GENERAL NOTICE

NOTICE 190 OF 2008

DEPARTMENT OF HEALTH

NATIONAL HEALTH ACT, 2003 (ACT NO. 61 OF 2003)

REGULATIONS RELATING TO THE OBTAINMENT OF INFORMATION AND THE PROCESS OF DETERMINATION AND PUBLICATION OF REFERENCE PRICE LISTS

INVITATION FOR SUBMISSIONS

The Director-General of the National Department of Health hereby invites submissions from all stakeholders contemplated in section 90(1)(v) of the National Health Act, 2003, read together with regulation 2 of the Regulations Relating to the Obtainment of Information and the Process of Determination and Publication of Reference Price Lists (GN R.681 OF 23 July 2007).

Further information on the invitation and the submissions is provided in the Schedule to this notice.

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DIRECTOR-GENERAL: NATIONAL DEPARTMENT OF HEALTH

health

Department:
Health
REPUBLIC OF SOUTH AFRICA

SCHEDULE

REFERENCE PRICE LIST: INVITATION FOR SUBMISSIONS

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INVITATION FOR SUBMISSIONS

The Director General of Health hereby invites submissions from all stakeholders contemplated in section 90(1)(v) of the National Health Act, 2003 (Act No. 61 of 2003). This invitation is in terms of regulation 2 of the Regulations Relating to the Obtainment of Information and the Processes of Determination and Publication of Reference Price List (GN R.681 of 23 July 2007) and is aimed at the development of the reference price list (RPL) for 2009.

Submissions must be in accordance with the guidelines attached to this invitation and published as additional information to the regulation referred to above.

The information to be submitted relates to health financing, the pricing of health services, business practices within or involving health establishments, health agencies, health workers or health care providers and is necessary for the development and publication of the RPL.

Two printed copies plus 1 electronic copy (compact disc) of the submission must be delivered to Room 823, 8th Floor FedLife Building, c/o Prinsloo and Church, Pretoria before 15h00 on the 18 April 2008. No late submissions will be accepted.

1. Information that may be submitted

This information may include, but not limited to-

(a) Activity times for health services rendered within a health establishment, including surgical and medical procedures, which means the time required to complete the actual procedure or service;
(b) overhead costs, i.e. the costs incurred in rendering a set of items included in a reference price list schedule;
(c) labour costs, i.e. the cost of labour that can be traced to the provision of a reference price list item;
(d) professional fees;
(e) cost of medicines, scheduled substances and medical devices;
(f) cost of maintenance of premises;
(g) cost of consumables used in the delivery of health services;
(h) security costs;
(i) cost of foodstuffs for patients;
(j) cost of services or products used to ensure patient safety;
(k) cost of insurance related to the provision of health services;

(l) details of persons or institutions providing services to, or at the establishment;
(m) scales of benefits payable by medical schemes to the health establishment;
(n) occupancy rate, which is the utilised capacity of a facility or equipment divided by the available capacity during the period under consideration;
(o) non confidential information on the health establishment;
(p) income and expenditure;
(q) billing guidelines and rules where these exist;
(r) waste management costs;
(s) details of agreements with third parties; or
(t) Any other costs that are ordinarily incurred.

(2) The information must-
(a) be in accordance with the pricing methodology contemplated in regulation 4(2)(a) in regulation 681 of 2007;
(b) indicate cost parameters that are different in respect of different provider groups;
(c) be comprehensive and provide for item codes and item type, where applicable;
(d) provide for representative samples and how the sample sizes used have been calculated; and
(e) Include explanations for adjustments or assumptions made in cost evaluations.

2. Who may make submissions

It is preferred that submissions be made by professional associations representing particular disciplines, or a statutory body established to regulate the relevant profession. Where several sub disciplines are represented by an umbrella professional association which provides an interdisciplinary peer review process, submissions must preferably be made through that umbrella body.

3. Verification of scope of practice

The stakeholder making a submission must warrant that the procedures listed in the submission fall within the scope of practice of the relevant profession, as determined by the relevant statutory council.

4. Audit and authenticity of survey results

4.1 The Director-General may request information for verification purposes. This will take the form of audits of selected surveyed practices.

4.2 The RPL review process will focus far more on audit of costing surveys and submissions. Submissions will only be accepted on the basis that –

4.2.1 All information pertaining to the process will be made available to parties appointed by the Department of Health to audit the process; and

4.2.2 Practices participating in the cost surveys must be willing to allow such parties to visit their practices and gain access to their financials to verify the information provided to the costing surveys.

4.3 The full database of individual practice information must be provided as part of the costing submission. For purposes of the submission, the individual practices should not be identified. If required for purposes of audit, however, parties making submissions must be willing to identify practices listed in the database and the identification will be treated as confidential.

4.4 Where any adjustments are made to cost survey results prior to submission for any reason, such as assumed error or implausibility of results, all such adjustments and the motivation thereof must be made explicit in the submission together with the original data.

4.5 Should any material misrepresentations of data come to light in the review process, such data shall not be accepted.

5. New technology

Requests for new technology codes may be subjected to a health technology assessment (HTA) process by the Department, and their inclusion in the RPL may be suspended pending the outcome of such process. HTA reviews will be facilitated by as much information as possible provided as to HTA assessments conducted internationally, as well as scientific literature on the new technology and information about the need for such technology and projected utilization in South Africa.

6. Publication of Submissions

All submissions shall be published for general information and comment comment on the Departmental website. All comments must be delivered to Room 823, 8th Floor FedLife Building, c/o Prinsloo and Church, Pretoria before 15h00 on the Friday 16 May 2008.

7. Contact Person

Any enquiries regarding the submissions must be directed to Mr S Jikwana at (012) 312 0669.

TABLE OF CONTENTS

REFERENCE PRICE LIST GUIDELINES

REFERENCE PRICE LIST GUIDELINES

1. Introduction

The underlying principle to the Department of Health approach to reference pricing is that the cost of providing the particular service must be made explicit, and it is this cost that forms the basis of the reference price.

In order to apply this principle certain preconditions must be met:

a. A standard nomenclature to identify the service being priced; and

b. An agreed upon methodology to determine the reference price associated with a particular service.

The pricing methodology depends on the following assumptions:

a. A particular reference fee schedule is determined for a well-defined and relatively homogeneous provider group. Cost parameters will be different for different provider groups – this may be the case even if the level of remuneration for professional time is the same between groups.

b. Reference price components will be based on country wide averages, with the result that actual price components:

   i. Will differ geographically; and

   ii. Will depend on individual practice efficiencies and practice specific factors.

2. Standard Nomenclature

The reference price list consist of a list of items (fees, tariffs), where each item represents a particular service provided by the provider group to which the reference price list apply. This list of items must comply with the following general requirements:

a. Comprehensive. The list should provide for all the recognised services (accepted practice) rendered by the provider group it applies to.

b. Consistent. There should be no duplication or overlap between items in the list.

c. Systematic. The list should reflect the basic organising concepts used by the provider group, such as anatomical regions and/or treatment modality.

As far as possible each item should be a complete unit of service, with minimal use of modifiers or add-on items.

A reference price list item consists of the following components:

a. Schedule: A schedule contains the price list items applicable to one or more provider groups.

b. Provider Group: A professional group or sub-group (discipline, sub-discipline) or health service provider category to which a particular schedule applies.

c. Item Code: A six digit numeric code that is unique to a particular schedule. The actual code length may vary by schedule, up to a maximum of six digits.

d. Item Type: A one-letter field used to indicate whether the item is an actual service item, or a modifier, note or rule relating to the use of one or more service items.

e. Item Terminology/Nomenclature: A brief written definition of the price list item. Each item must have a terminology.

f. Descriptor: A written narrative that provides further definition and the intended use of the item. A descriptor is optional.

g. Relative Value Unit (RVU): A numeric value that expresses the value of this item relative to all the other items in the schedule. A RVU is multiplied by a Rand Conversion Factor (RCF) to obtain the price of the item. RVUs can vary by provider group for each item in a schedule.

h. Benefit Factor: In general all items in a reference price list will have a benefit factor of 1. Health care funders may negotiate with individual health care providers to vary this factor in order to reimburse by agreement either above or below the reference price for an item.

Appendix A provides further details regarding the addition, deletion or revision of reference price items.

3. Pricing Methodology

3.1 Introduction

The basic formula for calculating a service price is the cost of providing the service plus a profit component that is based on a return of investment rate on operating expenses (Figure 1).

Figure 1: Item Price Components

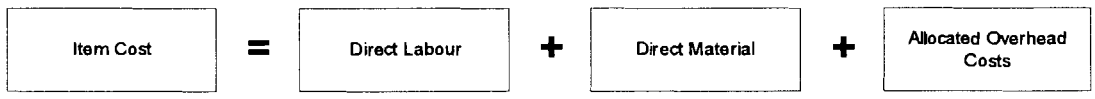
The justification for the profit component is based on the following:

a. Provision needs to be made for the growth and development of the health care practice, particularly in the light of rapidly changing health care technology and knowledge.

b. The return on investment component represents the expectation of a return by a hypothetical investor in a health care practice. For the purposes of the reference price list, return on investment will be based on the bankers' acceptance rate. Individual practices would normally adjust this rate by taking into an account the risk profile of the practice.

Item cost in turn is based on the cost of the direct labour and material used in providing the service represented by the fee item, plus an allocated portion of the overhead costs of the practice (
Figure 2).

Figure 2: Item Cost Components



a. Direct Labour. This is the cost of labour that can be directly and conveniently traced to the provision of the service represented by the particular fee item. Direct labour cost is based on the duration of time spend by the health care provider in performing the service.

b. Direct Materials. Significant materials used (consumed) in providing the service that can be conveniently traced to it. Minor materials (e.g. swabs, etc) are best handled as indirect materials and accounted for as part of the allocated overheads. In practical terms, direct materials are those materials consumed in the practice that can be recovered from the patient as part of a specific chargeable procedure of service as direct materials. Indirect materials are those materials that cannot be charged for in addition to a procedure and their cost is allocated to overheads.

c. Allocated overhead costs. All of the costs associated with providing the total set of services rendered by the health care practice that are not part of direct labour or material are allocated to each service through a specific allocation mechanism.

Basic Example

This is a basic example of the cost calculation for a item with no direct material costs where the basis of allocation is duration of the service expressed in minutes. Allocation on the basis of service duration (expressed in minutes) is commonly, but not exclusively, used in costing health services. Other allocation units include kilometres (patient transport) and bed days (hospitals). In the case of facilities bed capacity must be calculated on the basis of licensed beds.

Calculation of direct labour costs:

a. Determine appropriate annual professional remuneration (PR).

b. Determine standard volume (SV) for the allocation unit per year. The standard volume is the amount of the allocation base that should have been used to produce what was produced during the period (here a year) under consideration. This is not the actual amount used – that will depend on the relative efficiency of operations of a particular practice. In this case we will use the total available minutes per year by correcting for weekends, public holidays and leave (See the actual calculation in

c. Table 1). In the case of time-based allocation the standard volume is further adjusted by a productivity factor to account for unproductive time, such lunch breaks, time between patients, etc.

d. Calculate the predetermined direct labour rate (LR) per allocation unit:

$$LR = \frac{PR}{SV}$$

e. Multiply the predetermined direct labour rate (LR) with the average amount (A) of the allocation unit used by the service item (in this example duration in minutes) to obtain the direct labour cost (LC).

$$LC = LR \times A$$

Calculation of allocated overhead costs:

a. Determine total overhead costs per year (O).

b. Determine standard volume (SV) for the allocation unit per year. The process is the same as in b. above.

c. Calculate the predetermined overhead rate (OR) per allocation unit:

$$OR = \frac{O}{SV}$$

d. Multiply the predetermined overhead rate (OR) with the average amount (A) of the allocation unit used by the service item (in this example duration in minutes) to obtain the allocated overhead cost (OC).

$$OC = OR \times A$$

Calculation of return on investment component

a. Calculate mark-up (M) on operating overheads:

$$M = \frac{BA}{(1 - CR - ((1 - CR) * STC)) - BA}$$

where CR = company tax rate (0.29) and STC = secondary company tax rate (0.125), BA= bankers' acceptance rate as published by the Reserve Bank.

e. Calculate the annual return on investment (ROI) on operating expenses by multiplying the total overhead cost per year (O) with the mark-up on operating overheads:

$$ROI = O \times M$$

f. Determine standard volume (SV) for the allocation unit per year. The process is the same as in b. above.

g. Calculate the return on investment rate (ROIR) per allocation unit:

$$ROIR = \frac{ROI}{SV}$$

h. Multiply the return on investment rate (ROIR) with the average amount (A) of the allocation unit used by the service item (in this example duration in minutes) to obtain the allocated return on investment amount (ROIC).

$$ROIC = ROIR \times A$$

Basic Example Calculated

The basic approach given above is now used to calculate the fee for a 15-minute procedure executed by a single health care provider. This procedure has no direct material costs.

The allocation unit will be minutes and the calculation of the standard volume in minutes per year is given in
Table 1.

Table 1: Standard Volume Calculation

Days in the year	365.25[1] days
Work days	
Minus weekends	-(2 x 52) = -104
Public holidays	-11
Annual holidays	-22
Sick leave	-8
Total days available	220.25 days
Minimum working hours per day	8 hours
Total available hours in a year	1 762
Base volume for direct labour (minutes)	105 720
Productivity factor for direct labour	**0.75**
Standard volume for direct labour (Actual available minutes)	**79 290**
Base volume for overheads (exclude leave & sick leave)	120 120
Productivity factor for overhead	0.75
Standard volume for overheads	**90 090**

[1]. To provide for leap years the average duration of a year is set to 365.25

Table 2: Direct Labour Rate Calculation

Professional remuneration (total package per annum)	226 088
Direct labour rate per minute	2.851

Table 3: Overhead Rate Calculation

Total estimated overheads per annum	316 000
Overhead rate per minute	3.507

Table 4: Return on Investment Rate Calculation

Bankers' Acceptance Rate	7.00%
Expected rate of return after tax	7.00%
Company tax rate	29.00%
Secondary company tax rate	12.50%
Calculated mark-up before tax on overhead	12.70%
Annual expected return on investment	40 132
ROI rate per minute	0.445

The final calculated price (P) (VAT Exclusive) of the example service is given by the following formula:

$$P = (LR + OHR + ROIR) \times UV$$
$$P = (2.851 + 3.507 + 0.445) \times 15$$
$$P \approx 102.00(VATExclusive)$$

Where:

LR = Direct labour rate per minute

OHR = Overhead rate per minute

ROIR = Return on investment rate per minute

UV = Average duration of service item in minutes (unit value)

3.2 Guidelines for Calculating Direct Labour Costs

Appropriate professional remuneration

The expected annual remuneration of health care providers used in the calculation of direct costs will be based on the salary packages paid in the public sector for equivalently qualified health care providers. As a general rule the package value at the upper end of the applicable scale will be used in the calculations.

Composite direct labour costs

A particular service item may have direct labour components relating to more than one health care provider, e.g. a radiology procedure with direct cost components for the radiographer and radiologist.

Adjustment for complexity of procedures

Appendix B presents a method to calculate the relative value units of a fee item to take the relative complexity of different procedures into account. The method involves the calculation of responsibility values relative to a standard procedure. The service's unit value (usually duration expressed in minutes) of the fee item is then multiplied by the responsibility value to obtain the relative value unit for the item. If this method is used the direct labour rate (rand conversion factor) must be adjusted to bring the total direct labour cost back to the target amount. This will have the effect that the practitioner doing a normal distribution of items across the different responsibility values (complexity) will earn the target professional remuneration. If on average more complex procedures are done, the remuneration will be correspondingly higher. If a provider group elects not to use this mechanism then relative value units will simply be based on the average duration of the fee item (if the allocation unit is minutes).

Productivity factors

The adjustment of the standard volume with a productivity factor is done in recognition of the fact that health care providers cannot be productive every minute of the available time, because of situations such as patient turnover, travel between places of work, meals, equipment breakdown, etc. The productivity factor used in

submissions must be substantiated through representative time studies where it deviates from the default 75%.

3.3 Overhead costs

Costs included as overheads

All non-manufacturing costs and manufacturing costs that are not classified as being direct labour or direct materials are allocated to manufacturing overheads (Table 5).

a. Manufacturing costs other than direct labour or direct materials.

   i. Indirect Labour. That labour cost that cannot be physically traced to the creation of products, or that can be traced only at great cost and inconvenience.

   ii. Indirect Materials. Small items of materials that may become an integral part of the finished product, but that may only be traceable into the product at great cost and inconvenience. In practical terms indirect materials are those materials consumed in the practice that cannot be recovered from the patient as part of a specific chargeable procedure of service (item).

b. Non-manufacturing costs. These consist of marketing or selling costs, and administrative costs. Although all practices have non-manufacturing costs, this forms only a small percentage of the total cost of most practices. The cost of a receptionist would most probably be the major expense in this category. Many receptionists are utilised for "manufacturing" functions as well, for example, ordering of materials and supplies, sterilisation of instruments, which further decrease the true proportion of non-manufacturing costs. The cost and inconvenience for a practice to trace these costs to separate cost categories are not worthwhile, and all non-manufacturing costs are thus assigned to manufacturing overhead.

Table 5: Overhead Cost Examples

Category		Include	Exclude
1. Personnel costs			
1.1	Indirect labor costs	Salaries and wages of all practice staff	Salaries and wages included in direct labour costs
1.2	Salary related levies & taxes	UIF, Skills development levies, Regional service council levies	Sickness benefit insurance, catered for in sick leave inclusion in direct labour standard volume calculation
1.3	Professional dues & continuing education	Professional association membership fees Professional council fees Continuing education related expenses	
1.4	Protective clothing and uniforms	The cost of protective clothing of staff as well as cleaners and general workers. The costs of uniforms if not included as an allowance	Gloves and masks if included under 6. The costs of uniforms if included as a salary allowance
2. Premises			
2.1	Rental of space	The actual cost should be reflected and not the market related cost of the space	Rental subsidies or rebates

Category		Include	Exclude
2.2	Building maintenance & repairs	The general cost of repairs and maintenance of the buildings.	Any cost of a capital nature, such as improvements of the buildings and infrastructure
2.3	Services	Electricity, water & cleaning services The cost of fuel to run an emergency power supply if situated in a rural area	
2.4	Medical waste removal	Cost of containers for the storage of medical waste. Removal cost of medical waste. Disposal cost	Container costs included under 6.
2.5	Security	The cost of a security system. The cost of an armed response service	
3. Practice Management & Administration			
3.1	Accounting, audit and management fees	Accounting fees paid to an external accountant or accounting practice. Bookkeeping fees paid to an external bookkeeper. Management and admin fees paid to an external business rendering these services. Auditor's fees	EDI and medical scheme administration fees

Category		Include	Exclude
3.2	Advertising & marketing	Promotions, donations & sponsorships. Brochures. Other media advertising or marketing activities. Business related entertainment	
3.3	EDI and medical scheme administration fees	The levies for "Switch" services	
3.4	Software licensing & support	Software and/or the license fee of programmes Technical support	Computer equipment Internet connection fees ISDN or ADSL rental fees
3.5	Communication costs	Internet connection fees ISDN or ADSL rental fees Telephone, fax and cell phone costs Lease cost of a telephone (communication) system	Costs of a personal nature
3.6	Legal expenses	General legal fees Labour law and IR consultation fees	Legal fees associated with the collection debts.
3.7	Postage and courier services	Stamps and registered letters. Courier services. Post box rental	

Category		Include	Exclude
3.8	Printing and stationery	The printing cost of administrative books, documents, forms and patient files used in the dental practice. Photocopy expense. General office stationery	Consumables if included under 6.
3.9	Transport costs	Average mileage per annum multiplied by the Automobile Association rate	When covered by specific fee items Personal use
4. Financing & Insurance costs			
4.1	Bank charges & interest	Bank charges and admin fees paid	Standard and special equipment financing costs
4.2	Credit card commission		Commission paid on non health related services
4.3	Bad debt costs	Calculated at fixed rate of 2.5% of turnover	
4.4	Practice risk insurance	Public liability insurance Insurance of the buildings if owned by the dental practice Insurance of vehicles if owned and used by the practice	Standard and special equipment insurance – automatically included in equipment cost calculation
4.5	Malpractice risk insurance		

Category	Include	Exclude
6. Indirect material		Any material or consumables included as direct cost, or covered by material or medicine related fee items
7. Sundry expenses	If specified	If not specified
8. Equipment	Capital, insurance and maintenance costs provided for in equipment cost calculation	
9. Overhead recovered	Deduct	

Overhead Schedule

Overhead costs must be classified according to the schedule given in Table 5.
Specific provisions are:

a. All cost must be VAT exclusive.

b. Bad debt provisions will be limited to 2.5% of total revenue.

c. The average size of practices in square meters must be provided as well as an average rental fee per square meter. Where practice premises are subsidised, the subsidised cost should be reflected and not the market related cost of the space.

d. Where consumables are charged as direct costs using a medication or materials item (e.g. the 'Setting of a sterile tray' code for medical practices) the cost of such consumables should not be included as part of overheads.

e. Where a surcharge exist for rendering services away from the usual place of service (e.g. as is the case in the medical practitioner schedule) transport costs cannot be included as part of overhead costs as this will amount to double recovery of such costs.

Overhead Cost Recovery

Any overhead costs recovered directly or indirectly (excluding services fees) from the patient or other parties must be deducted from the relevant overhead cost item. For example a cost of a telephone call charged to a patient, or subletting space or equipment.

Equipment

The cost of equipment that is considered standard for a provider group should be included in overheads. Special equipment (i.e. equipment used for procedures not considered to be standard practice for the specific provider group) should be considered as a separate cost centre and the cost of this special equipment included in the overhead costs of these procedures. The cost of any piece of equipment that exceeds R15 000 must be substantiated by a sample of invoices or by at least three valid quotes from suppliers.

Standard Volumes

In general standard volumes for overhead allocation should be calculated in the same way as for direct labour allocation, except that leave and sick leave cannot be taken into consideration. Alternatively the productive minutes per annum for the equipment should be used. Unrealistically low productive minutes per annum will not be considered. The benchmark productivity rate for special equipment will be 65%.

Overhead Cost Adjustment

Overhead costs based on surveys will be adjusted to the bottom end of the 95% confidence interval, to increase the likelihood that the cost basis of the RPL is at least at stated level. The confidence rate calculation and adjustment method is documented in the accompanying spreadsheet.

3.4 Direct Material

Mark-ups

Detail guidelines on the mark-up on direct materials are pending the development of an appropriate model. The following principles will be applied:

Mark-ups cannot be a source of income or profit

Actual cost components of material handling should be quantified

Emergency Medication

Material/medication held for use in an emergency can be written off on acquisition and the costs included in general overheads.

3.5 Cost and Activity Time Surveys

Overhead costs and activity times for procedures must be based on representative samples of actual practices. All submissions must show how the sample sizes used have been calculated. Low response rates are common in surveys of this nature and over-sampling should be considered to address this problem. It is not possible to give a minimum acceptable response rate, but consider that the confidence interval adjustment for overheads described above will be correspondingly larger with a low response rate. Survey results will be subject to audit and the original survey data must be made available for scrutiny. Overhead totals of all responding survey practices must be made available to verify the confidence interval adjustment of overhead costs.

Where high level surveys have shown significant variation in practice types, stratified samples should be used to ensure adequate representation of the different practice types in the sample. In general it is recommended that statistical advice be sought in the design of practice cost surveys. This is particularly important for disciplines with a small number of practitioners.

Activity Times

Accurate service duration times are a vital component of proper costing studies. Appendix C gives guidelines for activity time determination. Whenever possible reference must be made to international benchmark times for equivalent procedures. Medical scheme data will also be used in the verification of theatre times.

3.6 Exceptional Situations

It is acknowledged that the costing methodology described in this document is not suitable for all health care disciplines or service environments. This is particularly applicable to facilities such as hospitals, pathology laboratories and emergency services. If an intended costing methodology deviates substantially from the methodology documented here, then the methodology must be properly documented and submitted for approval prior to its use in costing studies for the RPL.

4. Procedures for addition, deletion or change to fee items

4.1 Submission of Code Changes

The Department of Health will consider code proposals submitted by national professional associations, specialty societies (through the appropriate national professional associations) national regulatory agencies and other organisations.

4.2 Guidelines

Change requests include revisions, additions and deletions. Revision requests may be submitted at any time. All revision requests received will be considered for inclusion in future versions of the RPL Schedules. The deadline for addition and deletion requests for the next annual RPL Schedules is June 2007.

A procedure/service code consists of the following components:

a. Schedule: A schedule contains the price list items applicable to one or more provider groups.

b. Provider Group: A professional group or sub-group (discipline, sub-discipline) or health service provider category to which a particular schedule applies.

c. Item Code: A five digit numeric code that is unique to a particular schedule.

d. Item Type: A one-letter field used to indicate whether the item is an actual service item, or a modifier, note or rule relating to the use of one or more service items.

e. Item Terminology/Nomenclature: A brief written definition of the price list item. Each item must have a terminology.

f. Descriptor: A written narrative that provides further definition and the intended use of the item. A descriptor is optional.

g. Relative Value Unit (RVU): A numeric value that expresses the value of this item relative to all the other items in the schedule. A RVU is multiplied by a Rand Conversion Factor (RCF) to obtain the price of

the item. RVUs can vary by provider group for each item in a schedule.

h. Benefit Factor: In general all items in a reference price list will have a benefit factor of 1. Health care funders may negotiate with individual health care providers to vary this factor in order to reimburse by agreement either above or below the reference price for an item.

The following guidelines should be followed when submitting change requests. Any requests that do not meet these guidelines are not likely to receive favourable consideration during the evaluation process:

- A suggested procedure/service should be a distinct service that is part of current clinical/technical practice (i.e. that the proven clinical efficacy has been established and documented) and is not now included in the relevant Schedule;
- The frequency of occurrence should be considered when submitting a request. The suggested procedure/service should be performed across the country in multiple locations and by many providers (per discipline) as the Schedules are not intended to accommodate procedures that are delivered on an infrequent basis;
- A suggested service/procedure should be neither a fragmentation of an existing procedure/service nor currently reportable by one or more existing codes;
- A suggested service/procedure should not be requested as a means to report extraordinary circumstances related to the performance of a procedure/service already having a specific code;
- A suggested revision should address omissions or ambiguities within a current procedure/service code's terminology or descriptor;
- A suggested deletion should address a procedure/service that is no longer considered current or acceptable clinical/technical practice;
- The Professional Organisations' "Acceptance" or "Approval" programmes shall not be the sole basis on which a procedure code is added;
- Additions, deletions or changes to the Schedules may be considered to allow for compliance with Government's and Provinces' rules and regulations relating to treatment.
- Previously submitted but not accepted change requests must be accompanied by new information in order to be reconsidered;

- A suggested Relative Value Unit / RPL Rate should include all information and address all aspects to be considered in determining a RVU/Rate.

4.3 Evaluation Criteria

Requested changes to the RPL Schedules are evaluated by the Advisory Committee (AC), a body that has representation appointed by the Acting minister of Health. Requests for addition, revision or deletion that meet the ten submission Guidelines noted here above are also evaluated by the AC using additional criteria that include the following considerations:

- Is the procedure/service currently taught in an accredited training school, or in an accredited post-graduate programme?
- Is the procedure/service currently accepted therapy?
- Does the procedure/service apply to treatment provided by generalists and specialists without differentiation?
- Does the procedure/service endorse or reflect a product-specific technique?

The goal of the evaluation process is to maintain the best possible RPL Schedules. These would be code sets that include only those procedures needed to adequately maintain patient records and to support claim submission.

Information provided in a 'vignette' assists in the evaluation of requests for additions or revisions. A 'vignette' provides a description of the typical patient and the clinical procedure as performed by the practitioner, as well as whether it is appropriate to report the procedure with any others. For a stand-alone procedure/service the 'vignette' should note which other procedures must be reported at the same time, and which must not.

Instructions

Please consider the following when completing either version (addition, revision, deletion) of the request:

- A separate request is required per code for each desired action related to the code.
- Provide substantive justification for proposing the request. Please avoid reasons such as "no code currently available."
- Include vignettes, if helpful. A vignette must include the following information:
  - Description of the typical patient for whom the procedure is used.
  - Description of the clinical procedure itself.

- An indication whether it is appropriate to report the procedure with any others.
- For a stand-alone procedure a note on other procedures that must be reported at the same time, and those which must not.

- When requesting a new procedure code that represents new technology, attach available supporting peer-reviewed literature.
- Attach literature, where available, indicating widespread usage and acceptance of the procedure.
- When requesting a deletion, provide an alternate code that is not an unspecified code for reporting the procedure. If there is no alternative or the procedure is believed to be obsolete, express this in writing.
- A suggested Relative Value Unit / RPL Rate must include the following information:

4.4 Time (Unit Value):

Indicate the average time required (expressed in minutes) to perform all steps necessary to complete the defined procedure once. Use the following as guideline and indicate the time required per category as indicated:

- Clinical time refers to the time required to complete the actual procedure/service, as well as pre-, inter- and post- procedural activities for which no other distinct procedure codes exists.

  Distinct procedures are other independent procedures that are reported in addition to this code. For example, preparing a surgical site and the changing of instruments needed to render the procedure/service are considered clinical time. The time required to obtain anaesthesia before the procedure can commences, is however excluded if local anaesthesia is reported in addition to this code.
- Assistant time, also known as aide time, includes the mixing of materials, developing of radiographs, etc.
- Clerical time includes recording the procedure on the patient's record and if applicable, converting the clinical findings to a meaningful report.

5. Responsibility (Responsibility Value):

Indicate the responsibility to provide the procedure/service. The following must be considered:

- 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.
- 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).

Example: Select a current procedure/service as the "experience standard" for a discipline and plot on the on the scale. 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.

Experience Standard: Code _____ (Number) – _____ (Description)

Experience and knowledge required:	Irrelevant	:____:____:_ X_:____:____:____:____:____:____:	Important
Judgement and mental effort involved:	Active	:____:____:____:____:____:____:____ :_ X_:____:	Passive
Skill and physical effort required:	Easy	:____:____:_ X_:____:____:____:____:____:____:	Difficult
Risk and stress to the patient:	High	:____:____:____:____:____:____:____ :_ X_:____:	Low

Note: The experience standard have to be plotted only once per discipline and will be used as reference for that discipline to determine the responsibility value of all other procedures/services.

Use the "experience standard" as a reference and rate the new/revised procedure.

New/Revised Procedure/Service: Code _____ (No) – _____ (Description)

Experience and knowledge required:	Irrelevant	:____:____:____:____:____:_ X_:____:____:____:	Important
Judgement and mental effort involved:	Active	:____:____:____:_ X_:____:____:____:____:____:	Passive
Skill and physical effort required:	Easy	:____:____:____:____:____:____:__ X:____:____:	Difficult
Risk and stress to the patient:	High	:____:____:____:____:_ X_:____:____:____:____:	Low

Indicate other current and similar procedure codes with which this procedure relates (if any).

Equipment and Materials:

- An indication of the equipment and material(s) required to provide the procedure.
- An indication of the cost of the equipment and material(s) to provide the procedure.
- An indication if the equipment used are considered as "standard equipment" for a "standard practice" within the discipline.

Location and Other Services:

- An indication if the procedure is provided in the Health Care Professional's (HCP) own practice, hospital, etc. or both.
- An indication if the services of other HCPs' are required to provide the procedure/service. Examples include laboratory services, anaesthetist, etc.

5.1 Calculating Responsibility Values

If HCPs were requested to list the five most difficult procedures/services they perform, and these lists were compared to those if 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:

$$RVU_{service} = Time_{service} \times Responsibility_{service}$$

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

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

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.
- **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 loose 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? _____

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 RPLs, 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 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.

5.2 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 x 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:

Direct Labour = RVU x Cf
= (UVxRV) x Cf
= (10x1.2) x R2.12
= 12 x R 2,12
= R25.44

5.3 Workload Recording Method (Unit Values)

(a) Introduction

The objectives of work measurement is twofold, namely, to determine how much work can be done in a specified period of time in terms of volume and quality, and to determine how long it will take to do a given amount of work.

The Workload Recording Method is used to determine the time required by an average Health Care Provider (HCP) to provide services. The mean time required to provide that service is termed the Unit Value (UV) of that service and is expressed in minutes of Workload Units (WU). The unit value of a service is used to allocate overhead costs to that particular service, and is also of cardinal importance in the determination of relative value units for services.

Depending on the HCP type, workload units can be expressed in minutes of Radiology Workload Units (RWU), Dental Workload Units (DWU), Psychology Workload Units (PWU), etc. The Workload Recording Method provides a common comparable measuring approach among HCP types and adaptation(s), where necessary, should be clearly identified.

(b) Unit Values per Service and Standard Volume Adjustment

Most clinical services can be expressed in terms of minutes, rather than hours required completing. Workload units are thus the minutes of direct labour and the measure of activity for HCP's in their practices and one WU is equal to one minute of clinical, clerical and assistant time.

Time studies should be conducted in order to generate the necessary statistics to assign permanent or temporary unit values to services. The time studies should be conducted in various places of services (sites) in the RSA and should measure the time required to perform several activities, of which the following six categories are specified:

1. **Treatment**: Treatment includes the steps required to perform the procedure up to and including the recording thereof on the patient's record. Treatment includes clinical time, assistant time and clerical time:

   Clinical time. Clinical time refers to the time required to complete the actual procedure, as well as pre-, inter- and post- procedural activities, In a dental

practice for example, the placement and removal of cotton rolls, the application of a rubber dam, the changing of instruments needed to do the procedure (e.g. burs, scaler points, hand pieces, etc.) and chair side 'laboratory activities' (e.g. temporary crowns, fitting a prosthesis, etc.) are all included as part of clinical time

Assistant time. Assistant time also known as aide time. Examples of assistant time include developing of radiographs, the mixing of materials, and evacuation of the patient's mouth during the procedure, etc.

Clerical time. Clerical time includes recording the procedure on the patient's record and if applicable, converting the clinical findings to a meaningful report (when it is required as part of the procedure).

© **Handling of specimen/laboratory work:** The handling of specimen/laboratory work includes the time for completion of a laboratory requisition (lab-slip), delivering the laboratory work to the reception / despatch area, labelling thereof and entering information on a laboratory control sheet (activities required for transfer from the HCPs office to a laboratory). Handling of laboratory work excludes the handling of incoming (completed) laboratory jobs. Handling of laboratory work excludes laboratory services.

(d) Pre-treatment patient care activities: Pre-treatment activities include the steps from guiding the patient from the reception area to completion of all preliminary preparation normally required in the presence of the patient before treatment can proceed. Examples of pre-treatment activities in a dental practice include regaining the patient's record, guiding the patient from the reception area to the surgery, seating the patient, preparation of the patient (i.e. placing of a bib and removal of prosthesis (removable), spectacles, lipstick, etc.), repositioning of the equipment, preparation of the HCP (i.e. washing of hands, gloving, etc.), checking the patient's record and counselling in relation to the visit.

(e) Post-treatment patient care activities: Post-treatment activities include the steps normally required in the presence of the patient after treatment has been completed, up to guiding the patient back to the reception area. Examples of post-treatment activities in a dental practice include re-dressing the patient (e.g. removing the bib, replacing removable prosthesis, spectacles, etc.), repositioning of dental equipment, removing the patient from the chair, counselling regarding the next dental visit, and re-dressing of the HCP (e.g. removing gloves, washing hands, etc.), guiding the patient to the reception area and filing the patient's record.

(f) **Routine surgery preparation:** Routine surgery preparation includes all support activities (in relation to the preparation of the surgery and reusable supplies for performing procedures) performed by HCP's and/or staff in the surgery after treatment of the patient. These include between patient disinfecting of surfaces and surgery preparation of instruments for sterilising, etc., but exclude the actual sterilising time of an autoclave or other type of steriliser.

(g) **Maintenance and repair:** Maintenance and repair include all standard surgery maintenance procedures performed by HCP's and/or staff at set intervals (e.g. daily, weekly, monthly). It encompasses only those activities which are done occasionally and which need not be repeated for each patient treated, e.g. daily disinfecting and cleaning of the surgery prior to shut down. Maintenance and repair include emergency repairs, part of which is defined as time spent identifying the defect. It does not include repair of major breakdowns.

5.4 Unit Values per Service

Only the "treatment time" (clinical, assistant and clerical) is used to determine the unit value of a procedure.

The time spent on "handling of specimen/laboratory work" for transfer from the HCPs office to a laboratory is added to the treatment time to determine the unit value of those procedures that requires such handling. Take note that this does not apply when a HCPs Schedule has a listed code for the handling of specimen/laboratory work (See CPT code 99000 as an example).

The time spent on the handling of laboratory work should not be determined for each service involving laboratory work, but the mean time thereof should be allocated to these services. The reasons for this approach are fourfold:

- Part of the action of handling laboratory work is often done by the HCP after patients have left. In order to enhance the timing of this 'break in continuity', it should be timed separately.

- The time spent on this activity may vary from practice to practice. There is however, no significant difference in the time spent on handling the laboratory work between different services, which makes differentiation per service type unnecessary.

- There are dental services, for example, complete dentures that require the action of handling laboratory work more that once as part of the same procedure.
- Comparisons between services on the time spend to complete, are more accurate if the handling of laboratory work can be excluded.

5.5 Standard Volume Adjustment

The Standard Volume used in the RPL has been standardised for all provider types. The time spent on pre- and post-treatment patient care activities, routine surgery preparation, as well as maintenance and repair can be classified as surgery downtime, and is used to determine/adjust the Standard Volume.
Many non-specified activities vary significantly between practices, therefore, some activities may never be time studied or assigned a unit value. Examples of non-specified activities include: Accounting/billing activities; administrative activities; breaks and personal time including formal breaks mandated by law, contract or policy, wash-up or other personal time; computer orientated activities; evaluation, development and research; formal education; procedures without unit values; supplies and equipment; training, etc. Some of these activities can be taken into account in order to calculate the Standard Volume.

5.6 Permanent, Temporary and Extrapolated Unit Values

The time studies should include all clinical, clerical and assistant time expended toward the completion of a service. It should involve more than one HCP providing the service and should be performed several times in various locations. Each unit value per service should represent an averaging of how the service is performed in dissimilar facilities by different HCP's.
Acceptable studies should then be edited and presented to the RPL review process. Depending on a statistically significant number of HCPs, who have each completed an acceptable number of timings, permanent or temporary unit values are assigned to values generated from the time studies:
A permanent (p) unit value per service is established only after appropriate data is obtained from a statistically significant number of HCPs who have each completed an acceptable number of timings.
An interim temporary (t) unit value per service is assigned to a service based on fewer time studies, which meet the requirements established by the RPL review

process. A temporary (t) unit value may not be assigned without a time study and may not be assigned by an individual HCP in the field.
An extrapolated (e) unit value per service may be assigned to a service before standard time studies have been performed. The extrapolated (e) unit value may be derived in part from components of previous time studies on similar services.

5.7 Determining Unit Values

A time study is a work measurement technique, used to determine the time a qualified worker takes to complete a particular element of a task under specified circumstances at a defined rate.
A qualified HCP in South Africa is a person, registered at the Health Professions Council of South Africa (or others as may be required), who has the physical, mental and intellectual characteristics to do the work with a particular level of knowledge, application and skill. These requirements imply that

- The quality of the final product meets with acceptable clinical standards;
- The 'best' method (current acceptable standard of care) is followed;
- The available equipment and technology are utilised optimally;
- Materials are not wasted, and
- The highest degree of safety standards is maintained.

The time is takes to complete a service, is measured with a stopwatch through direct observation. The time it takes to complete a service must be a 'fair time'. A fair time is the standard time an average HCP requires to complete a procedure satisfactorily. The study process starts by analysing all services into basic steps or elements. These steps are used to clarify the scope of the service, and permit the critical appraisal and possible improvement of the method of performing the service. However, the purpose of the study is to determine the time it takes to provide the service only, and not to improve on the method(s) used. A service will thus only be timed in steps when it is usually not completed in one visit.
The next step in the process is to time the steps (or visits) of the service to build up the total basic time for that service and HCP.
The standard time for a particular service and HCP is the sum of the observed values (total basic time) divided by the number of observations. In other words, the standard time is the mean time that a particular HCP requires to provide a particular service.

The standardised unit value for a service is the mean of the standard times of that service, and can be defined as the mean number of workload units (expressed in minutes) of technical, clerical, and assistant time required by experienced HCPs of average capability to perform all necessary steps in order to complete the defined service once.

An acceptable time study should include the recording of the following data:

- The HCP type that has performed the procedure;
- The location where the procedure has been performed – surgery (in office); theatre (in hospital) or other;
- The procedure code and description;
- The number and description of the steps of the procedure (if appropriate);
- The actual timing per step of the procedure; and
- The total time of the procedure.

6. Notes on Costing Spreadsheet

6.1 Introduction

The spreadsheet can be downloaded from the Departmental website.

This spreadsheet represents the typical practice of a hypothetical health care provider (HCP) group. The values used in the spreadsheet would in practice be based on a representative survey of members of the group.

The spreadsheet has the following parts:

1. Fee Items. The service items being proposed for inclusion into the RPL. The list represents all the services offered by the health care provider group. Two special service items (items 40010 and 40020) are included to show how services provided by only certain practitioners are dealt with.
2. Income Statement. Included for illustrative purposes to show how the estimated net income for the practice could be calculated.
3. Labour. Lists the personnel in a typical practice and allocates them to direct or indirect labour.
4. Standard Equipment. List the standard (typical) equipment (including furniture and fittings) used by a typical practice.
5. Special Equipment. List the equipment used to render certain services only (items 40010 and 40020 in this case).
6. Overheads. Consolidates all overhead costs and calculates the correction required for variability in surveyed overhead costs.
7. Responsibility Values. Calculates the responsibility values using the methodology described in Appendix B of the Guidelines.
8. Parameters. List the values of parameters used in the costing model and summarises the overhead and direct labour costs.

9. Sample Survey Data. Surveyed overhead costs with confidence interval calculation.

6.2 Fee Items

The starting point is to list all the individual services provided by the particular HCP group and the average durations associated with each service. In this case provision is made for assistant time and special equipment time as well. Assistant time should only be included if the assistant does not bill independently of the primary HCP. The general recommendation is to allocate assistant's time to indirect labour and not to account for it separately as in this case. It is done here only to show how it could be done.

Services 40010 and 40020 are specialist services that are only provided by certain practices and these services require the use of special equipment. The services are dealt with as a separate cost centre and the cost of the special equipment is recovered only through these services.

The responsibility factor for each item is calculated on the responsibility value sheet.

The direct labour cost for each item is calculated by multiplying the duration of the procedure with the direct labour rate (calculated on the labour sheet) with the responsibility value of the item. Note that in the case of items 40010 and 40020 the different times for the different staff involved are multiplied with their respective direct labour rates and summed to give the direct labour cost.

The overhead cost for each item is calculated by multiplying the maximum duration of the item with the overhead rate calculated on the parameters sheet.

An arbitrary rand conversion factor (RCF) is then used to convert the sum of the individual cost components to relative value unit (RVU) for the item. The RVU is them multiplied with the RCF and the standard RPL rounding applied to get to the final price for the item. Note that the RCF is arbitrary and its value does not influence this calculation (it appears on both sides of the equation). The RCF will only become important in future years when it is used to inflate the price in line with CPIx without recalculating costs. The calculated price is VAT exclusive. To calculate the VAT inclusive price the RCF should be increased by the VAT rate.

The estimated time use profile (that is the percentage of the productive time of the primary HCP used to render the particular service represented by that item) is used here only to estimate realistic utilisation figures for each service. In practice the utilisation

figures would be derived from the practices surveyed. The utilisation figures are only used to estimate the practice revenue and are not in any way used to calculate the item price.

6.3 Labour

This sheet list the staff used in the typical practice. The total productive time (available work minutes per annum) available to each position is calculated from the base working minutes calculated on the parameters sheet (BASEVOL). The calculation takes into account ordinary leave, sick leave and a productivity factor. In practice each productivity factor will have to be further substantiated by calculations to show how it has been derived from the practice survey.

The expected annual remuneration for each position is given. The remuneration should be the total cost of the position to the practice including benefits such as health insurance and pension contributions. The cost of personal development (continuing professional education) is listed a practice overhead and not included in the personnel costs. When the RPL is calculated standardised professional remuneration values will be used based on the prevailing public sector salary packages.

For each position the contribution of the staff member to direct labour is expressed as a percentage. Typically 100% of the primary HCP's time will be allocated to direct labour. In this example only a portion of the second HCP's time has been allocated to direct labour. The cost of support staff such as the receptionist and cleaner is allocated to indirect labour in total.

The adjusted standard volume for each position is calculated (if the person is fully allocated to indirect labour this value is not applicable). The adjusted standard volume is the total productive time (in minutes) times the weighted mean of the responsibility values for all fee items (calculated on the responsibility value sheet). The effect of this calculation in practice is that the HCP whose service mix is equivalent to the average mix will earn the indicated remuneration. Those who do more complex procedures (higher mean responsibility value) will earn more. Conversely those who do on average less complex procedures will earn less.

Finally the direct labour rate per minute is calculated by dividing the portion of the remuneration allocated to direct labour by the adjusted standard volume.

6.4 Standard Equipment

All the standard equipment, furnishing and fittings are listed here. It is recommended that this be done by standard area (e.g. consulting room, reception, treatment room, etc). Only fittings whose costs are not covered in the rental cost of the premises may be included.

The current acquisition cost and expected life time of each item is listed. The annual amortised cost over the life time of the item is then calculated based on the prevailing prime overdraft rate. Provision is made for the maintenance and insurance of each item. A standard provision of 2% of the capital cost per annum for maintenance (and only for equipment that requires maintenance) is allowed. Items such as furniture or fittings that do not require regular maintenance should not include this provision. An insurance provision of 1% of the capital cost per annum is allowed. The basis for maintenance and insurance rates that differ from the standard allowance must be provided.

The annual contribution to overheads by each item is calculated by summing the amortised annual cost, maintenance cost and insurance costs. The depreciation period must be consistent with the write-off periods allowed by SARS (See Practice Note No. 15).

6.5 Special Equipment

The annual cost of special equipment is calculated in the same way as for standard equipment. A special equipment overhead rate is then calculated by dividing the annual overhead costs of the special equipment by the standard volume for the equipment. The productivity factor (the proportion of the available time that the equipment will be in use) used for the equipment must be substantiated. The special equipment overhead rate is added to the overhead rate when overheads are allocated to the fee items in the cost centre using this equipment (see item 40010).

6.6 Overheads

The indirect labour costs and standard equipment costs calculated above are consolidated into total overheads on this sheet. All overheads that is not part of indirect labour or equipment are then quantified. Note that equipment financing, insurance and maintenance has already been accounted for in the equipment overhead and should not be added here again.

Each item included in overheads should be substantiated on the basis of findings from the practice cost surveys and the calculations to derive the annual value listed shown. All overhead costs should be exclusive of VAT (input tax).

The total overhead amount is adjusted downward to account for uncertainty in the surveyed overheads. For an example on how this is calculated see the survey sheet. The basis for this adjustment is to increase the likelihood that the real average overhead value is at least the value used.

6.7 Responsibility Values

The method explained in Appendix B the Guidelines is applied here to calculate a responsibility value for each item. The adjusted utilisation is simply the base utilisation times the responsibility value of the item. The total adjusted utilisation is divided by the total unadjusted utilisation to calculate the weighted mean responsibility value. The weighted mean (based on utilisation) responsibility value is calculated for use in adjusting the direct labour standard volume. The direct labour standard volume is multiplied by the weighted mean responsibility value to obtain the adjusted direct labour standard volume. This calculation ensures that a practitioner with a typical case mix will earn the benchmark professional remuneration, whereas those with a more complex case mix will earn more than the benchmark remuneration.

6.8 Parameters

This sheet contains named parameters, which are used in calculations throughout the costing model.

The mark-up on overhead is calculated by deriving a expected rate on return on investment after tax from the banker's acceptance rate. This rate is then adjusted using company tax rates to calculate the mark-up.

The total annual overhead is divided by the calculated standard volume for overheads to calculate the overhead rate per minute.

Return on investment is calculated by applying the calculated mark-up on overhead (see parameters sheet) and a return on investment rate per minute calculated.

Overhead values are adjusted to take the estimated inflation (CPIx) for the next year into account.