios were ambiguous;
- More information was required to determine whether some scenarios were a quality activity (CSM) or a research activity;
- Some scenarios were not relevant to the practice of clinicians in a rural setting;
- Coding of IPA or NIPA for case conferences or ward rounds was a site (hospital) – specific policy decision and should not negatively impact on the performance of clinicians on the audit tool.

The clinicians at this site also commented that they would not make an error in coding an activity in a normal work setting as they would have all the relevant data in front of them.

The focus group activity that was undertaken with the Bendigo Healthcare group was very useful as the project team were able to determine the reasons why errors (intentional or non-intentional) were made with the HAH ver 1.1 audit.

### **Audit Results for IPA Scenarios (21 scenarios) in the HAH ver 1.1 Audit Tool**

The results for the HAH ver 1.1 audit IPA scores are shown in Figure 2. There were 190 clinicians that submitted results to the project team and as shown 73% achieved the benchmark of 80% or greater correctly assigned IPA scenarios. This is a very encouraging result as patient attributable activities encompass the majority of activities undertaken by allied health clinicians (approximately 80% of department activity) and the IPA time-based data forms the basis of the service weights development.

### **Common Errors in Activity Assignment in IPA scenarios**

Table 1 illustrates the responses of clinicians (by discipline) for the IPA scenarios in the HAH ver 1.1 audit for one of the participating hospitals. As shown there were only 4 IPA scenarios out of a total of 23 that were scored poorly and these include:

- Scenario 12b: Clinician discusses management of an individual patient with another clinician to problem solve – clinician 2 (20% correctly assigned – common error CSM instead of IPA);
- Scenario 16: Group where 20 clients / carers seen together in group for 1 hour eg. Antenatal, cardiac rehab. (URs known) (20% correctly assigned – common error NIPA instead of IPA);
- Scenario 45a: Supervisor and clinician discuss a literature review relevant to a specific patient – supervisor (0% correctly assigned – common error CSM or T&T instead of IPA);
- Scenario 45b: Supervisor and clinician discuss a literature review relevant to a specific patient – clinician (73% correctly assigned – common error CSM instead of IPA).

### **3.3 Proposed Strategy:**

From the quantitative data received to date from the HAH ver 1.1 audit the project team is able to provide information on the number of correctly assigned scenarios and what errors were made in the assignment of HAH ver 1.1 codes to the scenarios.

However, a qualitative research methodology such as a focus group would enable the project team to explore the reasoning behind why clinicians would assign particular codes to the audit scenarios.

The HAH ver 1.1 audit tool has been previously validated by the NAHBC within the Benchmarking Hospitals. The project team would like to explore the validation techniques employed by the NAHBC and examine the feasibility of repeating this validation exercise within this project.

**Action:** A brief report on the validation of the HAH ver 1.1 by the NAHBC will be circulated to the steering committee prior to our next meeting.

### **HAH Validation Proposals for Consideration by the AH Service Weights Steering Committee:**

The project team would like to steering committee to consider the following proposals regarding validation of the HAH audit tool in this project (for discussion at the next meeting).

1. Examination of the HAH ver 1.1 validation methodology employed by the NAHBC and repeating validation in sample of hospitals;
2. Selection of hospitals (2-3) from participating hospital sample and conduct of focus group discussions with clinicians to ascertain clinician understanding of scenarios;
3. Selection of hospitals (2-3) outside participating hospital sample and conduct of focus group discussions with clinicians to ascertain clinician understanding of scenarios;
4. Dissemination of HAH ver 1.1 audit scenarios to larger group of clinicians (national sample across range of hospital types) and seek feedback from clinicians on alternate / potentially less ambiguous descriptions of scenarios;
5. Consider a different audit tool for this project that focuses on IPA scenarios.

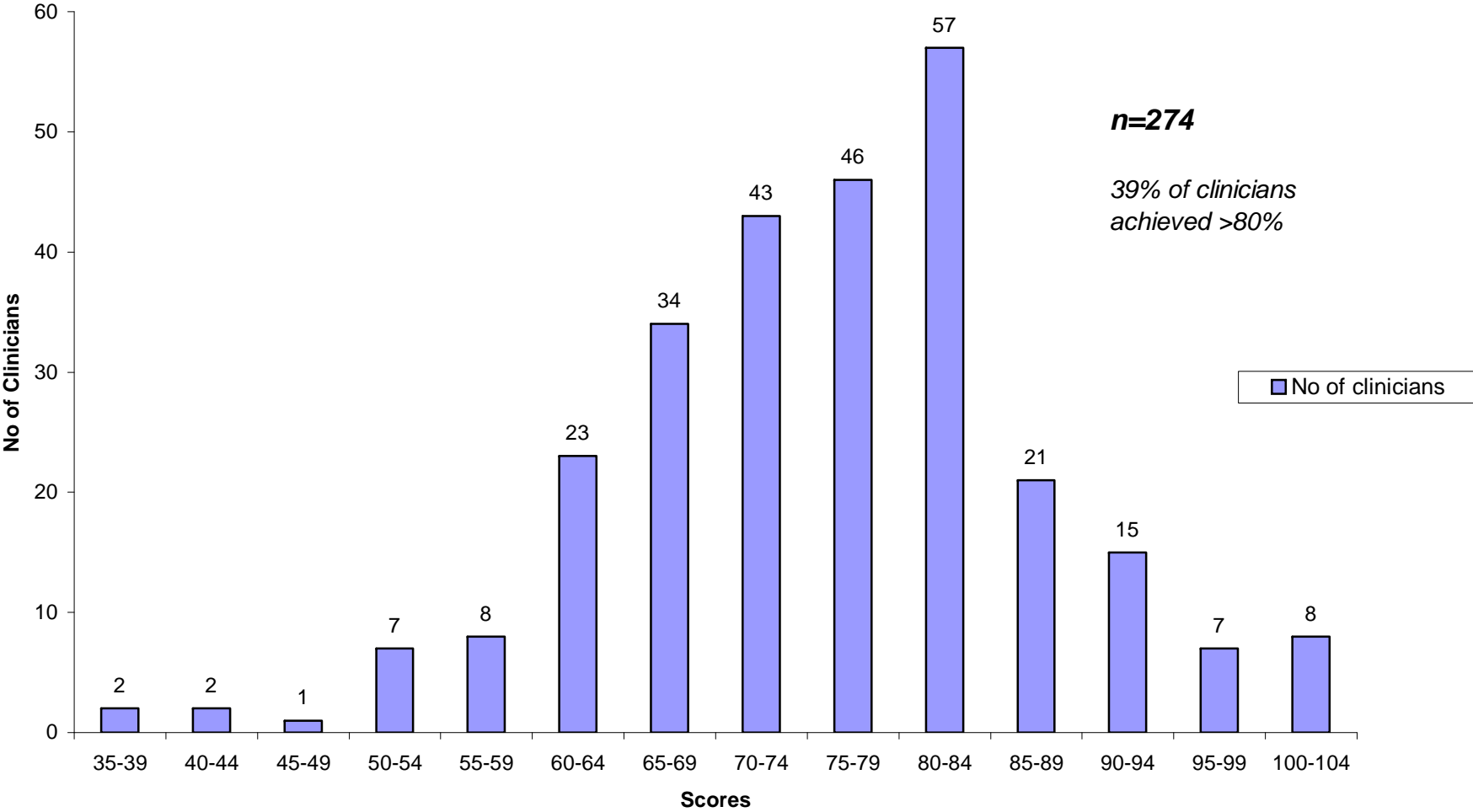
### **Implications:**

In considering the above proposals for further validation of the HAH ver 1.1 audit tool the project team would like to steering committee to consider the following implications:

1. The HAH ver 1.1 has been jointly developed by the NAHBC and NAHCC and endorsed by NAHCC. What steps should be taken to seek permission from these peak bodies to re-validate and alter (as needed) the audit tool?

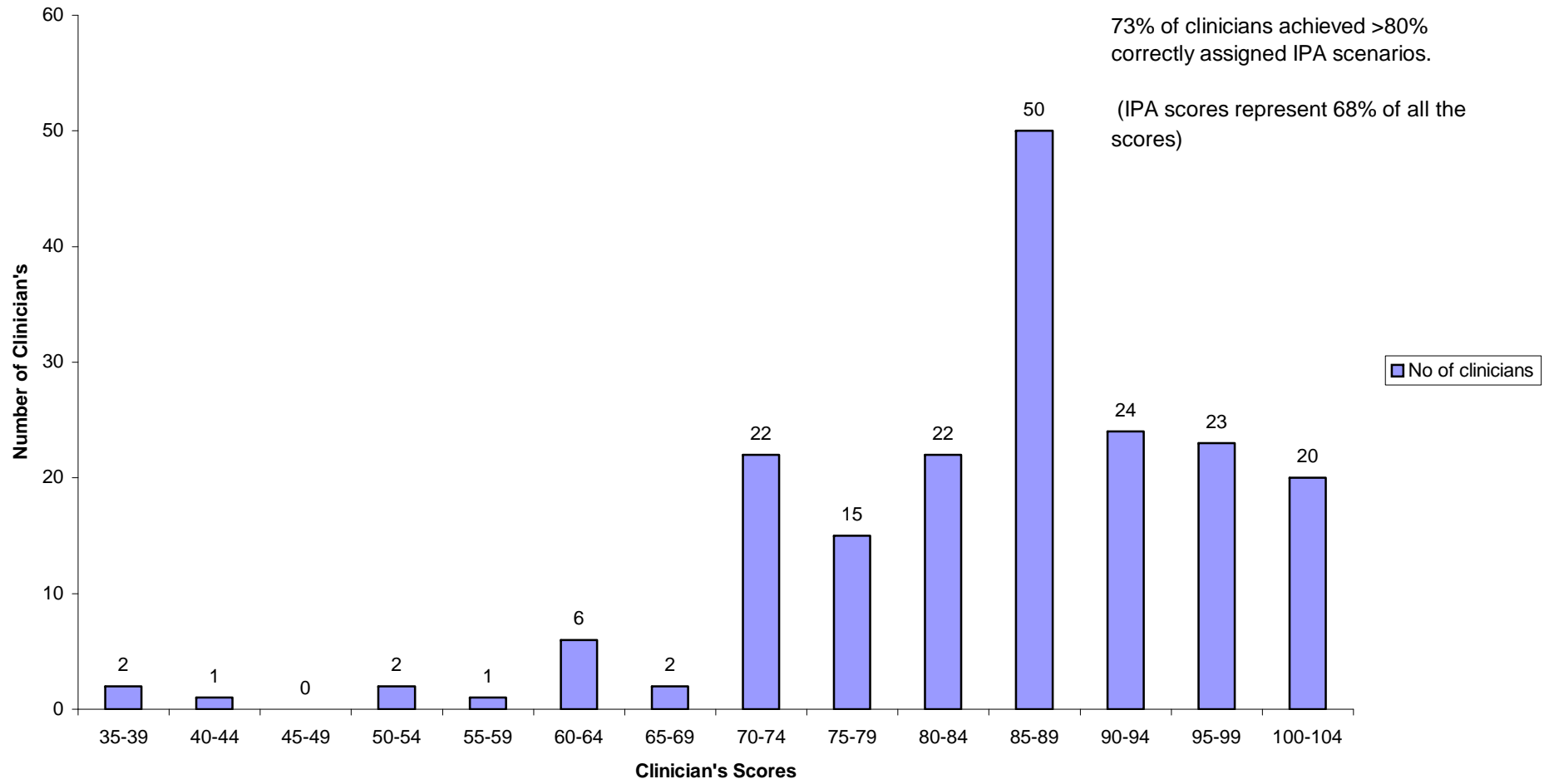
2. The HAH ver 1.1 is now widely disseminated and clinicians in participating hospitals have been trained using this activity reporting tool. What resource implications are there for re-educating clinicians if the tool is modified significantly following validation in this project?
3. If a new audit tool is implemented how does this affect the 6 months of data already collected by participating sites?

Figure 1: HAH ver 1.1 Audit Overall Scores (as at 091202)





**Figure 2: Clinician's IPA Scores (latest summary 091202)  $n=190$**



**Table 1: Sample Results from Hospital X for IPA Scenarios**

1	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
2	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
3	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
6	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
7	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
8	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
10a	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
10b	IPA	CSM	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	T & T	IPA	
11	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
12a	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	NIPA	CSM	IPA	IPA	IPA	
12b	IPA	CSM	IPA	CSM	CSM	CSM	CSM	CSM	NIPA	IPA	NIPA	CSM	CSM	CSM	TT
13a	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
14b	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
16	NIPA	IPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	IPA	NIPA	IPA	NIPA	
18	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
19	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
22	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
27	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
29	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
30a	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	
31b	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	IPA	T&T	IPA	IPA	IPA	
45a	T&T	T&T	CSM	CSM	CSM	CSM	CSM	CSM	T&T	CSM	CSM	Res	CSM	CSM	T&T
45b	IPA	IPA	IPA	IPA	IPA	IPA	Res	CSM	IPA	IPA	CSM	NIPA	CSM	IPA	IPA

**Table 2: Sample Results from Hospital X for CSM Scenarios**

Scenario	Diet 1	Diet 2	Diet 3	OT 1	OT 2	OT 3	Phys 1	Phys 2	Phys 3	SW 1	SW 2	SW 3	SP 1	SP 2	SP 3
4N	NIPA	NIPA	CSM	nipa	NIPA	NIPA	NIPA	CSM	NIPA	NIPA	NIPA	NIPA	NIPA	CSM	NIPA
5a	NIPA	IPA	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	NIPA	CSM	CSM	CSM	CSM
5b	NIPA	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	NIPA	CSM	CSM	CSM	CSM
13b	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	NIPA	CSM	NIPA	CSM	CSM	CSM
14a	T&T	T&T	IPA	CSM	CSM	CSM	CSM	CSM	T&T	CSM	CSM	CSM	CSM	CSM	T&T
15a	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	T&T	T&T	CSM	T&T	CSM	T&T	T&T
15b	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	NIPA	CSM	NIPA	CSM	CSM	CSM
21	CSM	CSM	CSM	nipa	NIPA	NIPA	CSM	NIPA	NIPA	NIPA	CSM	NIPA	CSM	CSM	CSM
23	T&T	T&T	T&T	T&T	T&T	T&T	T&T	T&T	CSM	T&T	CSM	T&T	T&T	CSM	T&T
33	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	NIPA	CSM	CSM	CSM	CSM	CSM
34	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	CSM	NIPA	Res	CSM	RES	CSM
36	CSM	CSM	CSM	NIPA	NIPA	NIPA	CSM	CSM	CSM	NIPA	RES	NIPA	CSM	CSM	CSM
38	NIPA	CSM	CSM	NIPA	NIPA	NIPA	NIPA	CSM	CSM	NIPA	IPA	T&T	CSM	CSM	CSM
41	Res	CSM	CSM	NIPA	NIPA	NIPA	CSM	CSM	CSM	NIPA	CSM	ipa	NIPA	CSM	NIPA
42	Res	NIPA	CSM	NIPA	NIPA	NIPA	CSM	CSM	NIPA	CSM	NIPA	T&T	NIPA	CSM	NIPA
44	CSM	CSM	NIPA	NIPA	NIPA	NIPA	CSM	CSM	NIPA	NIPA	NIPA	CSM	CSM	NIPA	NIPA
46a	T&T	CSM	CSM	CSM	CSM	CSM	CSM	CSM	T&T	CSM	CSM	NIPA	CSM	CSM	T&T
46b	Res	CSM	CSM	CSM	CSM	CSM	Res	CSM	NIPA	NIPA	CSM	NIPA	CSM	CSM	CSM

**Table 3: Sample Results from Hospital X for NIPA Scenarios**

9	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	CSM	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA
17	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA		NIPA	NIPA	NIPA	NIPA	NIPA
20	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA
24	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	CSM	NIPA	CSM	NIPA	NIPA	NIPA	NIPA	NIPA
26	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	NIPA	CSM	NIPA	NIPA	NIPA
28	NIPA	CSM	NIPA	NIPA	NIPA	NIPA	CSM	CSM	CSM	CSM	NIPA	NIPA	T&T	NIPA	NIPA
37	Res	CSM	NIPA	NIPA	NIPA	NIPA	CSM	CSM	CSM	NIPA	NIPA	NIPA	CSM	CSM	CSM
40	Res	NIPA	NIPA	CSM	CSM	CSM	CSM	Res	CSM	CSM	NIPA	T&T	NIPA	NIPA	CSM

**Table 4: Sample Results from Hospital X for Teaching and Training Scenarios**

Scenario	Diet 1	Diet 2	Diet 3	OT 1	OT 2	OT 3	Phys 1	Phys 2	Phys 3	SW 1	SW 2	SW 3	SP 1	SP 2	SP 3
25	T&T	T&T	T&T	T&T	T&T	T&T	CSM	CSM	T&T	T&T	T&T	T&T	T&T	T&T	T&T
30	T&T	T&T	T&T	T&T	T&T	T&T	T&T	T&T	T&T	T&T	CSM	T&T	T&T	IPA	T&T
31	T&T	T&T	T&T	T&T	T&T	T&T	T&T	T&T	T&T	T&T	CSM	IPA	T&T	T&T	T&T
32	T&T	T&T	T&T	T&T	T&T	T&T	CSM	CSM	T&T	T&T	T&T	CSM	CSM	T&T	T&T
39	T&T	T&T	T&T	T&T	T&T	T&T	T&T	T&T	T&T	T&T	CSM	CSM	CSM	T&T	T&T
48	IPA	T&T	T&T	IPA	IPA	IPA	T&T	T&T	T&T	IPA	IPA	CSM	IPA	IPA	IPA

**Table 5: Sample Results from Hospital X for Research Scenarios**

35	RES	RES	RES	RES	RES	RES	CSM	RES	RES	RES	RES	NIPA	RES	RES	RES
43	RES	RES	RES	RES	RES	RES	NIPA	RES	RES	RES	RES	CSM	RES	RES	RES
47	RES	RES	RES	RES	RES	RES	CSM	RES	RES	RES	RES	T&T	RES	RES	RES