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NATIONAL HEALTH REFERENCE PRICE LIST 2007: INVITATION FOR SUBMISSIONS

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A. INTRODUCTION

1. Invitation for submissions

Submissions are invited for the 2007 version of the National Health Reference Price List (NHRPL 2007), which will be published by the Council for Medical Schemes in conjunction with the Department of Health. These submissions must comply with the guidelines set out in this document, and must reach the Council for Medical Schemes (for attention: Stephen Harrison) by no later than close of business on **31 May 2006**. Submissions received after this date will not be considered for the NHRPL 2007. Please obtain a dated acknowledgement of receipt from the Council, as this will be required proof of submission.

2. Background

- 2.1. The underlying principle to the NHRPL 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.
- 2.2. In order to apply this principle certain preconditions must be met:
 - 2.2.1. a standard nomenclature to identify the service being priced; and
 - 2.2.2. an agreed upon methodology to determine the reference price associated with a particular service.
- 2.3. The pricing methodology depends on the following assumptions:
 - 2.3.1. a particular reference fee schedule is determined for a well defined and relatively homogeneous provider group;
 - 2.3.2. 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;
 - 2.3.3. reference price components will be based on country wide averages, with the result that actual price components will differ geographically, and will depend on individual practice efficiencies and practice specific factors.
- 2.4. The reference price list consists 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 applies. This list of items must comply with the following general requirements:
 - 2.4.1. *comprehensiveness* – the list should provide for all the recognised services (accepted practice) rendered by the provider group to which it applies;
 - 2.4.2. *consistency* – there should be no duplication or overlap between items in the list;

2.4.3. *systematism* – 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.

2.5. A reference price list item consists of the following components:

2.5.1. *schedule* – a schedule contains the price list items applicable to one or more provider groups;

2.5.2. *provider group* – a professional group or sub-group (discipline, sub-discipline) or health service provider category to which a particular schedule applies;

2.5.3. *item code* – a numeric code that is unique to a particular schedule (the actual code length may vary by schedule, up to a maximum of six digits);

2.5.4. *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;

2.5.5. *item terminology/nomenclature* – a brief written definition of the price list item (each item must have terminology);

2.5.6. *descriptor* – a written narrative that provides further definition and the intended use of the item (optional);

2.5.7. *Relative Value Unit (RVU)* – a numeric value that expresses the value of this item relative to all the other items in the schedule, and 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);

2.5.8. *Benefit Factor* – in general all items in a reference price list will have a benefit factor of 1, but 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.

3. **NHRPL review cycle**

3.1. It is planned to publish a full draft of the NHRPL 2007 by mid-August 2006, with two weeks given to stakeholders to identify errors (not to introduce new issues), and final publication by mid-September 2006. This should eliminate the need for multiple version changes subsequent to initial publication.

3.2. We are aware that the lateness of this publication date poses particular problems, especially for funders, who have difficulty accommodating significant changes at this late stage. It is simply not logistically possible to bring forward this date given the intensity of the NHRPL review process.

- 3.3. Nevertheless, to partially address these concerns, the NHRPL reserves the right to hold over any changes that it requires too major for reasonable implementation within the available time frames until the following year's NHRPL publication (i.e. NHRPL 2008). In addition, if cost-based increases are very significant, the NHRPL also reserves the right to phase in those increases over a two-year period. It is also suggested that disciplines wishing to further develop certain structural proposals over a longer period may wish to submit them for consideration to the NHRPL in 2006 to receive preliminary feedback with a view to implementation in 2008.
 - 3.4. In time, we hope that this process will evolve into a two-year review process to enable sufficient time for submissions to be made, review to be conducted, and publication made with adequate notice to all parties.
 - 3.5. In addition, please note that where the NHRPL 2006 is now based upon costings submitted during 2005, the NHRPL is unlikely to pass through substantial increases based upon new costings for those affected disciplines for NHRPL 2007. The NHRPL 2007 will in all likelihood apply an inflationary increase to components of the pricing in these schedules. However, if there are substantial concerns from Council or other stakeholders that the values in the NHRPL 2006 were a substantially erroneous reflection of the costings submitted, or that the values as submitted were an improper reflection of average costs in the industry, adjustments may be made to the NHRPL 2007 values based upon a full audit of the submission as well as the NHRPL review process – as opposed to a new costing process.
 - 3.6. In addition, where major structural changes were effected to schedules in the NHRPL 2006 based upon submissions made during 2005, the NHRPL is unlikely to again make major structural changes to those schedules in the NHRPL 2007, unless significant perverse effects of the changes effected in NHRPL 2006 are demonstrated.
4. **Who may make submissions?**
 - 4.1. NHRPL submissions are expected to have gone through a rigorous peer review process prior to submission of the NHRPL. As a consequence of this and the fact that the NHRPL affects all providers in the relevant disciplines, submissions will not be accepted from individuals or individual companies.
 - 4.2. Submissions will therefore only be accepted if they are received from a professional association representing the discipline concerned, or a statutory body established to regulate the relevant profession, provided that there are no legal impediments to the relevant bodies making the submission. Where several subdisciplines are represented by an umbrella professional association which provides an interdisciplinary peer review process, submissions must be made via that umbrella body.
5. **Failure to make submissions**
 - 5.1. In those disciplines where reference prices are based on costing surveys which have already been conducted, in the absence of new costing information inflationary-linked adjustments will be made to prices. These adjustments may vary between specific components of the costings.

- 5.2. Where no costings are provided and reference prices are still based on historically negotiated tariffs, the NHRPL will consider passing through no increase at all for the NHRPL 2007 as a disincentive for non-participation in the process.

6. Independence of consultants

- 6.1. Consultants commissioned by parties making submissions to the NHRPL to undertake costing surveys for purposes of those submissions must be independent of the relevant association and profession. These consultants must be free from any interest and any business or other relationship which could, or could reasonably be perceived to, materially interfere with the consultant's ability to objectively evaluate the costs associated with the relevant profession. Non-compliance with this requirement will result in rejection of submissions.
- 6.2. Remuneration of consultants in any way linked to the size of increases in NHRPL reference prices is construed as creating an impermissible conflict of interest and is a basis for rejection of submissions.
- 6.3. To the extent that any consultant has an interest or any business or other relationship with the relevant association or profession which that consultant or the party making the submission believes does not materially interfere with the consultant's ability to objectively evaluate the costs associated with the relevant profession, a full declaration of the interest or relationship must accompany the submission.
- 6.4. Please note that if, notwithstanding such declaration, the NHRPL Review Committee considers the declared interest or relationship to materially interfere with the consultant's ability to objectively evaluate the costs associated with the relevant profession, the submission may be rejected on this basis. Parties wishing to avoid this possibility may submit these declarations for review at an earlier date for a determination on materiality of interest.
- 6.5. All declarations of interest or relationship will be published on the Council's website.
- 6.6. Should any interest or relationship come to light subsequent to receipt of a submission which ought to have been declared, this may result in rejection of the submission.
- 6.7. Previous NHRPL acceptance of submissions should not be construed as acceptance of the independence of the consultants concerned for purposes of the NHRPL 2007 process.

7. Verification of scope of practice

The party making the 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. If there is any uncertainty regarding scope of practice of the profession, the party making the submission must resolve this matter with the relevant statutory council prior to making the submission.

8. Non-proprietary nature of submissions

- 8.1. The NHRPL is a public domain publication, to be freely used by any stakeholder. The NHRPL will not include any structural components over which any person holds copyright or any other form of intellectual property – unless specific guarantees are provided that this will not in any way compromise the public domain nature of the document.
- 8.2. Every submission must be accompanied by a written guarantee that –
 - 8.2.1. publication of the NHRPL based on the proposals made in the submission will not constitute an infringement of copyright held by any party, and will not require any licensing agreements or royalty payments;
 - 8.2.2. parties making use of the NHRPL through software systems which facilitate billing between medical schemes and providers, or reproducing the NHRPL to publicise the benefits offered by medical schemes will not be in infringement of copyright, and will not require any licensing agreements or become subject to any royalty payments;
 - 8.2.3. by using the proposals made in the submissions, the NHRPL will not be restricted by any intellectual property interest or proprietary restriction from maintaining or altering the relevant portion of the NHRPL; and
 - 8.2.4. the party making the submission indemnifies the NHRPL for any claims or damages arising from undisclosed intellectual property violations arising from implementation of the proposals in their submission.

9. Cost and activity time surveys

- 9.1. 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 below will be correspondingly larger with a low response rate.
- 9.2. 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.
- 9.3. 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.
- 9.4. Accurate service duration times are a vital component of proper costing studies. Appendix A gives suggested 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.

10. Audit and authenticity of survey results

10.1. The NHRPL 2007 review process will focus far more on audit of costing surveys and submissions. Submissions will only be accepted on the basis that –

10.1.1. all information pertaining to the process will be made available to parties appointed by the NHRPL to audit the process; and

10.1.2. 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.

10.2. 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 – although this identification will be treated as confidential.

10.3. 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 therefor must be made explicit in the submission – together with the original data.

10.4. If any material misrepresentations of data come to light in the review process or if there is non-compliance with the requirements of this section of the circular, this will be a basis for complete rejection of submissions.

11. New technology

Requests for new technology codes may be subjected to a health technology assessment (HTA) process, and their inclusion in the NHRPL may be suspended pending the outcome of such an HTA 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 need for the technology and projected utilization in South Africa.

12. Exceptional Situations

12.1. It is acknowledged that the costing methodology described in this document may not necessarily be suitable for all health care disciplines or service environments. Modifications to the methodology may be appropriate, for example, in relation to hospitals, pathology laboratories and emergency services.

12.2. 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 NHRPL.

13. Acknowledgments

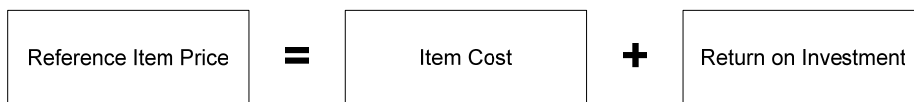
There were a number of contributors to this methodology. Particular acknowledgment is given to Dr Kobus Herbst and Dr Derik van Rensburg.

B PRICING METHODOLOGY

14. Introduction

14.1. 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



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

14.2.1. 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.

14.2.2. 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 account the risk profile of the practice.

14.3. 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 spent 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 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.

15. Basic Example

15.1. This is a basic example of the cost calculation for an 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.

15.2. Calculation of direct labour costs:

15.2.1. Determine appropriate annual professional remuneration (PR).

15.2.2. 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 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.

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

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

15.2.4. 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).

$$LC = LR \times A$$

15.3. Calculation of allocated overhead costs:

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

15.3.2. Determine standard volume (SV) for the allocation unit per year. The process is the same as in 13.2.2 above.

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

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

15.3.4. 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).

$$OC = OR \times A$$

15.4. Calculation of return on investment component

15.4.1. 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.

15.4.2. 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:

$$ROI = O \times M$$

15.4.3. Determine standard volume (SV) for the allocation unit per year. The process is the same as in 13.2.2 above.

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

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

15.4.5. 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).

$$ROIC = ROIR \times A$$

16. Basic Example Calculated

16.1. 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 Calculation¹

Bankers' Acceptance Rate	7.00%
Expected rate of return after tax	7.00%

¹ The value of some of these parameters will change. The NHRPL will publish the final parameters (as well as, for example, the levels of professional remuneration that will be applied per discipline) in due course.

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:

$$P = (LR + OHR + ROIR) \times UV$$

$$P = (2.851 + 3.507 + 0.445) \times 15$$

$$P \approx 102.00 (\text{VAT Exclusive})$$

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)

17. Guidelines for Calculating Direct Labour Costs

- 17.1. 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.
- 17.2. 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.
- 17.3. Adjustment for complexity of procedures. Section D 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 (and 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).

18. Productivity factors

The adjustment of the standard volume with a productivity factor is done in recognition of the fact that health care providers can not 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%.

19. Overhead costs

19.1. 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).

19.1.1. *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).

19.1.2. *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 labour 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	

Category		Include	Exclude
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
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
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

Category		Include	Exclude
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	
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		
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	

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

19.2.1. All costs must be VAT exclusive.

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

19.2.3. 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.

19.2.4. 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.

19.2.5. Where a surcharge exists 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.

19.3. 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.

19.4. 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.

19.5. 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 can not 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%.

19.6. 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 NHRPL is at least at stated level. The confidence rate calculation and adjustment method is documented in the accompanying spreadsheet.

20. **Direct Material**

20.1. Mark-ups. Detailed guidelines on the mark-up on direct materials are pending the development of an appropriate model (in this regard see Circular 67 of 2005). The following principles will be applied:

20.1.1. Mark-ups cannot be a source of income or profit.

20.1.2. Actual cost components of material handling should be quantified.

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

C. PROCEDURES FOR ADDITION, DELETION OR CHANGE TO ITEMS

21. General

21.1. Change requests include revisions, additions and deletions.

21.2. 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.

21.2.1. 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.

21.2.2. 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.

21.2.3. A suggested service/procedure should be neither a fragmentation of an existing procedure/service nor currently reportable by one or more existing codes.

21.2.4. 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.

21.2.5. A suggested revision should address omissions or ambiguities within a current procedure/service code's terminology or descriptor.

21.2.6. A suggested deletion should address a procedure/service that is no longer considered current or acceptable clinical/technical practice.

21.2.7. The professional association's "acceptance" or "approval" programmes shall not be the sole basis on which a procedure code is added.

21.2.8. Additions, deletions or changes to the Schedules may be considered to allow for compliance with relevant rules and regulations relating to treatment.

21.2.9. Previously submitted but not accepted change requests must be accompanied by new information in order to be reconsidered.

21.2.10. A suggested Relative Value Unit / NHRPL Rate should include all information and address all aspects to be considered in determining a RVU/Rate (see above pricing criteria).

22. Additional evaluation criteria

22.1. Requests for addition, revision or deletion are also evaluated using additional criteria that include the following considerations:

22.1.1. Is the procedure/service currently taught in an accredited training school, or in an accredited post-graduate programme?

22.1.2. Is the procedure/service currently accepted therapy?

22.1.3. Does the procedure/service apply to treatment provided by generalists and specialists without differentiation?

22.1.4. Does the procedure/service endorse or reflect a product-specific technique?

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

22.3. 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.

23. Specific submission requirements

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

23.1. A separate request is required per code for each desired action related to the code.

23.2. Provide substantive justification for proposing the request. Please avoid reasons such as "no code currently available."

23.3. Include vignettes, if helpful. A vignette must include the following information:

23.3.1. Description of the typical patient for whom the procedure is used.

23.3.2. Description of the clinical procedure itself.

23.3.3. An indication whether it is appropriate to report the procedure with any others.

23.3.4. For a stand-alone procedure a note on other procedures that must be reported at the same time, and those which must not.

23.4. When requesting a new procedure code that represents new technology, attach available supporting peer-reviewed literature.

23.5. Attach literature, when available, indicating widespread usage and acceptance of the procedure.

23.6. 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.

23.7. A suggested Relative Value Unit / NHRPL Rate must include the following information:

23.7.1. Time / unit value – indicate the average time required (expressed in minutes) to perform all steps necessary to complete the defined procedure once. For a suggested approach to time studies, see Annexure A below.

23.7.2. Responsibility value – Indicate the responsibility to provide the procedure/service. If this is not provided, the NHRPL will default to a responsibility value of 1 for all procedures. For more information, see section D below.

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

23.8. Provide an indication of the equipment and material(s) required to provide the procedure, as well as an indication if the equipment used are considered as “standard equipment” for a “standard practice” within the discipline.

23.9. Provide an indication if the procedure is provided in the healthcare professional's own practice, hospital, etc. or both. In addition, an indication should be provided whether the services of other healthcare professionals, such as laboratory services, anaesthetist, etc., are required to provide the procedure/service.

D CALCULATING RESPONSIBILITY VALUES

24. Introduction

24.1. If health care professionals were requested to list the five most difficult procedures/services they perform, and these lists were compared to those of other health care professionals, there would be a consensus that some procedures are more difficult than others. In addition, some

Chairperson: Prof. Nicky Padayachee Vice-Chairperson: Ms Gando Matyumza Chief Executive & Registrar: Patrick Masobe 19

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 health care professionals.

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

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

25. Procedure Evaluation

- 25.1. 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.

- 25.2. The evaluation of a procedure/service should comply with certain criteria:²

25.2.1. It should establish the rank order of procedures within the spectrum of a discipline's procedures/services, and measure the difference between values.

25.2.2. It should ensure that, as far as possible, judgements about procedure values are made on objective rather than subjective grounds.

25.2.3. 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.

- 25.3. 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).

- 25.4. 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:

25.4.1. 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.

² A modified version of the definition of job evaluation schemes by Armstrong (1990, p.382).

- 25.4.2. Judgment and mental effort. The mental exertion or striving involved in the formation of an opinion or notion concerning the provision of the service.
- 25.4.3. Skill and physical effort. The ability, competence, technique, and physical exertion or striving required to provide the service.
- 25.4.4. 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).
- 25.5. Typically, criteria are not explicit; thus allowing for each person's subjective judgment. 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).
- 25.6. 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.
- 25.7. 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).
- 25.8. 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.
- 25.9. Figure 3 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).

Figure 3: 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? _____			

25.10. 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. Figure 4 illustrates how this is accomplished.

Figure 4: Allocation of scores to a service or group of services

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		

25.11. The total raw scores of the decision makers are now calculated and a mean or median for the service (or group of services) determined. Figure 5 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.

25.12. 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.

Figure 5: 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				

25.13. 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.

25.14. 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.

25.15. 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.

26. **Application of Direct Labour**

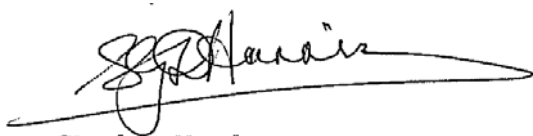
26.1. The RVU of a service is determined by multiplying the Unit Value (UV) with the Responsibility Value of that service ($RVU = UV \times RV$). This RVU value in turn, is multiplied with the predetermined direct labour rate (conversion factor) to determine the cost of direct labour for the particular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

26.2. 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:

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

We look forward to engaging with all stakeholders in the coming few months in relation to this process.

Sincerely



Stephen Harrison
SENIOR SPECIALIST: POLICY AND SPECIAL PROJECTS

APPENDIX A: SUGGESTED APPROACH TO WORKLOAD RECORDING METHOD (UNIT VALUES)

1. Introduction

- 1.1. 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.
- 1.2. The Workload Recording Method is used to determine the time required by an average healthcare professional 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.
- 1.3. Depending on the health care professional type, workload units can be expressed in minutes of Radiology Workload Units (RWU), Dental Workload Units (DWU), Psychology Workload Units (PWU), etc.
- 1.4. The Workload Recording Method provides a common comparable measuring approach among health care professional types and adaptation(s), where necessary, should be clearly identified.
- 1.5. Most clinical services can be expressed in terms of minutes. Workload units are thus the minutes of direct labour and the measure of activity for healthcare professionals in their practices and one WU is equal to one minute of clinical, clerical and assistant time.
- 1.6. 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:
 - 1.6.1. 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:
 - 1.6.1.1. *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, handpieces, etc.) and chairside 'laboratory activities' (e.g. temporary crowns, fitting a prosthesis, etc.) are all included as part of clinical time.
 - 1.6.1.2. *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.

- 1.6.1.3. *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).
- 1.6.2. 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 health care professional's office to a laboratory). Handling of laboratory work excludes the handling of incoming (completed) laboratory jobs. Handling of laboratory work excludes laboratory services.
- 1.6.3. 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 HEALTH CARE PROFESSIONAL (i.e. washing of hands, gloving, etc.), checking the patient's record and counselling in relation to the visit.
- 1.6.4. 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 HEALTH CARE PROFESSIONAL (e.g. removing gloves, washing hands, etc.), guiding the patient to the reception area and filing the patient's record.
- 1.6.5. 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 health care professionals and/or staff in the surgery after treatment of the patient. These include between patient disinfecting of surfaces, surgery preparation of instruments for sterilising, etc., but exclude the actual sterilising time of an autoclave or other type of steriliser.
- 1.6.6. Maintenance and repair. Maintenance and repair include all standard surgery maintenance procedures performed by health care professionals 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.

2. **Unit Values per Service**

- 2.1. Only the “treatment time” (clinical, assistant and clerical) is used to determine the unit value of a procedure.
- 2.2. The time spent on “handling of specimen/laboratory work” for transfer from the health care professional’s 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 schedule has a listed code for the handling of specimen/laboratory work (See CPT code 99000 as an example).
- 2.3. 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:
 - 2.3.1. Part of the action of handling laboratory work is often done by the health care professional after patients have left. In order to enhance the timing of this ‘break in continuity’, it should be timed separately.
 - 2.3.2. 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.
 - 2.3.3. There are dental services, for example, complete dentures, that require the action of handling laboratory work more than once as part of the same procedure.
 - 2.3.4. Comparisons between services on the time spent to complete, are more accurate if the handling of laboratory work can be excluded.

3. **Standard Volume Adjustment**

- 3.1. The Standard Volume used in the NHRPL 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.
- 3.2. 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.

4. **Permanent, Temporary and Extrapolated Unit Values**

- 4.1. The time studies should include all clinical, clerical and assistant time expended toward the completion of a service. It should involve more than one health care professional 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 health care professionals.
- 4.2. Acceptable studies should then be edited and presented to the NHRPL review process. Depending on a statistically significant number of health care professionals, who have each completed an acceptable number of timings, permanent or temporary unit values are assigned to values generated from the time studies.
- 4.3. A permanent (p) unit value per service is established only after appropriate data is obtained from a statistically significant number of health care professionals who have each completed an acceptable number of timings.
- 4.4. 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 NHRPL review process. A temporary (t) unit value may not be assigned without a time study and may not be assigned by an individual health care professional in the field.
- 4.5. 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. **Determining Unit Values**

- 5.1. 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.
- 5.2. The time it 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 health care professional requires to complete a procedure satisfactorily.
- 5.3. 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.
- 5.4. 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 health care professional.

- 5.5. The standard time for a particular service and health care professional 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 health care professional requires to provide a particular service.
- 5.6. 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 health care professionals of average capability to perform all necessary steps in order to complete the defined service once.
- 5.7. An acceptable time study should include the recording of the following data:
- 5.7.1. the health care professional type that has performed the procedure;
 - 5.7.2. the location where the procedure has been performed – surgery (in office); theatre (in hospital) or other;
 - 5.7.3. the procedure code and description;
 - 5.7.4. the number and description of the steps of the procedure (if appropriate);
 - 5.7.5. the actual timing per step of the procedure; and
 - 5.7.6. the total time of the procedure.

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