

Department of Health: National Health Reference Price List (NHRPL)

Appendix B Calculating Responsibility Values

If HCPs were requested to list the five most difficult procedures/services they perform, and these lists were compared to those of other HCPs, there would be a consensus that some procedures are more difficult than others. In addition, some procedures carry greater risk than others, which may heighten stress and anxiety for the practitioner, boosting the threat of legal action should failure occur. The fee should reflect the difficulty of the procedure, and a relative scale for difficulty should be developed by a knowledgeable group of HCPs.

The Relative Value Unit (RVU) for each procedure/service is determined by multiplying the time required to perform that service by its responsibility value:

$$RVU_{\text{service}} = \text{Time}_{\text{service}} \times \text{Responsibility}_{\text{service}}$$

Procedure Evaluation

Armstrong (1990, p.378) defines a job analysis as 'the examination of the procedure, its components, and the circumstances in which it is performed'. This definition may be applied to the analysis of procedures or services. From the procedure analysis, a responsibility factor may be derived, which is a statement of skills, knowledge and other attributes required to carry out the procedure.

The evaluation of a procedure/service should comply with certain criteria:¹

- It should establish the rank order of procedures within the spectrum of a discipline's procedures/services, and measure the difference between values.
- It should ensure that, as far as possible, judgements about procedure values are made on objective rather than subjective grounds.
- It should provide a continuing basis for assessing the values of procedures, that is easy to understand, to administer and to control, as well as being accepted by the oral health care profession as fair.

There are several criteria that are often used in job evaluation in an attempt to take into account discernible differences in skill and responsibility, such as, level of decision, complexity, knowledge, equipment used and level of education or training required to do the work (Armstrong, 1990, p.383).

The Health Care Finance Administration established three parameters to determine relative intensity for medical services (Cowper, 1996, p.295). The parameters are skill and physical effort; mental effort and judgement, and stress to the patient. It is however suggested that the following four defined criteria be used to determine the responsibility of performing a procedure/service:

- **Experience and knowledge:** The actual observation or practical acquaintance required to provide the service. This is analogous to the level of education or training required to provide the service.
- **Judgement and mental effort:** The mental exertion or striving involved in the formation of an opinion or notion concerning the provision of the service.

¹ A modified version of the definition of job evaluation schemes by Armstrong (1990, p.382).

Department of Health: National Health Reference Price List (NHRPL)

- **Skill and physical effort:** The ability, competence, technique, and physical exertion or striving required to provide the service.
- **Risk and stress to the patient:** The clinical and technical risks involved to the patient, as well as the strained effort and demand on physical and mental energy on the patient receiving the service (and thus also the medico-legal risk to the practitioner in providing the service).

Typically, criteria are not explicit; thus allowing for each person’s subjective judgement. In a comparative rating scale, the criteria are made explicit by asking the decision maker to compare to an experience standard (Emory and Cooper, 1991, p.208).

The procedure to be selected as the experience standard, should be a procedure/service which is rendered by the ‘average’ practitioner; for the ‘average’ patient; simple (unaccompanied by complications); frequently performed, and limited in variation of technique.

There is little conclusive support for any particular scale length. One argument is that more points on a scale provide for greater sensitivity of measurement. The most widely used scales range from three to seven points, and it does not seem to make much difference which number is used (Emory and Cooper, 1991, p.208).

However, in order not to lose sensitivity in the conversion of scale scores to responsibility values, a scale length should be approximately equivalent to the number of increments in the range of responsibility factors. A trial study showed that the spectra of procedures/services are best served with eleven increments in responsibility, based on a nine-point semantic differential scale (a rating scale variant). The use of more points on a scale may also help to counteract the error of central tendency.

Figure 1 is a nine-point rating scale with the four proposed scale criteria. If a procedure/service (or groups of procedures/services) requires a responsibility factor, the decision makers are requested to rate the procedure/service by comparing it to the experience standard. The decision makers should start by first plotting their own rating of the experience standard in order to enhance the rating process (The rating of the experience standard should be kept by the decision maker as reference for rating other services).

Exhibit 1: Questionnaire form for rating a procedure/service:

1. Experience and knowledge required:	Irrelevant	: : : : : : : : X : : : : :	Important
2. Judgement and mental effort involved:	Active	: : : : : : : : X : : : : :	Passive
3. Skill and physical effort required:	Easy	: : : : : : : : X : : : :	Difficult
4. Risk and stress to the patient:	High	: : : : : : : : X : : : :	Low
How many times in the last 12 months have you provided this service? _____			
If zero, how many times have you provided this service in your career? _____			

Department of Health: National Health Reference Price List (NHRPL)

Note that the scales are reversed to minimise the well known 'halo effect'. One might score each of the items from 0 to 8. Based on the scores of these four items, each service or group of services will be scored from 0 to 32. Exhibit 2 illustrates how this is accomplished.

Exhibit 2: Allocation of scores to a service or group of services (See services rated in Figure 6.1.):

Knowledge	0	1	2	3	4	5	6	7	8
Judgement	8	7	6	5	4	3	2	1	0
Skill	0	1	2	3	4	5	6	7	8
Risk	8	7	6	5	4	3	2	1	0
Total Score = 20				5	4	5	6		

The total raw scores of the decision makers are now calculated and a mean or median for the service (or group of services) determined. Exhibit 3 is used to transform the mean score of services to responsibility values. It should be noted that extreme scores in a distribution might skew the mean, and median values should then be considered.

If the mean (or median) for the group of services in the example is also 20, the responsibility value for the group of services would be 1.6.

Exhibit 3: Transformation of mean scores to responsibility values:

Mean Totals (0-10):	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23	24-26	27-29	30-32
Responsibility Factors:	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
RV for procedure:							X				

Individual services within a group, may now be adjusted if a variation in responsibility within the group itself is indicated. However, groupings enhance the maintenance of the system, and adjustments of this kind should not be considered lightly. It should also be remembered that the RVU is a function of time and responsibility, and although services within a group may have the same responsibility, the difference in time required to provide these services, will result in different RVU's for services within that group.

New procedures/services that may be listed next edition of the NHRPLs, may be assigned the RV of related groups of services. Only new groups of services or individual services that cannot be related to established groups will have to go through the entire rating process.

It is of interest that workers on the Resources Based Relative Values Scale (RBRVS) for medical services, observed that service providers with almost no experience of particular services tend to assign high relative values to those services whereas providers with great experience assign comparatively low relative values. Their explanation for the observation was that providers who render a service infrequently are less familiar and find the service more difficult to provide, whereas those who provide the service routinely

Department of Health: National Health Reference Price List (NHRPL)

consider it easier and assign a lower value (Cowper, 1996, p.298.). An indication of the decision makers' familiarity with a particular service (or group of services) is therefore inferred.

Application of Direct Labour

The RVU of a service is determined by multiplying the Unit Value (UV) with the Responsibility Value of that service ($RVU = UV \times RV$). This RVU value in turn, is multiplied with the predetermined direct labour rate (conversion factor) to determine the cost of direct labour for the particular procedure. This calculation is illustrated in the following example:

If a procedure/service has a hypothetical UV of 10, and an RV of 1.2, and if the predetermined direct labour rate for that category of practitioners is R2.12, the direct labour is calculated as:

$$\begin{aligned} \text{Direct Labour} &= RVU \times Cf \\ &= (UV \times RV) \times Cf \\ &= (10 \times 1.2) \times R2.12 \\ &= 12 \times R2.12 \\ &= R25.44 \end{aligned}$$

Department of Health: National Health Reference Price List (NHRPL)

References

- Armstrong, M. 1990. *A handbook of Management Techniques*. London: Kogan Page Limited.
- Cowper, T.R. 1996. The relative value of provider work for maxillofacial prosthetic services. *The Journal of Prosthetic Dentistry*, vol 75, p.294-301.
- Emory, C.W. and Cooper, D.R. 1991. *Business Research Methods - Fourth Edition*. Homewood: Irwin
- Garrison, R.H. 1991. *Managerial Accounting, Concept for Planning, Control, Decision Making*. Homestead: Irwin.