DENTAL CLINIC EFFICIENCY AND EFFECTIVENESS MANAGEMENT TOOLS

PREPARED BY:
THE CLINICAL EFFICIENCY WORKGROUP OF THE DENTAL SERVICES DELIVERY COMMITTEE

THE DENTAL FIELD SUPPORT AND PROGRAM DEVELOPMENT SECTION
DENTAL SERVICES BRANCH
INDIAN HEALTH SERVICE
5300 HOMESTEAD RD.
ALBUQUERQUE, NM
87110
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section I. Purpose of this Document</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section II. Characteristics of an Efficient and Effective Clinic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section III. Process for Monitoring and Evaluating Clinic Activity</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section III. Process for Monitoring and Evaluating Clinic Activity A. Data Requirements and Sources</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Clinical Workload data</td>
<td>8</td>
</tr>
<tr>
<td>2. Program Resources Data</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section III. Process for Monitoring and Evaluating Clinic Activity B. The Use of Data Indicators</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section III. Process for Monitoring and Evaluating Clinic Activity C. Off-site Monitoring Procedures (for all programs)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section III. Process for Monitoring and Evaluating Clinic Activity D. On-site Review Procedures (for selected programs)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section IV. Aspects of Dental Clinic Efficiency</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section IV. Aspects of Dental Clinic Efficiency A. Program Resources and Staffing Patterns</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Care Provider to Population Ratios</td>
<td>14</td>
</tr>
<tr>
<td>2. Dental Operatories Available per Dentist</td>
<td>15</td>
</tr>
<tr>
<td>3. Ratio of Dental Assistants to Dentists</td>
<td>15</td>
</tr>
<tr>
<td>4. Overall Staffing Pattern Guidelines</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section IV. Aspects of Dental Clinic Efficiency B. Workload Screening Indicators For Clinic Efficiency</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Patient Visit Indicators</td>
<td>16</td>
</tr>
<tr>
<td>2. Service Minute Indicators</td>
<td>17</td>
</tr>
<tr>
<td>3. Dental Services Indicators</td>
<td>19</td>
</tr>
<tr>
<td>4. Program Cost Indicators</td>
<td>19</td>
</tr>
</tbody>
</table>
C. Patient Flow and Control of the Appointment Book

1. Appointment Scheduling
2. Routine Exam Appointments
3. Series of Appointments for Patients
4. Time Allotted for Procedures
5. Mix of Services for Double-booking of Patients
6. Short-Notice Patient Call List
7. Patient Waiting Lists for Certain Services
8. Quadrant Dentistry
9. Treatment Plans Completed

D. Emergency Patient Flow

1. Emergency Exam Appointments
2. Walk-in Patients per Day and Broken Appointments per Walk-in Patient
3. Resources for Specific Emergency Time
4. Routine Exam Appointments for Emergency Patients

E. Broken Appointment Rates and Remedies

1. Determining the BA Rate at a Clinic
2. Scheduling for Broken Appointments
3. Use of Patient Reminders
4. Use of Broken Appointment Policies

F. Use of Provider Time

1. Patient Visits per Dentist-Day
2. Actual Provider Time versus Potential Provider Time
3. Patient Visits per Provider/Actual Clinic Day
4. Patient Visits per Provider/Potential Clinic Day 28
5. Clinic Opening Time/First Patient Seen Discrepancy 28
6. Last Patient Completed/Clinic Closing Time Discrepancy 28
7. Use of Non-Chairside Provider Time 29

G. Use of Dental Operatories 29
1. Total Visits/Operatory per Potential Clinic Day or Actual Clinic Day 29
2. Actual Operatory Time/Potential Operatory Time 29
3. Scheduling Appointments to Keep Operatories Filled 29
4. Clinic Time Not Used for Treating Patients 30
5. Use of Multiple Operatories 30
6. Standardization of Operatories and Tray Setups 30
7. Unit Dose Preparation 30

H. Use of Dental Auxiliaries 31
1. Use of Expanded Functions (EF) Dental Auxiliaries 31
2. Delegation of Duties to Auxiliaries 31
3. Cross-Training for Receptionists 32

I. Patient Recall System 32
1. Existence of and Basis for Recall System 32
2. Range of Recall Intervals 32

J. Equipment and Supplies 33
1. Equipment Problems/Preventive Maintenance 33
2. Supply Ordering System/Inventory 33
Section V. Aspects of Program Effectiveness

A. Access to Care Screening Indicators

1. Proportion of Population Served Annually
2. Proportion of Patients Treatment Planned
3. Proportion of Patients Completed
4. Average Service Minutes Provided per Patient

B. Appropriateness of Care Indicators

1. Levels of Care Percentages (Levels I-VI)
2. Emergency Dental Care Profiles
3. Preventive Services Profiles
4. Restorative Therapy Profiles
5. Endodontic Care Profiles
6. Periodontal Care Profiles
7. Prosthetic Care Profiles
8. Oral Surgery Profiles
9. Orthodontic Care Profiles
10. Other Treatment Profiles

C. Oral Health Outcomes

1. Monitoring the 437 Objectives
2. Monitoring Unmet Treatment Needs

Section VI. Appendices and Attachments

Appendix I: Quick Reference List of Screening and Supplemental Indicators
Appendix IIa: Indicator Reference Value Table: Visits Per Operatory
Appendix IIb: Indicator Reference Value Table: Service Minutes per Visit
Section I. Purpose of this Document

This document provides an extensive set of methods for dental program consultants to use in monitoring and improving the clinical operations of local dental programs. The information in the document has been assembled by a team of highly experienced clinicians and administrative consultants. The goal was to include methods which could take advantage of their broad expertise as well as desktop computer technology for making routine use of clinical workload data, which have been difficult to organize and analyze in the past. An overall process is described for quarterly (off-site) monitoring of clinical activity at multiple facilities and focused (on-site) reviews at local programs needing assistance.

The efficient and effective use of available resources is crucial in dental programs serving Native American communities because most are insufficiently funded to provide adequate access for all persons who seek dental care. The management of local program resources controls the number of patients seen and the level of care provided to patients. The efficient utilization of facilities and dental staff results in increased patient access to care, higher levels of services provided, and better return on the available health resources.

It is intended that the review process can be carried out on a wide range of dental programs with the knowledge that variations in program sizes, goals, and management systems (IHS, Tribal, Urban) have substantial impact on clinic operations and the expected outcomes. Furthermore, the availability of required data to construct indicators also varies by program. For these reasons, numerous evaluation methods are described. It is not expected that every measure will be used for every dental program. Reviewers may pick and choose those which are the most relevant to given programs.

The set of procedures and recommendations provided in this manual should be considered a “tool chest” for general monitoring and problem-focused program evaluation. The initial use of the methods presented should be to establish baseline measures for comparison at future assessments and to identify areas where improvement is needed. It is understood that a reviewer’s unique knowledge and experience with each dental program being reviewed is an integral part of the processes described. The developers of this document hope it will allow clinic managers and consultants to detect important trends and to highlight areas where improvement can be made. It is also hoped these tools will enable clinical programs to conduct self-assessments independently, raising important questions and then answering them effectively. If desired, some measures of efficiency and effectiveness can be incorporated into Continuous Quality Improvement (CQI) programs. The ultimate goal is to help all dental programs improve oral health in the communities they serve.
Section II. Characteristics of an Efficient and Effective Clinic

The characteristics of an efficient and effective dental clinic include:

- it strives to provide access to services for all persons who seek and need care;
- the care provided is appropriate, of high quality, cost-effective, and acceptable to patients;
- smooth patient flow is maintained throughout each work day;
- it promotes the continuity of patient care, even as turn-over of professional staff occurs;
- all OSHA requirements and other standards of practice are met consistently.

Basic Parameters of Program Evaluation:
Adapted from O.L. Denniston’s “Evaluation of Disease Control Programs” as it appeared in the IHS Oral Health Program Guide, Part I-55.

Efficiency:
The evaluation of efficiency attempts to determine the extent to which the ratio of attainment of an objective to the resource expenditures resembles an expected ratio.

Effectiveness:
The evaluation of effectiveness attempts to measure the degree to which objectives are actually attained. In other words, it tries to answer the question, "Has program activity had the desired or expected effect on a problem?"

Appropriateness:
Relates to the social and economic value system in which a program must operate. Appropriateness of care issues can be driven by economic concerns and clinical advances in the profession, as well as the preferences of individuals and the community at large.

Adequacy:
Measures the extent to which the total problem has been eradicated or reduced. For example, many programs may be efficient and effective, but they are not adequately funded to cover their entire beneficiary population.

Side-effects:
Positive or negative outcomes which may or may not have been anticipated.
Section III. Process for Monitoring and Evaluating Clinic Activity

A. Data Requirements and Sources

The following sources of data are available for assessing the efficiency and effectiveness of dental programs in the recommended order of their use:

1. Central database client server applications (quarterly workload data and annual tables)
2. RPMS/DDS software Basic Measures Reports (local facility trend reports)
3. RPMS/DDS software Clinical Reports and Quality Assurance Options
4. IHS mainframe dental workload reports (on paper and microfiche)
5. Local dental program records and documents as available (e.g. appointment book, policies, etc.)

This document focuses on sources 1, 2, 3 and 5 from those listed. Two types of data are essential to the program review process. They are discussed below:

1. Clinical Workload data

Client-Server (C-S) Database: The IHS centralized workload database in Albuquerque has been rehosted from the IHS mainframe to a client-server (C-S) computer system. The C-S is accessible via the IHS-wide area network (WAN) using SQL client software installed on each user’s desktop computer. The C-S supports interactive applications in a Microsoft Windows environment based on Excel 5.0 spreadsheet queries to the database. The C-S clinical workload database applications can be integrated with other databases, which include the resource characteristics of dental facilities (discussed later). The C-S database applications currently available are designed to support quarterly monitoring for most of the clinical efficiency and effectiveness measures. The C-S clinical workload data are automatically updated on a quarterly basis using all data received by the IHS Data Processing Center in Albuquerque. All other C-S databases, including dental program resources and facility characteristics must be updated on an ad hoc basis by users.

An important strength of the C-S database is that it provides interactive data summaries for multiple dental programs sorted in various ways to fit the application. This reduces the need to laboriously pull data directly from each clinic in order to develop periodic workload profiles for many facilities. As the C-S becomes larger over time, the further development will provide data over a multi-year period to monitor trends among programs.

An important limitation of the C-S database is that it depends upon the transmission of all dental workload data, without omission or duplication of visit records from dental facilities, to the central database. Another limitation is that the C-S database does not contain individual visit records, but only summary datasets by provider and facility derived from visit records. Thus, some types of applications may be constrained.
**Basic Measures Reports (BMR)** of the DDS software: The BMR automatically provides a set of clinic workload data summaries on a quarterly basis for facilities using the RPMS dental software (DDSv5.4). The BMR is a component of the Compiled Statistical Reports module which creates permanent, retrospective reports for observing local program trends over time. A user manual for the module is provided as an Attachment to this document. The BMR is designed to support in-depth local program reviews and to provide an alternative data source when the IHS central database is inaccurate. In lieu of using only the BMR hardcopy reports, it is recommended that users key-enter selected data from the reports into spreadsheet software or capture the data to a disk file for import into a predefined Excel 5.0 spreadsheet application. Like the C-S system, the BMR can be used from the Area office for those clinics which allow remote users to sign on to their RPMS computer.

In addition to common workload data, the BMR provides 3-year facility user counts, but other program/facility resources data must be obtained from the C-S database in order to use the clinical efficiency and effectiveness indicators discussed in this document. The BMR also contains a unique element called “Dentist-Days” of care provided, which can serve as a denominator for various workload indicators. This new measure provides a quarterly count of the number of days on which care was provided multiplied by the number of dentists who provided dental care on each day. It is hoped this new data element will become a reliable and easy-to-use denominator for comparing program findings, in lieu of other data.

The strength of the BMR is that it enables a local program to easily compare recent performance with past performance in one set of reports. Though the BMR separates Indian from non-Indian patient workload, it does not separate workload totals by care provider or reporting facility. Other reports are available in the DDS software which provide detail at that level. A written guide is available which describes the step-by-step use of the pertinent report options which can be used to augment the BMR. The guide for those reports is included with this document.

### 2. Program Resources Data

In order to use most measures of clinical efficiency and effectiveness it is necessary to know the type and amount of resources available to a local dental program during the period of evaluation. These data are used in conjunction with clinical workload data to create common indicators for making comparisons. These data include:

- **number of dental operatories** available to provide dental care
- **number of authorized dental positions** or full-time equivalents (FTE’s) by type of personnel used, including dentists, hygienists, expanded duty auxiliaries, other auxiliaries, receptionists, clerks, lab techs and others.
- **annual budget allocation or obligations** for direct care and contract care.
- **annual population count** (from local BMR, IHS planning office, or tribe)
- **type of program management** (IHS, tribal 638, tribal S-G, urban, other)

It is recommended that each Area maintain these data in the central client-server (C-S) database in order to support various applications which use these data. The updating
of facility resources data is the responsibility of the Area Dental Consultants. Corrections or updates to the database can be done at any time. Before the close of each fiscal year, HQ-Dental will announce a deadline for updates in order to produce special annual reports and to update the indicator value reference tables which will be made available each year.

A limitation of using the resources data on the C-S is that updating replaces old data. Thus, indicators which apply past clinical workload data to current program resources data will not be accurate. For example, if the FTE data were updated for a facility several times during a fiscal year, only the most recent value entered would be used as a denominator for all quarterly workload summaries during the year. To minimize this problem the “annual” resource/facility data updates requested by HQ will be saved in a facility history file once each year to support the use of common indicators to monitor long-term trends among programs. These data can be used with BMR data when needed.

B. The Use of Data Indicators

Indicators of efficiency and effectiveness are derived by combining two or more data elements in a numerator and denominator relationship to create ratios or “rates” which can be compared to a reference value (average) or an acceptable value range. Raw data are most useful when they can be converted into simple-to-use indices for:

1) comparing the performance of many different programs at a point in time, and
2) making longitudinal comparisons of performance in a given dental program.

Though indicators can simplify the interpretation of workload data, they can be misleading or meaningless if the underlying data are flawed or if the analytical assumptions are invalid. The data used to create indicators must also strike a balance between reliability and sensitivity in order to be useful for making comparisons across programs.

Reliability defines the level of trustworthiness of a data element over time. For example, inconsistent reporting practices reduce the reliability of data. Dental visit counts provide highly reliable data for a numerator or denominator, but the sensitivity of visit counts is not sufficient for some applications. Likewise, the dental operatory count at a clinic provides a highly reliable denominator across programs, but it offers low relatively sensitivity when compared to indicators based on dental staffing (e.g., FTEs or dentists).

Sensitivity defines the level at which data can reveal significant distinctions between programs or trends in a given program. For example, total service minute values are more sensitive than a count of dental services provided for comparing workload among programs. However, the reliability of service minute totals can vary substantially with the data reporting practices of local dental programs.

Another factor affecting the reliability and sensitivity of indicators is the amount of data used to yield a ratio or efficiency rate based on a given time frame. For this reason, quarterly (3 months of data) rather than monthly data aggregates are used in central (C-S) and local (BMR) database applications as the minimum unit for performance indicators.

No one indicator is sufficient to monitor the performance of a dental program. Therefore a list of (a) screening indicators and (b) supplemental indicators has been selected to describe efficiency and effectiveness based upon their relative levels of reliability, sensitivity
and assumed validity (See Appendix I). Both types of indicators can be generated on a quarterly basis by the C-S dental workload/facility database in predefined or interactive spreadsheet formats. They can also be generated from local RPMS databases using the Basic Measures Reports (BMR) in conjunction with facility resources data in the central C-S database.

**Indicator Reference Value (IRV) Tables**: To assist local dental programs or Area consultants in applying the efficiency and effectiveness indicators, lists of reference values for each screening indicator and some supplemental indicators will be made available by Headquarters and updated quarterly or annually depending upon the type of indicator. These reference tables list the average values and the data range of each indicator for dental facilities based upon the most accurate annual datasets available.

In order to produce reliable reference values on these lists, two or more years of workload data will be pooled when possible and facilities known to have incomplete or duplicate workload data in the C-S database will be omitted from calculations, unless accurate data can be obtained by using the BMR module of the DDS software. The IRV Tables organize the average values of dental programs in descending numeric order by:

- facilities with similar characteristics (# of operatories, FTE’s, dentists)
- facilities in the same geographic region (Area program)
- facilities management type (tribal 638, tribal S-G, IHS, urban or other)

Some preliminary IRV Tables have been constructed using data from microfiche for Area program reviews by Headquarters. These tables are to be used until they can be updated at the end of FY 1995 from the C-S and the BMR data using as many facilities as possible. The preliminary IRV tables, which provide initial values for the efficiency and effectiveness screening indicators, are included as Appendix II. a - d of this document.

As stated in part C.1 of this Section, the client-server (C-S) database will also provide quarterly updates of the most recent screening indicator data for all facilities in each Area in the form of multiple spreadsheets in an Excel workbook. These C-S reports can be used with the IRV Tables which are also made available in a spreadsheet format.

The IRV Tables are to be used in conjunction with the: 1) off-site quarterly monitoring process of all local dental programs and the 2) on-site in-depth review process of selected local programs, which should also involve the use of BMR data and other information. These program review processes are described in the following paragraphs.

**C. Off-site Monitoring Procedures (for all programs)**

1. **Apply the efficiency and effectiveness screening indicators to all programs in the Area on a quarterly basis** (see Section IV.A. and B.). The C-S database manager at Headquarters will announce via Banyan mail when the central database has been updated each quarter. Detailed instructions for obtaining the screening indicator data will also appear on Banyan mail with each data update. The IRV Tables and the actual indicator rates for individual facilities are provided to C-S users in workbooks (Excel). The spreadsheets containing the data can be downloaded and modified on the user’s desktop computer as needed.
If the C-S database is not available, inconvenient, or if data transmission audit reports indicate that the quarterly updates are incomplete, the Area Dental Officers (ADO) can access each dental facility’s RPMS database instead. However, permission from local RPMS Site Managers is required to gain access to facility computers. The workload data available in local RPMS databases is always accurate, but it can become very time-consuming to apply the screening indicators to many local programs on a quarterly basis. The ADO also may elect to have each facility print out a copy of the Basic Measures Reports each quarter and mail/FAX it to them in the Area office. The data can then be entered into a spreadsheet created by them or into worksheets created by Headquarters staff or other Area Dental Officers.

2. **Interpret the results of the quarterly review of screening indicators to determine which programs have indicator values that fall substantially below an acceptable level.** Each ADO may place more emphasis on certain screening indicators than others, but it is important to review the findings using multiple indicators in relation to each other in a structured way. Clinics which are chronic "outlyer" programs, in terms of their indicator values, should be considered for a site visit to perform an in-depth assessment of clinic operations and an analysis of the reports available from the local database. Prior to scheduling an on-site review, the ADO should attempt to access the clinic’s RPMS database and use the BMR trend data for the past five (5) quarters to determine the full extent and duration of efficiency and/or effectiveness problems.
D. On-site Review Procedures (for selected programs)

1. **Once on-site at a clinic, the reviewer can apply additional indicators of his/her choosing from the complete list of indicators (See Appendix I).** The site visit will give the reviewer the opportunity to apply indicators that involve review of the appointment book and interviews with the dental staff.

2. **Analyze the local workload data indicators and subjective information before making recommendations to the program.** In many cases the data indicators will point out problems, but the subjective aspects of the review will offer possible solutions to the problems. Obviously, pointing out problems does not do much good unless practical recommendations can be made to deal with these problems. Use the trend data available (at least 5 quarters) from the BMR to reveal the duration of certain problems.

3. **Conduct a close-out session with the entire dental staff, followed by a written report soon after the site visit.** Both the oral close-out and the written report should open with a description of ways in which the clinic or program is performing efficiently (providing positive feedback), followed by concerns and recommendations. See Appendix IV for an example report from an actual on-site review.

4. **Request from the program a written action plan which tells specifically how the program intends to address and implement the recommendations.** Developing a written plan will make it more likely that the program will implement the recommendations. In the case of most tribal or urban programs, providing an action plan cannot be required, only suggested. Encourage the local staff to set their own goals (or benchmarks) for measuring and then celebrating their progress during an acceptable time frame.

5. **Perform a follow-up review of selected indicators after the next quarter to determine whether progress has been made.** Give recognition to the program (e.g., a letter to the facility director) if improvement is made. Also, promote self-assessment of efficiency by the local program staff using the BMR and other DDS software reports.
Section IV. Aspects of Dental Clinic Efficiency

A. Program Resources and Staffing Patterns

An important factor affecting clinic efficiency and effectiveness is the amount and type of dental manpower available and how it is used to provide clinical care. As clinical workload indicators are reviewed periodically, it is also helpful to consider indicators which depict the relative level of resources available to each program. Moreover, it is crucial that the program resource data be kept up-to-date in the C-S Facility Resources File in order for almost all of the screening and supplemental indicators to be reliable for making comparisons.

1. Care Provider to Population Ratios

Data Elements: Dentists / Facility Users or Dental FTEs / Facility Users

These indicators measure the available dental manpower in relation to potential patients. The ratios help determine if the number of dental staff is adequate and keeping pace with population growth. They also provide a basis for addressing many local program issues.

The **dentist to population ratio** is a crude, but widely-accepted “yardstick” used by many federal, state and local public health agencies to compare the health resources available in underserved areas with the resources available in the private sector. The numerator includes all full-time and part-time dentists (GPs and specialists). Position vacancies do not reduce the count. The population is defined as the annual count of 3-year users (medical & dental) for the most recent fiscal year. This figure should be obtained for each facility from the BMR or from the IHS Area Planning Office and then updated in the C-S database at the beginning of each fiscal year.

The **dental FTE to population ratio** is a more sensitive measure of available manpower, but its use is limited to comparisons between IHS and tribally-managed programs for which accurate FTE data are available. A full-time equivalent (FTE) position is defined as anyone working in an IHS, tribal or urban facility on a salaried or contract basis for at least 1/2 day per week on average during a fiscal year. Each half day represents .1 FTE unit. It includes dentists, hygienists, dental assistants, receptionists, office managers, secretaries, contractors, and others working in the dental clinic on a regular basis. For planning purposes, the IHS promotes that dentist/population ratios range no lower than 1:1,200 (or 1:1,500 if EF auxiliaries can be used) and that the FTE/population ratios should be at least 1:500. These ratios will be calculated annually using the C-S central database to include all dental programs for which data are available.

**Recommendation:** All programs should have an adequate number of dental staff to provide access to care for the user population. Use these ratios during local reviews to point out deficiencies to program management and/or tribal health officials. If dental vacancies are a chronic problem at a facility, adjust the ratios (but not in the C-S database) to reflect the extent of available dental resources not being used. The use of contract care providers should be considered if possible.
2. **Dental Operatories Available per Dentist**

Data Elements: Count of clinic operatories / Count of dentists

If the ratio of operatories (treatment rooms) to dentists is less than 2:1, the clinic is likely to experience bottlenecks in patient flow, because the providers must continually wait for an empty chair. A ratio of at least 2.5 and preferably 3 operatories per dentist enables the program to operate at peak efficiency. Ratios of higher than 3:1 indicate that the facility is understaffed for its size. If the staff includes dental hygienist(s), an operatory should also be available for each hygienist.

**Recommendation:** The ratio of operatories to dentists should be at least 2:1, regardless of clinic size, excluding the operatories needed for the dental hygienist(s). The current IHS facility planning assumption is that at least 3 dental operatories are needed in all full-time fixed clinics.

3. **Ratio of Dental Assistants to Dentists**

Data Elements: Count of all dental assistants / Count of dentists

Determine the ratio of dental assistants (DAs) to dentists (DDSs). If there are less than two dental assistants per dentist, the clinic is likely to experience some degree of difficulty in maintaining smooth patient flow. A ratio of 1:1 or less assistants per dentist will almost ensure that patient flow is obstructed. Having an insufficient number of dental assistants means that multiple operatories cannot be used efficiently, because the provider will need to perform chairside procedures alone while another operatory is being cleaned by the dental assistant or while the assistant takes radiographs on another patient. Sterilization procedures and the use of standardized tray set-ups are also hindered if there are too few assistants available.

On the other extreme, if the ratio of dental assistants to dentists is too large, the auxiliaries may not be kept busy, especially during dentist-intensive procedures. Expanded functions (EF) clinics need a larger DA/DDS ratio than non-expanded functions sites, especially if the EF assistants are assisted by other dental assistants when placing restorations. Also see part H.2 in this section.

**Recommendation:** The ratio of dental assistants to dentists should be appropriate for the type of clinic operation, i.e., EF versus non-EF. The ratio generally should fall between two and three dental assistants per dentist.

4. **Overall Staffing Pattern Guidelines**

Determine if the program staffing patterns are appropriate for the number of operatories and the estimated annual workload in service minutes as listed in the facility planning guidelines distributed in 1993 to the ADOs (See Appendix III). Ideally, there should be one dental assistant per operatory and at least two operatories per dentist to produce the amount of service minutes listed in the guidelines. These guidelines do not include staffing for clinics with less than three operatories. Two-operatory clinics, which are still common in small tribal programs, can be evaluated using the older IHS guidelines on page III-79 of the Oral Health Program Guide.

**Recommendation:** Staffing patterns should follow guidelines listed in the IHS facilities planning document in order to achieve optimum clinical efficiency.
B. Workload Screening Indicators For Clinic Efficiency

As stated in Section III, it is recommended that screening indicators be used quarterly by Area Dental Officers or other consultants to conduct an “off-site” review of all local programs in their region. The client-server (C-S) database can provide Indicator Reference Value (IRV) Tables on an annual basis and individual facility values on a quarterly basis by Area program for this purpose. The C-S supports the indicators listed below, unless noted. The BMR data from local RPMS databases can also be used to support quarterly screening indicators, but its use is recommended mainly for in-depth “on-site” reviews or to check the accuracy of the C-S database for selected facilities.

1. Patient Visit Indicators

Dental visit counts are highly reliable and widely-applicable for reviewing dental and medical workload. Visit counts generated by the RPMS are not dependent on local reporting practices, as are counts based upon the voluntary use of dental procedure codes. Visit counts can also be generated by most commercial dental software. Visit counts should include both Indian and Non-Indian patients for comparing efficiency among IHS and tribal programs.

Patient Visits per Dental Operatory
Data elements: Visit event codes (0000+0190) / # of operatories in clinic
Reliability & Sensitivity: GOOD / FAIR

This indicator provides a general measure of how efficiently resources are being utilized to provide access to care. The number of dental operatories serves as a stable common denominator across all programs. Indicator values reflect the effects of local appointment policies, broken appointment management, and other fundamental efficiency issues. Each clinic should be compared with programs having the same number of operatories or other programs in the Area if desired.

Recommendation: The Visits/Operatory indicator should be used as a primary screening indicator for all programs. If a local program has two or more consecutive quarterly values of less than 90 percent of the average value for facilities of the same size, their local database should be queried using the quarterly BMR to review the most recent five (5) quarters of data.

Note: When using the BMR on a local database, another indicator which may be helpful is Visits per Dentist-day to examine the volume of dental visits each quarter in relation to the number of days care was provided and the number of dentists available to provide care. Currently there are no reference values available for this indicator to make comparisons among programs from the C-S database.
2. **Service Minute Indicators**

Total service minute (SM) values provide a highly sensitive, but often less reliable measure of workload activity than dental visit counts for making comparisons across programs. Experience has shown that facility service minute values vary with local reporting practices. Though controls were recently implemented in the RPMS/DDS software to reduce the problem, there is evidence that over-reporting and under-reporting of dental services, based upon third party billing incentives, are common. Too much emphasis on service minutes as the principal measure of efficiency can further corrupt reporting and encourage the provision of what may be unneeded services (e.g., x-rays, prophys, topical fluorides, replacement fillings) in order to “improve” clinic efficiency.

Quarterly monitoring from the C-S database can support all the screening indicators, to include annual IRV Tables, if the facility resources data are kept up-to-date for each Area. Scales can be devised in a spreadsheet to compare program values with the Area average or an IHS average rate depending upon the amount of deviation (or threshold value) the ADO wants to use. For example, a ratio of greater than one means the program is above the Area average. A ratio of less than one means the program is below the Area average. Each ADO can use any of the Service Minute screening indicators listed or devise their own.

**Service Minutes per Patient Visit**

Data elements: Total service minutes reported / patient visits (0000+0190)

Reliability / Sensitivity: FAIR / GOOD

This indicator measures average efficiency per patient encounter on a quarterly or annual basis. Even if the Visits/Operatory indicator value for a clinic is typical, this indicator value should fall within an acceptable range. If SM/Visit values appear exceedingly low or exceedingly high, regardless of the volume of clinic visits, various efficiency issues may be involved. A related supplemental indicator for in-depth program analysis using the C-S or local BMR data is the average **Visits per Patient**, which is discussed later in specific issues.

**Service Minutes per Resource Unit**

The denominators of these SM indicators vary in reliability and sensitivity for making comparisons across programs in the C-S database. Among the four screening indicators listed below, the SM/FTE indicator is the most sensitive and the SM/Operatory indicator is the least. Their reliability varies in reverse order due to variability in local reporting practices and the difficulty in obtaining accurate FTE and care provider counts throughout the year at some facilities.

Data elements: (for four SM indicators)

- a. SM/FTE Total Minutes per FTE
- b. SM/(DDS+DH) Total Minutes per Dentist+Dental Hygienist
- c. SM/DDS only Total Minutes per Dentist
- d. SM/Operatory Total Minutes per Clinic Operatory

Each of the Service Minute indicators is described below.
a. **Service Minutes per Full Time Equivalent**  
   SM/FTE  
   Reliability & Sensitivity: POOR / GOOD  
   This indicator is the most sensitive, but least reliable of the SM screening indicators. It has been used annually by Headquarters in the Area Dental Resource Allocation Methodology (DRAM). This experience demonstrated that clinics with expanded-duty auxiliaries and those focusing on access to care for school children reported the highest SM/FTE values each year. Comparisons of SM/FTE values across programs should take that experience into consideration.

b. **Service Minutes per Provider (Dentists + Hygienists)**  
   SM / (DDS+DH)  
   Reliability & Sensitivity: FAIR / GOOD  
   A measure of provider productivity for programs having dental hygienists, without regard to the number of auxiliary staff available. Currently this indicator is not supported as a screening indicator by the C-S database. In general, hygienists do not produce the same level of SM as most full time dentists. Thus, the sensitivity of this indicator is good if only similar sites (those having hygienists) are compared. In order to examine the efficiency of dentists and hygienists separately, it is necessary to use the Clinical Reports options of the DDS software.

c. **Service Minutes per Dentist**  
   SM / DDS  
   Reliability & Sensitivity: GOOD / FAIR  
   A reliable measure of dental team efficiency on a quarterly or annual basis, without regard to the number and type of auxiliary staff available. This indicator may be more useful than the highly sensitive SM/FTE indicator when comparing programs having varying staffing patterns. For example, it can equate tribal programs, which often have more front office staff than IHS programs, with programs serving a comparable patient population. This measure is most meaningful if the service minutes provided by dental hygienists are excluded from the calculation, so that programs without dental hygienists can be compared with programs that have a hygienist. The Clinical Reports options of the DDS software must be used for such calculations. The indicator values derived from the central C-S database cannot break out dentist and hygienist workload data separately.

d. **Service Minutes per Dental Operatory**  
   Reliability & Sensitivity: GOOD / FAIR  
   This screening indicator lacks high sensitivity, but it provides a stable common denominator for comparing total service minutes across all programs at any point in time. It is also easy-to-use for computing trends using the local BMR data over a period of years when staffing changes have occurred.

**Recommendation:** Any of the four SM per Resource Unit indicators can be used for screening depending upon the circumstances and the preferences of the user. When BMR data are used to review a local program’s performance over time, it
may be helpful to substitute SM / Dentist-days data as a reliable and sensitive
denominator to replace these indicators. That indicator can filter out days on
which no care was provided, or when the clinic was missing one or more dentists.

3. Dental Services Indicators
Data elements:
Same denominators as SM indicators (visits, FTE’s, DDS, DDS+DH)
Reliability & Sensitivity: FAIR / POOR

The total dental services provided by programs can be used in the same manner as
the Service Minute indicators. However, dental service counts provide much less
sensitive indicators for clinic efficiency than do the service minute values
associated with the services. Dental services screening indicator values can be
generated by the C-S database and by the BMR in local databases for observing
trends as needed.

4. Program Cost Indicators
Annual measures of cost-efficiency are very appealing, but they are difficult to
use as screening indicators due to the unreliability of cost data across programs.
Therefore, no screening indicators are available on the C-S system for making
cost comparisons at this time. However, each ADO is encouraged to develop
annual cost indicator data for their specific programs as needed.

In the past the IHS has had some success using the budgetary allocations to
programs rather than actual costs (obligations) reported. Cost is generally defined
as a total of personnel, supply, and equipment budgets or costs and the allocation
for contract health services (CHS) as a separate figure. Because accurate budget
data or actual costs can be difficult to obtain from tribal programs, these indicators
may be useful only when making comparisons among IHS programs. It is
expected that CHS cost management can best be accomplished by using reports
provided by the fiscal intermediary contractors (BCBS of NM, or Delta Dental).

Personnel costs generally drive the values of direct program indicators. The type
of services authorized drive the cost of CHS program indicators. Dental programs
having expensive personnel (e.g., 0-5 and 0-6 dental officers) may yield high cost
values, regardless of their clinical efficiency. Likewise, less experienced dentists
who are often less efficient, can yield lower cost values because they are paid
substantially less. Thus, the sensitivity of clinic efficiency indicators based upon
cost and workload data can be poor or misleading. The following “potential”
screening indicators are provided for consideration by the ADOs and for further
development on the C-S system if desired by users.

Annual Direct Program Cost per Resource Unit
Data elements:
Total cost (or allocation) / FTE
Total cost (or allocation) / DDS
Total cost (or allocation) / Operatory
Total cost (including CHS) / User Population
Reliability & Sensitivity: unknown / unknown
Cost Indicators, continued.

**Annual Program Cost per Workload Unit**

Data elements:
- Total (Direct + CHS) / Total Services provided
- Total (Direct + CHS) / Total Service Minutes provided
- Total CHS cost (or allocation) / CHS Service Minute Purchased
- Total cost (direct) / Patient Visit (0000 + 0190)
- Total cost (direct) / Patient (0000)

**C. Patient Flow and Control of the Appointment Book**

1. **Appointment Scheduling**

Examine the appointment book to determine how far in advance the book is filled for each provider. Most IHS programs find that as this time period increases, the broken appointment rate increases. Also, if the appointment is booked too far ahead, there may be insufficient lead time to allow for the scheduling of meetings and other events. As a result, patients must be rescheduled, which is inconvenient for patients and staff.

**Recommendation:** The appointment book should be filled no more than three weeks in advance.

**Remedies:** If the book is filled more than three weeks ahead and the situation is not due to a temporary problem that will resolve itself, consider adopting a call-in system or waiting list system to regain control of the appointment book, especially if the broken appointment rate is relatively high. (See Attachment II, "Controlling an Overloaded Appointment Book"). Stress the importance of obtaining approval from the service unit director/program director and the tribal health committee/tribal council before instituting either of these policies. If feasible, patient surveys or focus groups should be conducted to determine what type of appointment system the patient population prefers. At the very least, patients should be informed that a change in policy is coming.

2. **Routine Exam Appointments**

Ask members of the dental staff who schedule appointments (e.g., receptionist or dental assistant) how an eligible patient goes about getting an appointment for a routine dental exam. Determine whether everyone who asks for an appointment gets an appointment or whether a call-in system or waiting list system is used to maintain control of the appointment book. Also determine whether various staff members are consistent in their answers re: how to get an appointment and that the answers agree with protocols listed in the policies and procedures manual.

**Recommendation:** Scheduling for routine exams should be consistent among staff and agree with written appointment policies.
3. **Series of Appointments for Patients** Ask the appointment scheduler(s) whether a series of appointments is given to patients for routine treatment. Programs sometimes give patients a series of appointments because the appointment book is filled far in advance, and they don't want the patients to wait a month or more between appointments. Obviously, giving a series of appointments when the appointment book is already scheduled too far ahead only compounds the problem and is not recommended.

**Recommendation:** A series of appointments should not be used for routine treatment, especially if the appointment book is filled more than three weeks in advance.

4. **Time Allotted for Procedures**
Determine how the staff allocates the amount of time on the schedule for each procedure. Determine whether the amount of time allotted for each type of procedure seems realistic, i.e., scheduled treatment time is likely to match actual treatment time. Also determine whether the same amount of time is scheduled for each patient, regardless of the procedure to be performed, for example, all patients are given a one-hour appointment.

**Recommendation:** The amount of time scheduled for each patient varies with the procedures to be performed and is realistic for those procedures.

5. **Mix of Services for Double-booking of Patients**
Examine the appointment book to determine the mix of services that are scheduled together when patients are double-booked (given appointments during the same time period) for a provider using two or more operatories. Procedures which are not dentist-intensive, such as exams, prophys, and sealants are very well suited for double-booking. For example, exam patients scheduled together provide for excellent flexibility. If both patients keep their appointments, then each receives an exam. If only one of the patients shows up, that patient can be given an exam plus additional services, such as a prophy, sealants, or restorative treatment. Dentist-intensive procedures that require significant blocks of time with little opportunity for the dentist to leave the chair, e.g., long surgical procedures and prosthetics, can also be double-booked, but consideration should be given to scheduling services that are not dentist-intensive in adjacent operatories.

**Recommendation:** Patients who are double-booked should be scheduled so that the procedures they require complement each other. This means that if both patients keep their appointments, patient flow is not severely disrupted, and if only one patient shows up the staff are kept busy.

6. **Short-Notice Patient Call List**
Determine whether a short-notice call list is maintained and how often it is actually used. A short-notice list can be useful for filling in canceled or broken appointments. If a call-in system is in place, it also serves to "give something" to the patient who calls in too late to get an appointment for the next scheduling period. For the short-notice list to work, however, it must be used and updated routinely.
**Recommendation:** A short-notice call list should be in place and should be used routinely when a broken or canceled appointment will result in down-time.

### 7. Patient Waiting Lists for Certain Services

Determine which services have waiting lists by asking the dental staff. Also, determine whether the waiting lists are used, i.e., determine how many names actually come off the list and whether they come off in an equitable way (usually the first people to get on the list should be the first people off the list).

**Recommendation:** If waiting lists are used for certain specialty services, patients should actually come off the list and should receive appointments in an equitable way.

### 8. Quadrant Dentistry

This includes multiple quadrant dentistry, when treatment needs are minimal. Determine whether quadrant dentistry is being practiced by reviewing dental charts. Also use the BMR data to observe local trends in the average number of visits per patient. The IHS has always recommended quadrant dentistry as an efficient way to do restorative treatment, as opposed to filling "one tooth at a time." Operatory setup and cleanup time, greeting and dismissing the patient, and waiting for anesthesia are sometimes more time-consuming than actual procedure time, so it is important to complete as much treatment as is feasible during each appointment. Even though third party reimbursements might be geared to "dental visits," regardless of how much treatment is provided at each visit, the demand for care at most locations will dictate that quadrant dentistry be provided. The practice of four-handed dentistry can also enhance the efficiency of delivering care. However, caution should be exercised to avoid the “trap” of practicing four-handed dentistry when the auxiliary’s time is better utilized at another operatory. Refer to the section on the use of dental auxiliaries for more information.

**Recommendation:** Quadrant dentistry (or multiple quadrant dentistry, when appropriate) is routinely used to provide restorative treatment.

### 9. Treatment Plans Completed

Determine whether treatment plans are being completed in an appropriate number of appointments by reviewing dental charts selected at random. Use the DDS software Quality Assurance options (PADA or SCOM) to select records of completed patients (those having 9990 code reported in their record). The BMR may also be used to observe recent trends in the total number of patients completed and the average number of visits per patient at the facility.

**Recommendation:** Treatment plans should be completed in as few appointments as is feasible.

### D. Emergency Patient Flow

#### 1. Emergency Exam Appointments

Ask members of the dental staff who schedule appointments (e.g., receptionist or dental assistant) how an eligible patient goes about getting an appointment for emergency treatment. Can the patient drop in anytime, or is there a specific
emergency time set aside? Is the patient supposed to call the clinic before coming in for an emergency? Then determine whether various staff members are consistent in their answers re: how to get an emergency appointment and that the answers agree with protocols listed in the policies and procedures manual.

**Recommendation:** Knowledge of protocols for emergency treatment should be consistent among staff and agree with written appointment policies.

2. **Walk-in Patients per Day and Broken Appointments per Walk-in Patient**

Determine the average number of walk-in (unscheduled) patients per day. The data elements are a count of emergency visits (0140 or 9170) per day the clinic was open for care. Use the BMR data (emergency visits, broken appointments,) to determine trends for at least the past 5 quarters. It is also wise to examine the appointment book for the past several months to count the number of walk-in patients per day and the number of days the clinic was open. This method not only provides a reasonably accurate measure of the average number of walk-ins, but the "usual range" can also be determined (e.g., an average of 3 emergencies per day, with a usual range of 0 to 5 emergencies per day). It is a good idea to involve one or more clinic staff members in the process. The audit goes faster and the local staff learns how to calculate this ratio and perhaps will also learn why it is important to determine the ratio periodically.

Note: The BMR workload data count emergency visits based upon the use of the 0140 Emergency Exam and/or the 9170 Emergency Encounter codes for a visit. This compensates for the variability in the use of these codes among local programs. The number of days the clinic is open can be estimated from the count of Dentist-days in the quarterly BMR. At one-dentist stations the count will equal the number of days the clinic saw patients. In multi-dentist facilities the Dentist-days count does not provide a good estimate of the number of days the clinic provided care during the time period being used for evaluation. However, it can be assumed that multi-dentist clinics will be open every day, except under unusual circumstances.

The number of walk-ins per day provides information that will enable the reviewer to determine whether a special time should be set aside in the schedule for emergency (walk-in) patients. Following are two ways in which this information can be applied:

**Option a.** Some reviewers look at the average number of emergencies per day and the usual range and divide these numbers by the number of dentists available to see emergency patients (e.g., 5 emergencies per day, with a range of 0 to 8, and a staff of two dentists = 2.5 emergencies per day per dentist, with a range of 0 to 4 emergencies per day).

If the average number of emergencies per day per dentist is three or less, then a special emergency time is probably not necessary. Other variables may also influence the decision to have or not have a special emergency time in the schedule. For example, if the usual range is very wide (which can lead to days when the dentists are overwhelmed with emergencies), if the broken appointment rate is very low (which allows little time to squeeze in the emergency patients), or if the broken appointment rate is very high (which allows plenty of time to see emergency patients).
**Option b.** Other reviewers prefer to weigh the broken appointment rate against the walk-in rate to determine whether a dedicated emergency time is necessary. The ratio 9130/0140 per day or 9130/9170 per day is used, depending on how walk-ins are designated in the program. As in the determination of walk-ins per day, finding the number of days must currently be accomplished using estimates of the number of days the clinic was open for services during the time period being evaluated.

If the ratio of broken appointments to walk-ins per day is one or more, broken appointments exceed walk-ins, and adequate time should exist during the day to see walk-ins without setting aside a special emergency time or emergency team. If the ratio is less than one, then a dedicated emergency time is probably necessary. The amount of time to set aside for emergencies can also be estimated by looking at the BA/walk-in ratio, e.g., a ratio of .4 BAs per walk-in will require that more time be set aside for emergency treatment than a ratio of .8 BAs per walk-in.

**Recommendation:** Whether or not a special emergency time should be set aside in the schedule should be determined by one of the two methods listed above and applied accordingly.

3. **Resources for Specific Emergency Time**

If a specific emergency time is being set aside in the schedule, the following two indicators can be used to determine the amount of resources that are being dedicated for emergency treatment:

Percent Clinic Hours Designated Walk-In (special emergency time) =

\[
\text{Walk-In Hours} / \text{Total Clinic Hours}
\]

Percent Provider Time Designated Walk-In (special emergency time) =

\[
\text{Provider Walk-In Hours} / \text{Total Provider Hours}
\]

From a review of the appointment book (one to three months) determine the actual number of clinic hours and provider hours that are dedicated to treating emergency patients and divide these numbers by the total number of hours that are available for dental treatment. Then determine whether the amount of resources in clinic hours or provider hours is reasonable for the emergency load of the clinic.

**Recommendation:** If the number of clinic walk-in hours or provider walk-in hours is greater than can be justified by the emergency patient load, then the number of hours dedicated to the treatment of emergency patients should be reduced or eliminated.

4. **Routine Exam Appointments for Emergency Patients**

Through discussion with the dental staff, determine how an emergency patient obtains a regular exam appointment. For example, is the patient asked to call back for an appointment, or is the patient given an appointment as he/she leaves the clinic?

Although the following is anecdotal information only, many IHS-funded dental programs have reported that approximately two-thirds of the emergency patients who are given appointments at the end of their emergency visit will fail the follow-up appointment. If emergency patients are asked to call back for an appointment (or are placed on a waiting list, if the clinic has a waiting list appointment system), then the
broken appointment rate for patients who respond is typically far less than two out of three.

The reason is that many emergency patients are episodic care users who do not often return for scheduled appointments. This group of patients must not be ignored, however. Emergency patients should be informed that they require an exam and additional treatment and then given the opportunity to access the clinic by calling in or going on the waiting list like all other patients who are seeking an appointment. Episodic users can also be given the option of getting on the short-notice call list or, if they have no phone and/or transportation problems, could be given the opportunity to wait in the clinic until there is a broken appointment.

**Recommendation:** Emergency patients should be asked to call back for a routine appointment or be placed on a waiting list, rather than giving those patients an appointment at the end of their emergency visit.

Note: The follow-up appointment for an emergency patient who has not had a recent complete dental exam should be for an exam, not for root canal treatment or other procedures that fall into high levels of care. Even though the patient might have had a root canal access preparation during the emergency visit, it is important to do an exam next so that an appropriate treatment plan can be developed.

**E. Broken Appointment Rates and Remedies**

Broken appointments (BAs) are an almost universal problem in IHS, tribal, and urban Indian dental programs. BAs contribute to inefficiency by disrupting the clinic schedule. Unless substitute patients can be found on short notice, operatories are left unfilled and dental staff are not kept busy providing clinical services.

The adverse effects that BAs have on efficiency are so significant that any clinic practices that contribute to BAs (e.g., having patients appointed more than three weeks in advance or rescheduling emergency patients on the day of their emergency treatment) should be remedied to the extent possible. Measures should also be taken to minimize the effects of broken appointments, such as the use of selective overbooking and short-notice call lists.

1. **Determining the BA Rate at a Clinic**

Determine the broken appointment rate either by using data indicators or by examining a typical month or months in the appointment book using the following methods:

a. **Using Local Workload Data Indicators**

Data elements:

BAs (9130) / Scheduled visits (0000+0190+9130) - Emergencies (0140 or 9170)

This is the ratio of broken appointments (9130) to the total number of patients appointed. The walk-in patients are subtracted out, because the 0000 (First Visit) and 0190 (Revisit) codes include walk-ins. The BMR data, which count emergency visits based on the 0140 (Emergency Exam) or the 9170 (Emergency Encounter) code can provide reliable data for using this indicator.
b. **Using the Appointment Book**

Count the number of broken appointments in the book for a typical month or several months. Also count the number of patients appointed for the same time period. Calculate the broken appointment rate by dividing the total number of BAs by the number of patients appointed and multiplying by 100 to get a percentage \((\text{BAs} / \# \text{ of Pts. Appointed} \times 100)\).

Note: Whichever method is used to determine the broken appointment rate, it is important that broken appointments (BAs) and canceled appointments (CAs) be defined to avoid confusion. For consistency among programs it is suggested that canceled appointments (code 9140) be defined as appointments that are canceled far enough in advance to find a replacement patient. Broken appointments (code 9130) are then defined as appointments where a patient simply doesn't show up, or calls too late to find a replacement. Even if a replacement can be called in from the short notice call list, it is still a broken appointment that must be dealt with. Data reporting should remain consistent with these definitions in order to observe trends in BA rates using the BMR module which counts only the BA (9130) code.

2. **Scheduling for Broken Appointments**

Determine whether operatories are overbooked to compensate for BA's and, if so, how many extra patients are scheduled. Also, determine whether the number of extra patients seems appropriate for that clinic's broken appointment rate. Staff input can be helpful in making this determination.

**Recommendation:** If the BA rate is high, selective double-booking should be suggested, especially if the appointment book is not filled beyond three weeks (if it is beyond three weeks, perhaps that should be remedied first). If the person or persons who make appointments are familiar with most of the patients in the practice, then they should make sure that patients who have a history of missed appointments should be double-booked.

3. **Use of Patient Reminders**

Determine whether patients are reminded of their appointments by phone or mail. The effectiveness of reminders varies from one clinic to another. Some programs have found that reminders were very effective in reducing the BA rate. Other programs have found that reminders had no effect on the rate.

**Recommendation:** If the broken appointment rate is relatively high, and if appointment reminders are not used, suggest trying reminders for a period of time and evaluating the effectiveness of the intervention. If it works, the program should continue to use reminders.
4. **Use of Broken Appointment Policies**

Determine whether a tribal board-approved BA policy is in use, and, if so, whether it is enforced. Simply having a policy and publicizing the policy is sometimes enough to reduce the BA rate, even if the policy is not rigorously enforced. If the policy is enforced, it should be done equitably. Typical broken appointment policies restrict patients to emergency care only for a period of time (usually 6 months), following three broken appointments. Another common policy is to place a person who breaks an appointment (except in extenuating circumstances) back on the waiting list or back into the call-in system, if either of these mechanisms is in place.

**Recommendation:** If the broken appointment rate is high, and if no broken appointment policy is in effect, suggest that a policy be developed and submitted to the tribal health board for approval. If a policy is in effect, but not enforced, and if the broken appointment rate is still high, then suggest that the policy be enforced equitably and with the approval of the tribal board.

**F. Use of Provider Time**

1. **Patient Visits per Dentist-Day**

   Data elements:
   
   Total visits (0000+0190) / Dentist-Days (from BMR data on local databases)

   This ratio provides a way to view local program workload (visits) in relation to the actual number of days of operation and the number of dentists providing care on each day (dentist-days). This indicator is supported only by the BMR which is updated on a quarterly basis. In multi-dentist stations a lower-than-expected Visit / Dentist-day value may indicate one or more dentists use a substantial number of available days not providing patient care. This indicator may also be useful for demonstrating the impact of dentist vacancies on the ability of a program to provide dental care during the year.

2. **Actual Provider Time versus Potential Provider Time**

   This is a measure of how much of total available provider time goes for the delivery of patient care. Numbers are taken from actual provider scheduling (review one to three months in the appointment book). Actual provider time is the total time all providers are scheduled in the clinic. Potential provider time is 40 hours per week minus holidays, leave, etc. The BMR Dentist-days data may be used to assist in comparing the actual time to the potential time, but it has not yet been attempted.

   The proportion of available hours that should be scheduled for a dentist will vary with the dentist's position. For example, a staff dentist with no management responsibility might typically be scheduled for patient care for 80 percent of the available time, a solo dentist with management responsibility might be scheduled 70 percent of the time, a program chief dentist in a multi-dentist facility 60 percent, a program chief dentist in a multi-dentist/multi-facility situation 50 percent, a clinical specialist 70 percent, and a clinical specialist with training responsibilities 50 percent. As this indicator is used, patterns/expectations should emerge. These patterns can then be translated into expectations for programs in the Area.

   **Recommendation:** The proportion of hours that a provider is scheduled for patient care should be appropriate for that provider's billet or position.
3. **Patient Visits per Provider/Actual Clinic Day**

This is a measure of provider utilization. The data include "Visits" (code 0000 + 0190) for one year. "Provider" is the total number of available providers at the facility, "Actual Clinic Day" is 365 minus weekends, holidays, leave, training, and any other day the clinic is closed (for ease of calculation this can be estimated at 210 days per year per provider minus days other than weekends or holidays that the clinic is closed).

**Recommendation:** Each provider should see an appropriate number of patients per day, depending on the provider's position and specialty. The actual number might range from 5 to 15 or more, with prosthodontists generally falling into the lower end of the range and general dentists and orthodontists into the upper end. Dental hygienists generally would fall somewhere in the middle of the range.

4. **Patient Visits per Provider/Potential Clinic Day**

This is another measure of provider utilization. Patient Visits (0000 + 0190) is the count for one year. "Potential Clinic Day" is 365 minus weekends, holidays, leave, and training per year (can be estimated at 210 days per year per provider, or 42 days per quarter).

This value should be compared with (Avg.Visits/Provider) / Actual Clinic Day. This gives a measure of how much increase is possible in patient visits if unscheduled time is filled at the same rate as currently scheduled time.

**Recommendation:** If a large discrepancy exists between visits per provider (potential clinic day) and visits per provider (actual clinic day), the program should explore ways in which the clinic can be kept open for more days.

5. **Clinic Opening Time/First Patient Seen Discrepancy**

Examine the appointment book to determine whether there is a discrepancy of more than 15 minutes between clinic opening time and start of treatment for the first patient (set-up time). Excessive amounts of setup time before the first patient is seen generally result in wasted time. In some cases providers don't even appear for work until a few minutes before the first appointed patient, even though the clinic has been open for 1/2 hour or more.

Ideally, one dental staff member should have flexible hours to allow him/her to start work before regular clinic opening time, so that dental units can be flushed, x-ray processor prepared, etc. This will enable the providers to start seeing patients exactly at the designated time when the clinic opens.

**Recommendation:** The dental care providers should begin to see patients within 15 minutes of the time the clinic opens.

6. **Last Patient Completed/Clinic Closing Time Discrepancy**

Question the staff to determine whether there is a discrepancy of more than 1/2 hour between completion of the last patient and clinic closing time (clean-up time). Sufficient time should be allowed to clean up the operatories and prepare instruments for sterilization, but this time should not be excessive. It is assumed that the providers will be using this time to complete all dental charts for the day.
Recommendation: The amount of time allowed in the schedule for clean-up and instrument preparation at the end of the day should be adequate but not excessive. One-half hour is usually sufficient.

7. Use of Non-Chairside Provider Time
Through examination of the appointment schedule and discussion with the dental staff, determine how much provider time is scheduled for activities other than patient care and exactly what these activities are. This may include administrative functions, additional duties, medical staff meetings, etc. Determine whether these non-clinical activities are appropriate for the provider's job description and whether the time allowed for each activity is reasonable. If non-dental duties have been taken on by a provider, has consideration been given for the impact on patient services, and have plans and/or resources been identified to cover that impact? Coverage by contractors and the use of dental auxiliaries, when possible, to provide services which do not require direct supervision, will help to minimize the impact of administrative duties on the delivery of clinical care.

Recommendation: A provider's non-clinical activities should be kept at the minimum level possible and should correspond to the provider's billet/job description.

G. Use of Dental Operatories

1. Total Visits/Operatory per Potential Clinic Day or Actual Clinic Day
"Potential Clinic Day" is 365 minus weekends and holidays estimated to be no more than 210 days per year. "Actual Clinic Day" is 365 minus weekends, holidays, and any other day the clinic is closed. This ratio can be tracked over time for a given clinic. The ratio of visits per operatory per actual clinic day should be at least 7. This value should be compared with Visits / Operatory per Actual Clinic Day. This gives a measure of how much increase is possible in patient visits if unscheduled time is filled at the same rate as currently scheduled time.

2. Actual Operatory Time/Potential Operatory Time
Review the appointment book for a period of one to three months. "Actual Operatory Time" is the total number of hours the operatories are scheduled. "Potential Operatory Time" is seven hours per day multiplied by the total number of operatories available.

Recommendation: The ratio of actual operatory time to potential operatory time should be at least 0.9 if the operatories are being used efficiently.

3. Scheduling Appointments to Keep Operatories Filled
Evaluate the appointment book to determine whether appointments are being scheduled in such a manner that all operatories are occupied with patients in treatment. Also determine whether operatories exist that are not routinely used for treatment. For example, if the provider has a "favorite operatory" that is used a large percentage of the time while other available operatories are left empty.

Recommendation: Patients should be scheduled so that each operatory is in use for as much of the day as possible.
4. **Clinic Time Not Used for Treating Patients**

The Dentist-days data of the BMR may be helpful, but it also may not be sensitive enough to detect a local problem without using other indicators. Through examination of the appointment schedule and discussions with the dental staff, determine how much time is set aside for cleaning, stocking, meetings, administrative duties, training, etc. Also determine if any time scheduled for other than patient care is wasted by not filling it adequately. For example, if the facility is closed for a half day each week for meetings, does all of the staff need to go to these meetings, and if not, how is their time utilized?

**Recommendation:** The clinic should be available for patient care to the greatest extent possible and non-dental activities kept to the minimum level possible.

5. **Use of Multiple Operatories**

Determine whether each dentist schedules more than one operatory at the same time. Even during dentist-intensive procedures, time exists while waiting for x-rays, anesthesia, retraction, or operatory turnover between patients.

If multiple operatories are scheduled, also determine how they are used. This relates to mix of services scheduled. When scheduled in multiple operatories the provider's schedule should vary with intensity of services being provided, available staff, and level of auxiliary staff training (expanded functions vs. non-expanded functions). When a dentist is performing non-clinical duties, scheduling of multiple operatories should include the performance of services by dental auxiliaries which do not require direct supervision if this is allowed by local law.

**Recommendation:** Patients should be scheduled in such a way that multiple operatories can be used and the mix of procedures for these patients promotes efficient patient flow.

6. **Standardization of Operatories and Tray Setups**

Through observation and discussion with the dental staff, determine whether operatories are standardized, including standardization of tray setups.

**Recommendation:** Operatories and tray set-ups within a clinic should be standardized so that staff members who move from operatory to operatory can easily find necessary supplies and materials.

7. **Unit Dose Preparation**

Determine whether the unit dose concept is being used in setting up operatories for procedures. Tray set-ups, which ideally are made up in the central sterilization area, should include all items that can go through the sterilizer. This will allow for countertops that are free of cotton roll dispensers, cotton applicator jars, anesthetic dispensers, and other unnecessary clutter. Standard tray setups, procedure-specific sterile packs, and pre-packaged supplies minimize operatory preparation time, procedure time, and breaks in infection control.

**Recommendation:** The unit dose concept should be used for all dental procedures, both for efficiency and for infection control.
H. Use of Dental Auxiliaries

1. Use of Expanded Functions (EF) Dental Auxiliaries

Determine whether the program has expanded functions (EF) auxiliaries on staff and, if so, how they are used. Also determine whether EF-trained auxiliaries are available but not used for expanded functions.

If the training background of the auxiliaries, practice environment, and applicable dental practice laws and regulations allow, expanded functions should be utilized. In clinics with adequate numbers of operatories and staff, an "EF Clinic" (dentist preparing the teeth with auxiliaries placing the restorations) should be encouraged. An efficient EF Clinic cannot be run with less than three to four operatories committed to EF.

In clinics with few available operatories and/or inadequate numbers of auxiliaries, the EF Clinic concept is not feasible, but expanded functions can be used when the situation permits. If the dentist has another patient waiting and has an EF assistant available, then the assistant can place the restoration. If no patient is waiting, or if no EF assistant is available, then the dentist should place the restoration.

If it has been determined that the clinic could be more productive utilizing EF auxiliaries and trained auxiliaries exist but are not being used, the reason for non-use should be identified. The reason could be regulatory, work relationship between auxiliary and provider, or lack of training for the provider in expanded functions. Except for regulatory restrictions, these reasons should not be beyond the ability of the program to change.

**Recommendation:** If the use of EF auxiliaries is feasible, based on regulations, dental assistant qualifications, the number of dental assistants available, and the number of operatories available, then EF should be used, following the guidelines listed above.

2. Delegation of Duties to Auxiliaries

Determine what functions are delegated to EF and non-EF dental auxiliaries, including clinical and non-clinical functions. Also determine if there are additional functions that could be delegated to auxiliaries.

Auxiliaries should not be delegated functions beyond their scope of work (e.g., placement of restorations without appropriate training), nor should they be delegated duties that are more appropriate for other employees (e.g., basic housekeeping chores if there is housekeeping staff or administrative jobs for other departments) when that function results in the loss of patient care.

Additional functions that could be delegated to auxiliaries (e.g., ordering supplies and managing the supply inventory) would free up provider time for additional patient care.

**Recommendation:** Duties delegated to auxiliaries should follow the guidelines listed above.
3. **Cross-Training for Receptionists**

Determine whether the dental receptionist or other staff at the program are cross-trained to do chairside dental assisting duties when necessary.

Those programs which have a dental receptionist, which includes virtually all tribal programs (even those having only one dentist and one dental assistant), can obtain substantial benefits from cross-training the receptionist to perform chairside dental assisting duties. This will enable the program to use the receptionist as a dental assistant when the regular assistant is unable to be at work. Even when the dental assistant is available, if the program is short of dental assistants a cross-trained receptionist can significantly improve patient flow by helping to clean/disinfect operatories, take radiographs, and prepare instruments for sterilization.

Non-dental staff can also be cross-trained as dental assistants to provide help when needed, and sometimes a former dental assistant working in another job might be available to help out in an emergency. Such arrangements can be made as a trade for the non-dental functions that are carried out in the facility by the dental staff.

**Recommendation:** Programs that are short of dental assistants should cross-train the dental receptionist or non-dental clinic staff to perform chairside duties, if feasible.

I. **Patient Recall System**

1. **Existence of and Basis for Recall System**

First determine whether an active recall system is in place through discussion with the dental staff. Every program should have some kind of recall system, however limited it might be.

If a recall system is in place, determine whether the recall interval is based on each individual patient's needs (targeted recall) or whether patients are recalled at arbitrary time intervals.

**Recommendation:** The recall system should be based in individual disease rates, not arbitrary time intervals.

2. **Range of Recall Intervals**

Determine the range of recall intervals (most frequent recall interval to longest recall interval). Also determine which recall interval is used for the majority of patients.

If the range of recall intervals is very small, e.g., shortest recall is three months and longest interval is six months, there is very little opportunity to appropriately recall patients having a wide range of disease rates.

If the longest recall interval is less than one year, as in the previous example, then there are probably many patients with low disease rates who are being recalled too frequently. This can impede access to care for those patients who do need to come in more frequently.

If the recall interval for the majority of patients is six months (the traditional private practice standard, which is being used by many tribal dental programs and which has
little support in the literature), then it is likely that many patients are being recalled more often than is necessary. This, too, can impede access to care for other patients.

**Recommendation:** The range of recall intervals should be sufficiently wide (e.g., three months for patients with the highest disease rates to two years for patients with very low disease rates) to accommodate a wide range of patient needs. In most practices the bulk of the patient population should probably fall into the one-year recall category.

**J. Equipment and Supplies**

1. **Equipment Problems/Preventive Maintenance**
   
   Determine how much clinical time was lost during the previous year due to equipment problems. Also determine whether the problems could have been prevented and, if so, how. Finally, determine whether a preventive maintenance program is in place and, if so, whether it is being carried out adequately.

   **Recommendation:** Preventive maintenance of the dental equipment should be adequate to prevent any significant clinic time lost due to equipment breakdown.

2. **Supply Ordering System/Inventory**
   
   Through discussion with the dental staff determine whether the clinic ever runs short of necessary supplies. Also determine whether a supply inventory and ordering system is in place and, if so, whether it is functioning adequately. Running short of supplies can result in clinic down-time and poor service for patients. On the other hand, the clinic should not have an excessive amount of supplies in inventory, because it creates storage problems and expiration date problems.

   **Recommendation:** The inventory of supplies and the mechanism for ordering supplies should be adequate to avoid running out of needed supplies, while at the same time allowing the clinic to use up supplies before their expiration dates.

**Section V. Aspects of Program Effectiveness**

**A. Access to Care Screening Indicators**

These annual indicators are based upon IHS-wide goals or expectations for providing adequate access to dental care with the available resources. Generally speaking, the goal is to provide at least the same level of access to Native American communities as is available to most communities in the United States. These goals are based upon the assumption that most individuals will have improved oral health if they are able to see a dentist regularly (e.g., once a year). The screening indicators will be supported by the C-S database using annual IRV Tables sorted by Area, program type (IHS, tribal, or urban), or by programs of similar size (FTE’s, operatories, population).
With the recent development of computerized patient databases using the RPMS, the IHS has begun an extensive effort to define Native American community populations as those individuals (patients) who have used the local IHS or tribal health care facility during the past three years from the point of measurement. This count of patients for the past three years represents “active” users for resource planning purposes. It also provides comparable data among programs to support several access to dental care data indicators. Though 3-year facility user counts are now available through the DDS/BMR data reports, each program retains the option to use other population figures made available annually from the Headquarters or Area planning offices. Regardless of the source, each dental facility’s population data should be maintained in the C-S database so that the screening indicators and other applications which use the data can be as accurate as possible. Each ADO is responsible to maintain the C-S population data for their facilities.

1. Proportion of Population Served Annually
   Data Elements: First Visits (0000) / 3-year Facility user count (from BMR or Area)

   This is a measure of population penetration or utilization rate, which is how large a segment of the community is being served. The count of First Visits (code 0000) represents individual patients seen during a fiscal year. This ratio can be multiplied by 100 to provide a population penetration percentage. The general goal is to see at least 60 percent of the population annually, limited only by the demand for care. In reality many programs see a much smaller proportion of the population each year. Programs which emphasize access to care for children generally maintain the highest proportion of persons served.

   Note: The Basic Measures Report updates the facility and dental user counts on a quarterly and annual basis. These are actual patient counts, not merely counts based upon visit event codes (0000, 0190). The BMR counts are broken out into Indian and non-Indian users. This can provide ADOs with direct comparison of individual patients seen and total user population for the same time period.

2. Proportion of Patients Treatment Planned
   Data Elements: Dental Exam codes (0150 or 0120) / Total Patients (0000) X 100

   A measure of the proportion of patients that are treatment planned annually based upon a count of routine examinations reported in the C-S database. Routine exams include the Initial Exam (code 0150) and the Periodic Exam (code 0120). Total patients is based upon a count of patient First Visits (code 0000) during a fiscal year. This indicator assumes that as many patients as is reasonably possible during a year should have at least their dental care needs assessed to include a treatment plan to meet at least their basic care needs. The local program values for this indicator will vary with the amount of resources available to provide care and the efficiency of the clinic. Programs should not attempt to treatment plan substantially more patients for basic dental care than they can offer appointments to receive care within a reasonable period of time.

   Note: Unlike the C-S database which only counts exam codes, the BMR provides an actual count of patients receiving exams. In other words, if a patient received more than one exam during the year, they would be counted on once in the BMR data.
Thus, the values for the exam-based screening indicators using the C-S database may overestimate the proportion of persons actually examined.

3. **Proportion of Patients Completed**

Data elements: Planned Treatment Completed (code 9990) / Exams (0150 or 0120)

Planned Treatment Completed Basic (PTC, code 9990) is defined as completion of at least the “basic” (Level I-III) dental care needed by a patient. The PTC code is to be used only once per patient during a 12-month period. It is divided by the number of routine exams to provide a measure of effectiveness in providing access to basic dental care. The reliability of this screening indicator can be low because many local programs either do not presently use the PTC code (9990) consistently or use it at all.

When reviewing a local program it may be necessary to stratify this indicator by at least two age categories:

- Percent of patients PTC’d Ages 0-19 and percent PTC’d Ages 20+ years

This will allow for a comparison of percent PTC-Basic between young patients and older patients. It is known that older adults require more visits and service minutes than younger patients for the completion of basic treatment. The Clinical Reports option of the DDS software can be used for this purpose.

4. **Average Service Minutes Provided per Patient**

Data elements: Total SM / Patient First Visits (code 0000)

A measure of the amount of care being provided per patient seen. SM is service minutes, and 0000 is individual patients seen. Clinics with high emergency treatment rates or low percent PTC’d rates typically will have low SM / patient ratios. The 1991 IHS Patient Oral Health Survey indicated that patients averaged about 2 hours (110 to 130 SM) of need for basic dental care.

Clinics starting to meet basic needs which previously were unable to meet them will usually have higher rates of SM/patient. Ideally, clinics providing basic care to most members of the community with adequate recall will generally have low SM/patient rates. Because many factors affect this indicator, it should be used in association with other indicators before judgments and recommendations are made.

B. **Appropriateness of Care Indicators**

1. **Levels of Care Percentages (Levels I-VI)**

These values are determined from the IHS data reports or RPMS reports. In direct programs, usually greater than 90 percent of the services and service minutes provided are in Level I-III care (called basic care). If there are high percentages in the higher levels of care (Levels IV-VI), other factors should be considered, such as whether there is a large backlog of lower level care as indicated by the existence of waiting lists or an overloaded appointment book.
Recommendation: Because higher levels of care require more provider time, the number of high-level services provided should generally vary inversely with the level of unmet need for basic services.

2. Emergency Dental Care Profiles
   (Indicators proposed for development by a workgroup of IHS and tribal dentists)

3. Preventive Services Profiles
   (Indicators proposed for development by a workgroup of IHS and tribal dentists)

4. Restorative Therapy Profiles
   (Indicators proposed for development by a workgroup of IHS and tribal dentists)

6. Endodontic Care Profiles
   (Indicators proposed for development by a workgroup of IHS and tribal dentists)

7. Periodontal Care Profiles
   (Indicators proposed for development by a workgroup of IHS and tribal dentists)

8. Prosthodontic Care Profiles
   (Indicators proposed for development by a workgroup of IHS and tribal dentists)

9. Oral Surgery Profiles
   (Indicators proposed for development by a workgroup of IHS and tribal dentists)

10. Orthodontic Care Profiles
    (Indicators proposed for development by a workgroup of IHS and tribal dentists)

11. Other Treatment Profiles
    (Indicators proposed for development by a workgroup of IHS and tribal dentists)

C. Oral Health Outcomes

1. Monitoring the 437 Objectives
   Included in the Compiled Statistical Reports module of the RPMS/DDS software version 5.4. Further development of data user materials will be by a workgroup under the auspices of the IHS Dental HP/DP committee.

2. Monitoring Unmet Treatment Needs
   (Indicators proposed for development by a workgroup of IHS and tribal dentists)
Section VI. Appendices and Attachments

Appendices
Appendix I: Quick Reference List of Workload Data Screening Indicators
Appendix II.a: IRV Table for Clinic Efficiency, Screening Indicator: Visits / OP
Appendix II.b: IRV Table for Clinic Efficiency, Screening Indicator: SM / Visit
Appendix II.c: IRV Table for Clinic Efficiency, Screening Indicator: SM / FTE
Appendix II.d: IRV Table for Clinic Efficiency, Screening Indicator: SM / OP
Appendix III. IHS Dental Staffing Guidelines and Clinic Time Available

Attachments
I. Dental Data System (DDS v5.4) Report Applications for On-site Clinical Efficiency Reviews, including SCOM Option Exercises.
II. User Manual for The Compiled Statistical Reports Manual (includes Basic Measures Reports)
III. Sample Off-site Efficiency/Effectiveness Worksheet
IV. Sample On-site Efficiency/Effectiveness Worksheet
V. Controlling An Overloaded Appointment Book
Appendix I: Quick Reference List of Screening and Supplemental Indicators

Screening indicators can be used by Area Dental Officers to take a "quick look" at all their programs to determine which ones might need an on-site in-depth review. Screening indicators can be used from the central C-S database or by accessing data directly from local RPMS databases. Supplemental indicators are derived only from local data sources to support on-site reviews. The Basic Measures Reports (BMR) in the DDS software were designed to support most of the screening and supplemental indicators.

Screening indicators are designed to simplify the monitoring of efficiency among programs comparing each facility’s indicator values to the Area average, to IHS versus tribal program averages, or only to programs of similar size. Indicator Reference Value (IRV) Tables containing the average rates are available for this purpose. The supplemental indicators are designed to provide detail regarding trends in an individual program over time.

Indicator data be analyzed using spreadsheet software, such as Excel or Lotus. Headquarters will provide some predefined spreadsheets, but ADOs are free to modify them or develop their own. It is likely that each ADO will weight the various screening indicators differently, so they are not prioritized or weighted here.
## Appendix I: Quick Reference List of Screening and Supplemental Indicators

### Screening Indicators for Off-site Monitoring

<table>
<thead>
<tr>
<th>Indicator and Data Elements</th>
<th>Reference in Document</th>
<th>Reference Values</th>
</tr>
</thead>
</table>
| **Care Provider to population ratio:** # of DDS or FTEs / 3 yr. facility users | Section IV. A. pg. 9 | DDS = 1:1200  
FTE = 1:500 |
| **Operatories per Dentist:** # Clinic Ops. / # of DDS at clinic | Section IV. A. pg. 10 | 2:1 or more |
| **Ratio of Dental Assistants to Dentists:** # of DAs at clinic / # of DDS at clinic | Section IV. A. pg. 10 | 2:1 or more |
| **Dental Visits per Dental Operatory:** Visits (0000+0190) / # of Clinic Ops. | Section IV. B. pg. 11 | IHS = 863  
TRIBAL = 792 |
| **Service Minutes per Patient Visit:** Total SM / Visits (0000+0190) | Section IV. B. pg. 13 | IHS = 41  
TRIBAL = 42 |
| **Service Minutes per Full-Time Equivalent:** Total SM / # of FTEs at clinic | Section IV. B. pg. 13 | IHS = 27,283  
TRI. = 24,418 |
| **Service Minutes per Care Provider:** Total SM / # of (DDS+RDH) at clinic | Section IV. B. pg. 13 | IHS = 62,000  
TRI. = 59,000 |
| **Service Minutes per Dentist:** Total SM / # of DDS at clinic | Section IV. B. pg. 13 | IHS = 89,200  
TRI. = 73,500 |
| **Service Minutes per Operatory:** Total SM / # of Clinic Ops. | Section IV. B. pg. 13 | IHS = 35,535  
TRI. = 29,589 |
| **Broken Appts. per Scheduled Visit:** BAs (9130) / Total Visits+BAs (0000+0190+9130) - Emergency Visits (0140 or 9170) | Section IV. E. pg. 20-21. | (23 %)  
Unreliable data limits off-site screening |
| **Population Served Annually:** Patient First Visits (0000) / 3 yr. Facility Users X 100 | Section V. A. pg. 29 | Goal = 60 %  
or greater |
| **Proportion of Patients Treatment Planned:** Exams (0150 + 0120) / Pat. First Visits (0000) x 100 | Section V. A. pg. 29 | IHS = 63 %  
TRI. = 46 % |
| **Proportion of Patients Completed:** Pats. Completed (9990) / Exams (0150 or 0120) x 100 | Section V. A. pg. 30 | IHS = 48 %  
TRI. = 62 % |
| **Average Service Minutes Per Patient:** Total SM / Patient First Visits (0000) | Section V. A pg. 30 | IHS = 98  
TRIBAL = 119 |
## Supplemental Data Indicators for On-site Reviews

<table>
<thead>
<tr>
<th>Indicator and Data Elements</th>
<th>Reference in Document</th>
<th>Reference Values</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a. Walk-in Patients per Day</strong>  &lt;br&gt; Emergencies (0140 or 9170) / Clinic Day  &lt;br&gt; &quot;Dentist-days&quot; can be used in lieu of clinic days</td>
<td>Section IV. D.2, pg. 18</td>
<td>none  &lt;br&gt; Use 5+ qtrs. of BMR data.</td>
</tr>
<tr>
<td><strong>b. Ratio of BAs to Emergencies per day</strong>  &lt;br&gt; BAs (9130) / Emergencies (0140 or 9170) per clinic day (use 5+ qtrs. of BMR data)</td>
<td>Section IV. D.2, pg. 19</td>
<td>Avg. = 1.5-1.9  &lt;br&gt; Use 5+ qtrs. of BMR data.</td>
</tr>
<tr>
<td><strong>% Clinic Hours Dedicated To Walk-In Pts.</strong>  &lt;br&gt; Walk-In Hours / Total Clinic Hours X 100</td>
<td>Section IV. D.3, pg. 19</td>
<td>none</td>
</tr>
<tr>
<td><strong>% Provider Time Dedicated To Walk-In Pts.</strong>  &lt;br&gt; Provider Walk-In Hours / Total Provider Hours X 100</td>
<td>Section IV. D.3, pg. 19</td>
<td>none</td>
</tr>
<tr>
<td><strong>Broken Appointment Rate</strong>  &lt;br&gt; a. BAs (9130) / Visits (0000+0190+9130) - Emergencies (0140 or 9170)  &lt;br&gt; b. From book: Count of BAs / Total # of patients appointed X 100</td>
<td>Section IV. E.1, pg. 20-21</td>
<td>Use 5+ qtrs. of BMR data.  &lt;br&gt; Use 1-3 mo. of data in book</td>
</tr>
<tr>
<td><strong>Patient Visits per Dentist-Day</strong>  &lt;br&gt; Visits (0000+0190) / # of Dentist-Days</td>
<td>Section IV. F.1, pg. 22</td>
<td>Use 5+ qtrs. of BMR data.</td>
</tr>
<tr>
<td><strong>Actual Provider Time versus Potential Provider Time</strong>  &lt;br&gt; (estimate based upon 12 months)</td>
<td>Section IV. F.2, pg. 22</td>
<td>none</td>
</tr>
<tr>
<td><strong>Patient Visits per Provider per Actual Clinic Day</strong></td>
<td>Section IV. F.3, pg. 23</td>
<td>Use annual BMR data.</td>
</tr>
<tr>
<td><strong>Patient Visits per Provider per Potential Clinic Day</strong>  &lt;br&gt; (estimate based upon 12 months)</td>
<td>Section IV. F.4, pg. 23</td>
<td>none</td>
</tr>
<tr>
<td><strong>Patient Visits/Operatory per Potential Operatory Time</strong>  &lt;br&gt; (estimate based upon 12 months)</td>
<td>Section IV. G.1, pg. 24.</td>
<td>none</td>
</tr>
<tr>
<td><strong>Actual Operatory Time versus Potential Operatory Time</strong>  &lt;br&gt; (estimate based upon 12 months)</td>
<td>Section IV. G.2, pg. 24.</td>
<td>none</td>
</tr>
</tbody>
</table>
Appendix IIa: Indicator Reference Value Table: Visits Per Operatory

Indicator: Visits per Operatory, FY 1995 Average, All programs, Indian and non-Indian patients

<table>
<thead>
<tr>
<th>Annual Values</th>
<th>Quarterly Values</th>
</tr>
</thead>
<tbody>
<tr>
<td># of OPs</td>
<td># of Clinics</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>51</td>
</tr>
<tr>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>27</td>
</tr>
<tr>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
</tr>
</tbody>
</table>

OVERALL AVERAGES: ALL PROGRAMS = 824  IHS = 863  TRIBAL = 792
Appendix IIb: Indicator Reference Value Table: Service Minutes per Visit

Indicator: SM/Visit, FY 1995 Average, All programs, Indian and non-Indian patients

### Annual Values

<table>
<thead>
<tr>
<th># of OPs</th>
<th># of Clinics</th>
<th>Average</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>45</td>
<td>63</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>62</td>
<td>43</td>
<td>82</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>23</td>
<td>39</td>
<td>64</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>32</td>
<td>40</td>
<td>55</td>
<td>29</td>
</tr>
<tr>
<td>5</td>
<td>22</td>
<td>36</td>
<td>49</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>16</td>
<td>41</td>
<td>58</td>
<td>31</td>
</tr>
<tr>
<td>7</td>
<td>11</td>
<td>43</td>
<td>59</td>
<td>33</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>46</td>
<td>56</td>
<td>38</td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td>44</td>
<td>50</td>
<td>36</td>
</tr>
<tr>
<td>10</td>
<td>7</td>
<td>41</td>
<td>52</td>
<td>34</td>
</tr>
<tr>
<td>11</td>
<td>6</td>
<td>42</td>
<td>54</td>
<td>35</td>
</tr>
<tr>
<td>12</td>
<td>9</td>
<td>49</td>
<td>76</td>
<td>34</td>
</tr>
<tr>
<td>13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>2</td>
<td>38</td>
<td>39</td>
<td>37</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>29</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>16</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>17</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>3</td>
<td>42</td>
<td>49</td>
<td>30</td>
</tr>
<tr>
<td>19</td>
<td>2</td>
<td>40</td>
<td>42</td>
<td>37</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>1</td>
<td>41</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
<td>46</td>
<td>46</td>
<td>46</td>
</tr>
</tbody>
</table>

### Quarterly Values

<table>
<thead>
<tr>
<th># of OPs</th>
<th># of Clinics</th>
<th>Average</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>17</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>19</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**OVERALL AVERAGES:** ALL PROGRAMS = 41  IHS = 41  TRIBAL = 42
## Appendix IIc: Indicator Reference Value Table: Service Minutes per FTE

Indicator: SM/FTE, FY 1995 Average, All programs, Indian and non-Indian patients

### Annual Values

<table>
<thead>
<tr>
<th># of FTEs</th>
<th># of Clinics</th>
<th>Average</th>
<th>High</th>
<th>Low</th>
<th># of FTEs</th>
<th># of Clinics</th>
<th>Average</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>5</td>
<td>17,418</td>
<td>18,940</td>
<td>16,906</td>
<td>12.0</td>
<td>1</td>
<td>31,871</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.0</td>
<td>16</td>
<td>25,063</td>
<td>42,718</td>
<td>13,496</td>
<td>12.5</td>
<td>2</td>
<td>22,864</td>
<td>29,571</td>
<td>16,158</td>
</tr>
<tr>
<td>1.5</td>
<td>7</td>
<td>23,814</td>
<td>29,640</td>
<td>16,365</td>
<td>13.0</td>
<td>1</td>
<td>19,592</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>15</td>
<td>26,068</td>
<td>45,327</td>
<td>14,363</td>
<td>13.5</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>6</td>
<td>30,130</td>
<td>38,546</td>
<td>19,706</td>
<td>14.0</td>
<td>4</td>
<td>21,751</td>
<td>24,533</td>
<td>16,470</td>
</tr>
<tr>
<td>3.0</td>
<td>25</td>
<td>24,341</td>
<td>34,991</td>
<td>12,086</td>
<td>14.5</td>
<td>1</td>
<td>28,322</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.5</td>
<td>7</td>
<td>24,688</td>
<td>37,197</td>
<td>16,197</td>
<td>15.0</td>
<td>3</td>
<td>26,518</td>
<td>29,997</td>
<td>21,463</td>
</tr>
<tr>
<td>4.0</td>
<td>6</td>
<td>23,290</td>
<td>32,759</td>
<td>14,975</td>
<td>15.5</td>
<td>1</td>
<td>32,308</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.5</td>
<td>2</td>
<td>22,167</td>
<td>30,160</td>
<td>14,175</td>
<td>17.5</td>
<td>3</td>
<td>29,381</td>
<td>35,353</td>
<td>18,569</td>
</tr>
<tr>
<td>5.0</td>
<td>9</td>
<td>24,625</td>
<td>32,429</td>
<td>10,755</td>
<td>18.5</td>
<td>4</td>
<td>31,484</td>
<td>44,287</td>
<td>18,916</td>
</tr>
<tr>
<td>5.5</td>
<td>10</td>
<td>29,710</td>
<td>39,997</td>
<td>11,653</td>
<td>19.5</td>
<td>2</td>
<td>18,452</td>
<td>19,470</td>
<td>17,434</td>
</tr>
<tr>
<td>6.0</td>
<td>12</td>
<td>24,490</td>
<td>34,318</td>
<td>15,563</td>
<td>22</td>
<td>2</td>
<td>26,976</td>
<td>30,625</td>
<td>23,326</td>
</tr>
<tr>
<td>6.5</td>
<td>4</td>
<td>25,531</td>
<td>27,713</td>
<td>22,523</td>
<td>23.5</td>
<td>1</td>
<td>26,408</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.0</td>
<td>9</td>
<td>22,846</td>
<td>29,965</td>
<td>16,640</td>
<td>27</td>
<td>2</td>
<td>38,615</td>
<td>41,968</td>
<td>35,263</td>
</tr>
<tr>
<td>7.5</td>
<td>1</td>
<td>32,400</td>
<td></td>
<td></td>
<td>28</td>
<td>1</td>
<td>32,847</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.0</td>
<td>9</td>
<td>26,386</td>
<td>39,528</td>
<td>16,936</td>
<td>29</td>
<td>1</td>
<td>39,911</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.5</td>
<td>2</td>
<td>21,699</td>
<td>22,679</td>
<td>20,720</td>
<td>38</td>
<td>2</td>
<td>25,532</td>
<td>31,072</td>
<td>19,992</td>
</tr>
<tr>
<td>9.0</td>
<td>4</td>
<td>22,335</td>
<td>27,423</td>
<td>15,470</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.5</td>
<td>3</td>
<td>23,965</td>
<td>34,267</td>
<td>13,261</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.0</td>
<td>6</td>
<td>24,917</td>
<td>31,285</td>
<td>14,454</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.5</td>
<td>5</td>
<td>29,767</td>
<td>39,196</td>
<td>24,112</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.0</td>
<td>4</td>
<td>26,165</td>
<td>34,009</td>
<td>16,001</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.5</td>
<td>2</td>
<td>36,327</td>
<td>41,506</td>
<td>31,147</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### OVERALL AVERAGES:

- **ALL PROGRAMS** = 25,509 (45,327 - 10,720)
- **IHS** = 27,283 (45,327 - 12,086)
- **TRIBAL** = 24,418 (42,718 - 10,720)
Appendix IIId: Indicator Reference Value Table: Service Minutes per Operatory

Indicator: SM/Operatory, FY 1995 Average, All programs, Indian and non-Indian patients

Quarterly Values

<table>
<thead>
<tr>
<th># of OPs</th>
<th># of Clinics</th>
<th>Average</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>18504</td>
<td>20901</td>
<td>17284</td>
</tr>
<tr>
<td>2</td>
<td>57</td>
<td>27941</td>
<td>81074</td>
<td>4264</td>
</tr>
<tr>
<td>3</td>
<td>19</td>
<td>30932</td>
<td>71583</td>
<td>12086</td>
</tr>
<tr>
<td>4</td>
<td>29</td>
<td>32390</td>
<td>56888</td>
<td>8544</td>
</tr>
<tr>
<td>5</td>
<td>21</td>
<td>29698</td>
<td>63245</td>
<td>11245</td>
</tr>
<tr>
<td>6</td>
<td>15</td>
<td>28762</td>
<td>45724</td>
<td>15187</td>
</tr>
<tr>
<td>7</td>
<td>11</td>
<td>33800</td>
<td>52957</td>
<td>14817</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>34083</td>
<td>40851</td>
<td>29240</td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td>37734</td>
<td>66542</td>
<td>15739</td>
</tr>
<tr>
<td>10</td>
<td>7</td>
<td>37635</td>
<td>50851</td>
<td>23280</td>
</tr>
<tr>
<td>11</td>
<td>6</td>
<td>48338</td>
<td>75288</td>
<td>27763</td>
</tr>
<tr>
<td>12</td>
<td>9</td>
<td>37513</td>
<td>94777</td>
<td>21299</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>2</td>
<td>26306</td>
<td>29334</td>
<td>23278</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>22897</td>
<td>22897</td>
<td>22897</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>4</td>
<td>50999</td>
<td>64744</td>
<td>34477</td>
</tr>
<tr>
<td>19</td>
<td>2</td>
<td>37564</td>
<td>39668</td>
<td>35461</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>1</td>
<td>35793</td>
<td>35793</td>
<td>35793</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
<td>47105</td>
<td>47105</td>
<td>47105</td>
</tr>
</tbody>
</table>

OVERALL AVERAGES:
ALL PROGRAMS = 31,778       IHS = 35,535       TRIBAL = 29,589
### Appendix III. IHS Dental Staffing Guidelines

<table>
<thead>
<tr>
<th>Projected Annual Service Minutes</th>
<th>DDS</th>
<th>RDH</th>
<th>DA</th>
<th>CLERK</th>
<th>ENCL</th>
<th>RATIO</th>
<th>OPEN</th>
<th>RATIO</th>
<th>TOTAL</th>
<th>X-RAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 64,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>64,001 - 83,000</td>
<td>1</td>
<td>0.5</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>83,001 - 131,000</td>
<td>1</td>
<td>0.5</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>131,001 - 195,000</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>195,001 - 214,000</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>214,001 - 325,000</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>3.5</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>325,001 - 345,000</td>
<td>2</td>
<td>1</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>4</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>345,001 - 393,000</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>3</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>393,001 - 457,000</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>8</td>
<td>3.3</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>457,001 - 476,000</td>
<td>4</td>
<td>1</td>
<td>11</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>2.8</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>476,001 - 524,000</td>
<td>4</td>
<td>1</td>
<td>12</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>3.0</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>524,001 - 588,000</td>
<td>4</td>
<td>1</td>
<td>13</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td>3.3</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>588,001 - 607,000</td>
<td>5</td>
<td>2</td>
<td>14</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>11</td>
<td>2.8</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>607,001 - 690,000</td>
<td>5</td>
<td>2</td>
<td>15</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>12</td>
<td>3.0</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>690,001 - 773,000</td>
<td>6</td>
<td>2</td>
<td>16</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>12</td>
<td>2.7</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>773,001 - 856,000</td>
<td>6</td>
<td>2</td>
<td>18</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>13</td>
<td>3</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>856,001 - 939,000</td>
<td>8</td>
<td>3</td>
<td>22</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>15</td>
<td>2.6</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>939,001 - 1,002,000</td>
<td>8</td>
<td>3</td>
<td>23</td>
<td>3</td>
<td>7</td>
<td>1</td>
<td>15</td>
<td>2.8</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>1,022,001 - 1,105,000</td>
<td>9</td>
<td>3</td>
<td>25</td>
<td>3</td>
<td>8</td>
<td>1</td>
<td>16</td>
<td>3</td>
<td>24</td>
<td>16</td>
</tr>
</tbody>
</table>

1,105,000 and over, revert to beginning of chart to identify additional resources to meet service minutes in excess of 1,105,000.
## Estimated Clinic Time Available to Care Providers by Position Type

<table>
<thead>
<tr>
<th>Position Type</th>
<th>Percent of Total Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Mega Service Unit Dental Program</td>
<td>0.5</td>
</tr>
<tr>
<td>Dep. Chief Mega S.U. Dental Program</td>
<td>0.7</td>
</tr>
<tr>
<td>Chief Complex Service Unit Dental Program</td>
<td>0.7</td>
</tr>
<tr>
<td>Dep. Chief Complex S.U. Dental Program</td>
<td>0.8</td>
</tr>
<tr>
<td>Chief General Service Unit Dental Program</td>
<td>0.8</td>
</tr>
<tr>
<td>Chief Satellite or Solo Dental Program</td>
<td>0.9</td>
</tr>
<tr>
<td>Service Unit Dentist Advanced</td>
<td>0.9</td>
</tr>
<tr>
<td>Service Unit Dentist Basic</td>
<td>0.9</td>
</tr>
<tr>
<td>Director, Residency Training Program</td>
<td>0.6</td>
</tr>
<tr>
<td>AGP Residents</td>
<td>0.6</td>
</tr>
<tr>
<td>Dental Hygienist Advanced (0.5)</td>
<td>0.6</td>
</tr>
<tr>
<td>Dental Hygienist Basic (9.2 - 0.4)</td>
<td>0.8</td>
</tr>
<tr>
<td>IHS Clinical Specialty Consultant</td>
<td>0.4</td>
</tr>
<tr>
<td>Area Clinical Specialty Consultant</td>
<td>0.5</td>
</tr>
<tr>
<td>At a Training Center</td>
<td>0.5</td>
</tr>
<tr>
<td>Not at a Training Center</td>
<td>0.7</td>
</tr>
<tr>
<td>Service Unit Clinical Specialist</td>
<td>0.8</td>
</tr>
</tbody>
</table>
## Sample Off-Site Efficiency/Effectiveness Worksheet

### Program Resources and Staffing Patterns

<table>
<thead>
<tr>
<th>Reference</th>
<th>Indicator and Data Elements</th>
<th>Indicator Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section IV. A. pg. 9</td>
<td>Care Provider to population ratio: # of DDS or FTEs / 3 yr. facility users</td>
<td></td>
</tr>
<tr>
<td>Section IV. A. pg. 10</td>
<td>Operatories per Dentist: # Clinic Ops. / # of DDS at clinic</td>
<td></td>
</tr>
<tr>
<td>Section IV. A. pg. 10</td>
<td>Ratio of Dental Assistants to Dentists: # of DAs at clinic / # of DDS at clinic</td>
<td></td>
</tr>
</tbody>
</table>

### Workload Data Indicators

<table>
<thead>
<tr>
<th>Reference</th>
<th>Indicator and Data Elements</th>
<th>Indicator Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section IV. B. pg. 11</td>
<td>Dental Visits per Dental Operatory: Visits (0000+0190) / # of Clinic Ops.</td>
<td></td>
</tr>
<tr>
<td>Section IV. B. pg. 13</td>
<td>Service Minutes per Patient Visit: Total SM / Visits (0000+0190)</td>
<td></td>
</tr>
<tr>
<td>Section IV. B. pg 13</td>
<td>Service Minutes per Full-Time Equivalent: Total SM / # of FTEs at clinic</td>
<td></td>
</tr>
<tr>
<td>Section IV. B. pg 13</td>
<td>Service Minutes per Care Provider: Total SM / # of (DDS+RDH) at clinic</td>
<td></td>
</tr>
<tr>
<td>Section IV. B. pg 13</td>
<td>Service Minutes per Dentist: Total SM / # of DDS at clinic</td>
<td></td>
</tr>
<tr>
<td>Section IV. B. pg 13</td>
<td>Service Minutes per Operatory: Total SM / # of Clinic Ops.</td>
<td></td>
</tr>
</tbody>
</table>

### Broken Appointments

<table>
<thead>
<tr>
<th>Reference</th>
<th>Indicator and Data Elements</th>
<th>Indicator Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section IV. E. pg. 20-21</td>
<td>Broken Appts. per Scheduled Visit: BAs (9130) / Total Visits+BAs (0000+0190+9130) -Emergency Visits (0140 or 9170)</td>
<td></td>
</tr>
</tbody>
</table>

### Program Effectiveness/ Access to Care

<table>
<thead>
<tr>
<th>Reference</th>
<th>Indicator and Data Elements</th>
<th>Indicator Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section V. A. pg. 29</td>
<td>Population Served Annually: Patient First Visits (0000) / 3 yr. Facility Users X 100</td>
<td></td>
</tr>
<tr>
<td>Section V. A. pg. 29</td>
<td>Proportion of Patients Treatment Planned: Exams (0150 + 0120) / Pat. First Visits (0000) x 100</td>
<td></td>
</tr>
<tr>
<td>Section V. A. pg. 30</td>
<td>Proportion of Patients Completed: Pats. Completed (9990) / Exams (0150 or 0120) x 100</td>
<td></td>
</tr>
<tr>
<td>Section V. A pg. 30</td>
<td>Average Service Minutes Per Patient: Total SM / Patient First Visits (0000)</td>
<td></td>
</tr>
</tbody>
</table>
Sample On-Site Efficiency/Effectiveness Worksheet

**Patient Flow and Appointment Book Control** (Section IV.C, page 15-16.)

1. How far in advance is the appointment book filled with patients?

2. How does a patient get an appointment for a routine exam (e.g., appointments on demand, call-in system, or waiting list system)?

   Do various staff agree in their description of the mechanism through which patients get an exam appointment?

   Does the staff’s explanation(s) of the mechanism agree with written policies in the policies and procedures manual?

   Are there exceptions to the appointment policy (e.g., prenatal or diabetic patients)?

3. If a call-in system is in place, describe the process used:

4. If a waiting list system is in place, describe the process used, especially re: how the patients get from the list to the appointment book:

   How many people actually come off the list each week?

5. Is a series of appointments given at one time for routine treatment? If so, why is a series given?
6. Is virtually every patient given the same amount of time in the appointment book, or is there a range of times, depending on the procedure(s) to be performed?

If a range exists, are the times appropriate for the procedures?

7. Is a short-notice call list in place? If so, is it actually used when an opening appears in the schedule?

8. Are treatment plans completed in as few appointments as is feasible, i.e., is quadrant or multiple quadrant dentistry provided?

**Emergency Patient Flow** (Section V.D, page 17 - 19.)

9. What is the clinic's mechanism for emergency patients to get into the clinic for treatment of their emergency conditions?

When are emergency patients seen (i.e., worked in between other patients or special emergency time set aside)?

Do various staff agree in their description of the mechanism through which emergency patients are seen?

Does the staff's explanation(s) of the mechanism agree with written policies in the policies and procedures manual?
10. What is the average number of emergencies per day for a typical month?

What is the usual range in the number of emergencies per day?

The BAs / Walk-Ins ratio =

11. If a special emergency time is used, how much time is set aside each day?

Is this a reasonable amount of time, based on the average number and range of emergencies per day?

Is a special emergency time necessary?

12. How do emergency patients get an appointment for complete exam/routine treatment (e.g., Given appointment on day of emergency treatment, asked to call back, or placed on waiting list)?

**Broken Appointments** (Section V.E, page 20-21.)

13. What is the broken appointment rate for a typical month or months?

14. If the broken appointment rate is high, does the clinic overbook patients? If so, how many extra patients per day are scheduled?

15. Are patient reminders such as phone calls or cards used?

If so, what is the staff's impression of their effectiveness?
16. Is a broken appointment policy in effect?  
If so, is it enforced?

**Use of Provider Time and Operatories** (Section V.F, page 22-26.)

17. What time does the clinic open in the morning?

What time is the first patient scheduled in the appointment book?

What time is the first patient actually seen on average?

Are the staff, including the dentists, typically at work at the clinic opening time?

18. What time does the clinic close in the afternoon?

What time is the last patient scheduled to be seen?

What time is the last patient typically completed?

19. Does the dentist(s) have a specified time set aside for administrative activities?  
If so, how much time and when?

Actual Provider Time/Potential Provider Time ratio =

Patient Visits per Provider/Actual Clinic Day ratio =

Patient Visits per Provider/Potential Clinic Day ratio =
20. (For tribally-managed programs) Is each "full-time" dentist hired to work a full 40 hours per week, or have arrangements been made to work shorter hours (e.g., 7-hour days)?

21. How many dental providers work at the clinic? (Section IV.A, page 9-10.)

How many chairside dental assistants are available?

Dental Assistant/Dentist ratio =

22. How many operatories are available?

How many are used by a dentist?

How many are used by a dental hygienist?

Operatory/Dentist ratio (exclusive of RDH operatories) =

23. Are there operatories that stay empty a significant amount of time? If so, why are the operatories not used?

Average Visits/Operatory per Potential Clinic Day ratio =

Actual Operatory Time/Potential Operatory Time ratio =

24. How efficiently are chairside dental assistants utilized (EF and non-EF assistants)?
25. Are operatories standardized?

Are tray setups standardized?

Is the unit-dose concept used for setting up trays?

26. If the number of staff members is small, especially if there is only one dental assistant, is the receptionist cross-trained to perform chairside duties?

Recall System (Section V.I, page 27.)

27. Is a recall system in place? If so, for which patients?

28. Is the recall interval individualized for each patient's needs?

29. What is the range of recall intervals used at the clinic?

At what interval are most patients recalled?

Equipment and Supplies (Section V.J, page 28.)

30. Are there equipment problems that have caused significant down time during the past year?

Is preventive maintenance being performed adequately?

Does any equipment need replacement?

31. Is chairside time ever lost due to supply ordering/inventory problems? If so, describe the problems:
Recordkeeping

32. Are all entries in the dental record completed and all charts refiled by the end of each work day?

Are any services being provided which should have had a procedure code attached, but for which codes were not documented or credited (including patient status codes such as Broken Appointments, Emergency Encounters (9170), Planned Treatment Completed (9990), and Exams (0140, 0150, 1120), as well as codes for dental procedures)?

Who is writing the procedure codes in the dental progress notes?
Who is writing the procedure codes in the dental progress notes?
When are the codes being written?

Does a second person check the codes before they are sent for data entry?

Are data entered into RPMS in a timely manner?

Are the local data extracted properly for transfer to the area office?

Does the dental staff print out RPMS workload reports and use them to aid in the management of the dental program?
ATTACHMENT I

DENTAL DATA SYSTEM (DDS v5.4) REPORT APPLICATIONS
FOR ON-SITE CLINICAL EFFICIENCY REVIEWS

INTRODUCTION

This portion of Clinical Efficiency Training addresses the options of the RPMS/DDS which provide access to certain types of information which will be necessary to assess clinical efficiency. Some options will provide information on the aspect of clinical efficiency of interest in a form which will require no additional manipulation or calculations. For other aspects of clinical efficiency, more than one option will need to be used, and that information either combined with information from another option(s) or inserted into a formula for calculation.

The Quick Reference Guide (next page) of these instructions should provide a simple method of determining which DDS options will provide the specific information for a particular aspect of clinical efficiency.
### ASPECTS OF DENTAL CLINIC EFFICIENCY

#### DENTAL DATA SYSTEM (DDS v5.4) APPLICATIONS

#### QUICK REFERENCE

<table>
<thead>
<tr>
<th>Information Required</th>
<th>DDS Option Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Visits (0000)</td>
<td>Visits by Facility and Dentist (RDEN)</td>
<td>7</td>
</tr>
<tr>
<td>Initial Oral Exams (0150)</td>
<td>Patient Listing by a Range of Procedure Codes (PADA)</td>
<td>3</td>
</tr>
<tr>
<td>Emergency Oral Exams (0140)</td>
<td>Patient Listing by a Range of Procedure Codes (PADA)</td>
<td>3</td>
</tr>
<tr>
<td>Revisits (0190)</td>
<td>Visits by Facility and Dentist (RDEN)</td>
<td>7</td>
</tr>
<tr>
<td>Broken Appointments (9130)</td>
<td>Visits by Facility and Dentist (RDEN)</td>
<td>7</td>
</tr>
<tr>
<td>Emergency Encounters (9170)</td>
<td>Patient Listing by a Range of Procedure Codes (PADA)</td>
<td>3</td>
</tr>
<tr>
<td>Planned Treatment Completed (9990)</td>
<td>Visits by Facility and Dentist (RDEN)</td>
<td>7</td>
</tr>
<tr>
<td>Service Minutes (Indian)</td>
<td>Service Minutes by Dentist (Direct) (RDIR)</td>
<td>10</td>
</tr>
<tr>
<td>Service Minutes (Non-Indian)</td>
<td>Non-Indian Patient Workload (RNON)</td>
<td>13</td>
</tr>
<tr>
<td>Services (Indian)</td>
<td>Service Minutes by Dentist (Direct) (RDIR)</td>
<td>10</td>
</tr>
<tr>
<td>Services (Non-Indian)</td>
<td>Non-Indian Patient Workload (RNON)</td>
<td>13</td>
</tr>
<tr>
<td>Levels of Care (Indian)</td>
<td>Service Minutes by Dentist (Direct) (RDIR)</td>
<td>10</td>
</tr>
<tr>
<td>Levels of Care (Non-Indian)</td>
<td>Non-Indian Patient Workload (RNON)</td>
<td>13</td>
</tr>
<tr>
<td>Service Minutes/Services by Dentist, Category &amp; Code for a</td>
<td>Dentist Annual Activity Report (DANN)</td>
<td>16</td>
</tr>
<tr>
<td>12 month period</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION ONE

QUALITY ASSURANCE TRACKING

This option on the DDS Main Menu is your gateway to information contained in the Patient Listing By a Range of Procedure Codes (PADA) option. The PADA option allows you to retrieve information based on a single ADA procedure code or a range of ADA procedure codes. For example, you may search for the number of Initial Oral Exams (0150) conducted within a specified time period. You may also retrieve information on all dental radiographs (0270-0330) within a specified time period.

To access information through the PADA option, follow these steps:

STEP 1

Select 'Quality Assurance Tracking' from the DDS Main Menu.

HELP Help for Users...
INQ Inquire to Patient Records...
PM Patient Management...
DVIS Dental Visit Data Entry...
QAT Quality Assurance Tracking...
REPT Clinical Services Reports...
SUP Supervisory Functions...

STEP 2

Select 'Technical QA Functions (for chart audits)' from the menu which is now on your screen.

COPC Community Oriented Primary Care Activities...
TECH Technical QA Functions (for chart audits)...
MGT Program Management QA Functions...
STEP 3

Select 'Patient Listing By a Range of Procedure Codes' from the menu which is now on your screen.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PADA</td>
<td>Patient Listing By a Range of Procedure Codes</td>
</tr>
<tr>
<td>SCOM</td>
<td>Patients receiving a combination of Services</td>
</tr>
<tr>
<td>ENDO</td>
<td>Endodontic Tooth Access Report</td>
</tr>
</tbody>
</table>

The following prompt will appear on your screen:

START WITH VISIT DATE: FIRST//

STEP 4

Enter the first visit date that you want your report to include and press 'enter'.

START WITH VISIT DATE: FIRST//1-1-95 <enter>

The following prompt will appear next:

GO TO VISIT DATE: LAST//

STEP 5

A) If you want your report to include all visits that have occurred since your start date, simply press 'enter'.

GO TO LAST VISIT DATE: LAST// <enter>

B) If you want your report to include only those visits within a limited time period, enter the last visit date that you want the report to include and press 'enter'.

GO TO LAST VISIT DATE: LAST//1-15-95 <enter>

The following prompt will then appear on your screen:

START WITH PROCEDURE CODE: FIRST//
**STEP 6**

A) If you are searching for a single procedure code (e.g., 0140), type the code and press 'enter'.

```
START WITH PROCEDURE CODE: FIRST//0140 <enter>
```

B) If you are searching for a group of closely related codes (e.g., 0270-0274), type the first code in the group and press 'enter'.

```
START WITH PROCEDURE CODE: FIRST//0270 <enter>
```

The next prompt will appear as follows:

```
GO TO PROCEDURE CODE: LAST//
```

**STEP 7**

A) If you are searching for a single code (e.g., 0140), type the next code in sequence and press 'enter'.

**NOTE:** The next code in sequence will normally be a code not in use. Therefore, the computer will find no visits with this code and display only the single code you are interested in. If you enter the single code you are interested in again at this prompt, the computer may not display any "hits".

```
GO TO PROCEDURE CODE: LAST//0131 <enter>
```

B) If you are searching for a group of closely related codes, type the last code in the group and press 'enter'.

```
GO TO PROCEDURE CODE: LAST//0274 <enter>
```

The next prompt will appear:

```
DEVICE:
```

**STEP 8**

A) If you want to look at the information on your screen, simply press 'enter'.

```
DEVICE: <enter>
```
B) If you want the information printed, type the number of the printer and press 'enter'.

DEVICE: PRT23 <enter>

Your report will appear as follows:

A) For a single code search:

<table>
<thead>
<tr>
<th>PROCEDURE CODE: 0140</th>
<th>PATIENT LISTING BY SELECTED DENTAL PROCEDURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRADER, BRIAN ALLEN</td>
<td>3925</td>
</tr>
<tr>
<td>CRAWFORD, BRANDON LEE</td>
<td>43034</td>
</tr>
<tr>
<td>CRADER, BRIAN ALLEN</td>
<td>3925</td>
</tr>
<tr>
<td>CRAWFORD, BRANDON LEE</td>
<td>43034</td>
</tr>
<tr>
<td>COUNT</td>
<td>4</td>
</tr>
</tbody>
</table>

B) For a group code search:

<table>
<thead>
<tr>
<th>PROCEDURE CODE: 0270</th>
<th>PATIENT LISTING BY SELECTED DENTAL PROCEDURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRADER, BRIAN ALLEN</td>
<td>3925</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROCEDURE CODE: 0272</th>
<th>PATIENT LISTING BY SELECTED DENTAL PROCEDURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRADER, BRIAN ALLEN</td>
<td>3925</td>
</tr>
<tr>
<td>CRAWFORD, BRANDON LEE</td>
<td>43034</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROCEDURE CODE: 0274</th>
<th>PATIENT LISTING BY SELECTED DENTAL PROCEDURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRAWFORD, BRANDON LEE</td>
<td>43034</td>
</tr>
<tr>
<td>COUNT</td>
<td>4</td>
</tr>
</tbody>
</table>
SECTION TWO

CLINICAL SERVICES REPORTS

This option on the DDS Main Menu leads to numerous "canned" reports concerning services, service minutes, visits, and other useful workload data. Each of these reports will contain information on more than one aspect of productivity. It is useful to be familiar with which reports contain which information. There are three (3) reports which will be of primary use in evaluating clinic efficiency. They are:

1. Visits by Facility and Dentist (RDEN)
2. Service Minutes by Dentist (Direct) (RDIR)
3. Dentist Annual Activity Report (DANN)

VISITS BY FACILITY AND DENTIST (RDEN)

This report provides information on the number of First Visits (0000), Revisits (0190), Broken Appointments (9130), and Planned Treatment Completed (9990) by dentist and for the entire facility for a time period which you specify.

To access this report follow these steps:

STEP 1

Select 'Clinical Services Reports' from the DDS Main Menu.
STEP 2

Select 'Visits by Facility and Dentist' from the menu which now appears on your screen.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSVC</td>
<td>Service Minute/Level of Care Reports...</td>
</tr>
<tr>
<td>RCOM</td>
<td>Community Visit Report</td>
</tr>
<tr>
<td>RDEN</td>
<td>Visits by Facility and Dentist</td>
</tr>
<tr>
<td>RTRI</td>
<td>Visits by Tribal Membership</td>
</tr>
<tr>
<td>RIND</td>
<td>Individual Patient Services by Dentist</td>
</tr>
<tr>
<td>RDAS</td>
<td>Individual Patient Services by Auxiliary Provider</td>
</tr>
<tr>
<td>RCTR</td>
<td>Contract Visits By Contracting Dentist</td>
</tr>
<tr>
<td>RFMG</td>
<td>FILEMAN (create ad hoc reports)...</td>
</tr>
<tr>
<td>RATT</td>
<td>Print Attending Dentist Statement</td>
</tr>
<tr>
<td>RMED</td>
<td>Dental Medicaid Eligible Report</td>
</tr>
<tr>
<td>RVER</td>
<td>Medicaid Verification Report</td>
</tr>
</tbody>
</table>

STEP 3

Type the date from which you would like the report to begin and press 'enter' at the prompt which now appears on your screen.

SELECT BEGINNING DATE:  1-1-95 <enter>

STEP 4

Type in the date at which you would like the report to end and press 'enter' at the next prompt.

SELECT ENDING DATE:  12-31-95 <enter>

STEP 5

Press 'enter' to see the report on your screen, or type a printer number to print your report at the prompt which now appears.

DEVICE:  <enter> (to view on your screen)

DEVICE:  PRT 23 (to print your report)
The report will be displayed as follows:

### HASKELL FACILITY VISIT REPORT
FOR VISITS BETWEEN JAN 1, 1995 AND DEC 31, 1995

<table>
<thead>
<tr>
<th>DENTIST</th>
<th>FIRST VISIT</th>
<th>REVISIT</th>
<th>BROKEN APPTS</th>
<th>PTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIARCHIARO, GEORGE</td>
<td>1023</td>
<td>3113</td>
<td>408</td>
<td>812</td>
</tr>
<tr>
<td>HANEY, TERRY</td>
<td>1299</td>
<td>3346</td>
<td>389</td>
<td>761</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>2322</td>
<td>6459</td>
<td>797</td>
<td>1573</td>
</tr>
</tbody>
</table>
SERVICE MINUTES BY DENTIST (DIRECT) (RDIR)

This report contains information on the number of services and service minutes provided by dentist and for the facility, separated into Levels of Care, for a time period which you specify, for Indian patients only.

NOTE: You must manually calculate the percentage of services or service minutes provided in each Level of Care. You must also add the number of services and service minutes from this report to those on the Non-Indian Patient Workload (RNON) report to obtain the total number of services and service minutes.

STEP 1

Select 'Clinical Services Reports' from the DDS Main Menu.

HELP Help for Users...
INQ Inquire to Patient Records...
PM Patient Management...
DVIS Dental Visit Data Entry...
QAT Quality Assurance Tracking...
REPT Clinical Services Reports...
SUP Supervisory Functions...

STEP 2

Select 'Service Minute/Level of Care Reports' from the menu which now appears on your screen.

RSVC Service Minute/Level of Care Reports...
RCOM Community Visit Report
RDEN Visits by Facility and Dentist
RTRI Visits by Tribal Membership
RIND Individual Patient Services by Dentist
RDAS Individual Patient Services by Auxiliary Provider
RCTR Contract Visits By Contracting Dentist
RFMG FILEMAN (create ad hoc reports)...
RATT Print Attending Dentist Statement
RMED Dental Medicaid Eligible Report
RVER Medicaid Verification Report
STEP 3

Select 'Service Minutes by Dentist (Direct)' from the next menu.

- RDIR  Service Minutes by Dentist (Direct)
- RCHS  Service Minutes by Dentist (CHS)
- RNON  Non-Indian Patient Workload
- DMON  Dentist Monthly Activity Report
- DQRT  Dentist Quarterly Activity Report
- DANN  Dentist Annual Activity Report
- HMON  Hygienist/Therapist Monthly Activity Report
- HQRT  Hygienist/Therapist Quarterly Activity Report
- HANN  Hygienist/Therapist Annual Activity Report

STEP 4

Type the date from which you would like the report to begin and press 'enter' at the prompt which now appears on your screen.

SELECT BEGINNING DATE:  1-1-95 <enter>

STEP 5

Type in the date at which you would like the report to end and press 'enter' at the next prompt.

SELECT ENDING DATE:  12-31-95 <enter>

STEP 6

Press 'enter' to see the report on your screen, or type a printer number to print your report at the prompt which now appears.

DEVICE:  <enter> (to view on your screen)

DEVICE:  PRT 23 (to print your report)

The report will appear as follows:
### CHIARCHIARO, GEORGE

<table>
<thead>
<tr>
<th>Level</th>
<th>SVCS</th>
<th>MINUTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1255</td>
<td>2103</td>
</tr>
<tr>
<td>1</td>
<td>49</td>
<td>99</td>
</tr>
<tr>
<td>2</td>
<td>1194</td>
<td>387</td>
</tr>
<tr>
<td>3</td>
<td>764</td>
<td>2345</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>247</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>186</td>
</tr>
<tr>
<td>6</td>
<td>9</td>
<td>1275</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Lvl 1-6:</td>
<td>2024</td>
<td>4539</td>
</tr>
</tbody>
</table>

### HANEY, TERRY

<table>
<thead>
<tr>
<th>Level</th>
<th>SVCS</th>
<th>MINUTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1187</td>
<td>2546</td>
</tr>
<tr>
<td>1</td>
<td>22</td>
<td>95</td>
</tr>
<tr>
<td>2</td>
<td>827</td>
<td>1295</td>
</tr>
<tr>
<td>3</td>
<td>3421</td>
<td>6630</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>674</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>344</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>176</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Lvl 1-6:</td>
<td>4291</td>
<td>9214</td>
</tr>
</tbody>
</table>

### TOTAL FOR HASKELL:

<table>
<thead>
<tr>
<th>Level</th>
<th>SVCS</th>
<th>MINUTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2442</td>
<td>4649</td>
</tr>
<tr>
<td>1</td>
<td>71</td>
<td>194</td>
</tr>
<tr>
<td>2</td>
<td>1021</td>
<td>1682</td>
</tr>
<tr>
<td>3</td>
<td>4185</td>
<td>8975</td>
</tr>
<tr>
<td>4</td>
<td>17</td>
<td>591</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>530</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
<td>1451</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Lvl 1-6:</td>
<td>5315</td>
<td>13423</td>
</tr>
</tbody>
</table>
NON-INDIAN PATIENT WORKLOAD (RNON)

This report provides the number of services and service minutes for the facility during a time period you specify for Non-Indian Patients only. You must add this information to the number of services and service minutes from the Service Minutes by Dentist (Direct) (RDIR) report to obtain the total number of services and service minutes.

STEP 1

Select 'Clinical Services Reports' from the DDS Main Menu.

HELP       Help for Users...
INQ        Inquire to Patient Records...
PM         Patient Management...
DVIS       Dental Visit Data Entry...
QAT        Quality Assurance Tracking...
REPT       Clinical Services Reports...
SUP        Supervisory Functions...

STEP 2

Select 'Service Minute/Level of Care Reports' from the menu which now appears on your screen.

RSVC       Service Minute/Level of Care Reports...
RCOM       Community Visit Report
RDEN       Visits by Facility and Dentist
RTRI       Visits by Tribal Membership
RIND       Individual Patient Services by Dentist
RDAS       Individual Patient Services by Auxiliary Provider
RCTR       Contract Visits By Contracting Dentist
RFMG       FILEMAN (create ad hoc reports)...
RATT       Print Attending Dentist Statement
RMED       Dental Medicaid Eligible Report
RVER       Medicaid Verification Report
STEP 3

Select 'Non-Indian Patient Workload' from the next menu

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDIR</td>
<td>Service Minutes by Dentist (Direct)</td>
</tr>
<tr>
<td>RCHS</td>
<td>Service Minutes by Dentist (CHS)</td>
</tr>
<tr>
<td>RNON</td>
<td>Non-Indian Patient Workload</td>
</tr>
<tr>
<td>DMON</td>
<td>Dentist Monthly Activity Report</td>
</tr>
<tr>
<td>DQRT</td>
<td>Dentist Quarterly Activity Report</td>
</tr>
<tr>
<td>DANN</td>
<td>Dentist Annual Activity Report</td>
</tr>
<tr>
<td>HMON</td>
<td>Hygienist/Therapist Monthly Activity Report</td>
</tr>
<tr>
<td>HQRT</td>
<td>Hygienist/Therapist Quarterly Activity Report</td>
</tr>
<tr>
<td>HANN</td>
<td>Hygienist/Therapist Annual Activity Report</td>
</tr>
</tbody>
</table>

STEP 4

Type the date from which you would like the report to begin and press 'enter' at the prompt which now appears on your screen.

SELECT BEGINNING DATE: 1-1-95 <enter>

STEP 5

Type in the date at which you would like the report to end and press 'enter' at the next prompt.

SELECT ENDING DATE: 12-31-95 <enter>

STEP 6

Press 'enter' to see the report on your screen, or type a printer number to print your report at the prompt which now appears.

DEVICE: <enter> (to view on your screen)

DEVICE: PRT 23 (to print your report)

The report will appear as follows:
<table>
<thead>
<tr>
<th>LEVEL</th>
<th>SVCS</th>
<th>MINUTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL LVL 1-6:</td>
<td>2</td>
<td>22</td>
</tr>
</tbody>
</table>
**DENTIST ANNUAL ACTIVITY REPORT (DANN)**

This is an extensive report which will provide workload data for each dentist and the facility, grouped by clinical category for the twelve month period you specify. Further, each procedure code within each clinical category is counted and the percentage of time each dentist spent in each clinical category is calculated. The report displays this information by quarter for the twelve month period specified.

**STEP 1**

Select 'Clinical Services Reports' from the DDS Main Menu.

- HELP Help for Users...
- INQ Inquire to Patient Records...
- PM Patient Management...
- DVIS Dental Visit Data Entry...
- QAT Quality Assurance Tracking...
- REPT Clinical Services Reports...
- SUP Supervisory Functions...

**STEP 2**

Select 'Service Minute/Level of Care Reports' from the menu which now appears.

- RSVC Service Minute/Level of Care Reports...
- RCOM Community Visit Report
- RDEN Visits by Facility and Dentist
- RTRI Visits by Tribal Membership
- RIND Individual Patient Services by Dentist
- RDAS Individual Patient Services by Auxiliary Provider
- RCTR Contract Visits by Contracting Dentist
- RFMG FILEMAN (create ad hoc reports)...
- RATT Print Attending Dentist Statement
- RMED Dental Medicaid Eligible Report
- RVER Medicaid Verification Report
**STEP 3**

Select **Dentist Annual Activity Report** from the next menu.

- RDIR  Service Minutes by Dentist (Direct)
- RCHS  Service Minutes by Dentist (CHS)
- RNON  Non-Indian Patient Workload
- DMON  Dentist Monthly Activity Report
- DQRT  Dentist Quarterly Activity Report
- **DANN**  Dentist Annual Activity Report
- HMON  Hygienist/Therapist Monthly Activity Report
- HQRT  Hygienist/Therapist Quarterly Activity Report
- HANN  Hygienist/Therapist Annual Activity Report

**STEP 4**

Type the month and year in which the report should begin and press 'enter' at the prompt which now appears on your screen.

Report will cover 12 month period beginning (MONTH-YR): 1-94

**STEP 5**

Accept the default or type in a printer number at the next prompt.

DEVICE: HOME//PRT 23

The report will be displayed as follows:
### CHIARCHIARO, GEORGE

#### PERSONS SERVED

<table>
<thead>
<tr>
<th>Series</th>
<th>Qtr 1</th>
<th>Qtr 2</th>
<th>Qtr 3</th>
<th>Qtr 4</th>
<th>Total</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>40</td>
<td>20</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0140</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0.1%</td>
</tr>
<tr>
<td>0190</td>
<td>73</td>
<td>84</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9130</td>
<td>26</td>
<td>24</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9140</td>
<td>19</td>
<td>17</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9990</td>
<td>17</td>
<td>19</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9991</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong></td>
<td><strong>178</strong></td>
<td><strong>167</strong></td>
<td><strong>2</strong></td>
<td><strong>16</strong></td>
<td><strong>6</strong></td>
<td><strong>0.1%</strong></td>
</tr>
</tbody>
</table>

#### TOTAL

<table>
<thead>
<tr>
<th>Subtotal</th>
<th>Minutes</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0140</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0190</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9140</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9990</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9991</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong></td>
<td><strong>178</strong></td>
<td><strong>167</strong></td>
</tr>
</tbody>
</table>

#### TOTAL

<table>
<thead>
<tr>
<th>Subtotal</th>
<th>Minutes</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DIAGNOSTICS SUBTOTAL**

**PREVENTIVE SUBTOTAL**

**RESTORATIVE SUBTOTAL**

**ENDODONTIC SUBTOTAL**

**PROSTHODONTIC SUBTOTAL**

**SURGICAL SUBTOTAL**

**ORTH SUBTOTAL**

**OTHER SERVICES SUBTOTAL**

**TOTAL**

100%
Retrieving Information from the RPMS Dental Database
Using the Dental QA Report Tool

Overview
The Dental QA Reporting software was developed so that IHS Dental program managers would have a means of quickly and easily retrieving information from the RPMS Dental database. To access the Report tool, select the Quality Assurance Tracking option from the main menu of the Dental Data System, then select the Technical QA Functions option.

Two major steps are involved in producing a report using the Dental QA Report tool:
1. Specify Search Parameters. During this step, you tell the computer which data to look for. You may limit your report to a particular age range, dentist, hygienist/therapist, etc. You may also restrict your report to a particular set of ADA Codes or operative sites (anatomic locations in the mouth). The Report tool will also find codes which were followed by (or not followed by) other codes.
2. Specify Output Options: After the search parameters are set up, the report software will ask you how you want your output formatted. The several options available are displayed in a menu. Depending on which options you select, you may subtotal your report in various ways. During this step, you may also choose to save the results of your search in a template. The template may be used in subsequent searches to further refine your report.

Examples
The following examples on the following pages show ways to use the Report tool to answer typical program and patient management questions. In the examples, text in **boldface** indicates the response you must type in. Answers to class exercises begin on page 16.

DEMO 1: How many patients had visits in FY 94?

***STEP ONE: Select SEARCH PARAMETERS***

Limit search to entries in one of your Search Templates? NO//
The search will cover visits during the following time period:

Start with (and include) DATE: 10-1-87 (OCT 01, 1988)
Go to (and include) DATE: 9-30-88 (SEP 30, 1989)

Do you want to limit the search according to AGE AT TIME OF VISIT? NO//
Limit search to specific ATTENDING DENTIST(S)? NO//
Limit search to specific HYGIENIST/ THERAPIST(S)? NO//
Do you want to limit the search to visits at a particular FACILITY? NO//
Limit the search to a particular ADA Code or set of Codes? YES// NO
Do you want to review your search parameters? YES//

This search includes dental visits which meet the following specifications:
Limited to visits between OCT 1, 1987 and SEP 30, 1988

Do you want continue with this search? YES//

***STEP TWO: Specify OUTPUT FORMAT***
You have the following options for displaying this report.

Select one of the following:

1. Count Patients
2. Print Dental Record Review for Each Patient
3. Count ADA Codes
4. Count Visits
5. Print Visit List

Select Report Option: 1 Count Patients
Template will be attached to the PATIENT FILE.
Do you want to store the results of this search in a TEMPLATE?? NO//
DEVICE: HOME//

This search includes dental visits which meet the following specifications:

Limited to visits between OCT 1, 1987 and SEP 30, 1988

<table>
<thead>
<tr>
<th>PATIENT STATISTICS</th>
<th>JAN 10, 1992 12:40</th>
<th>PAGE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATIENT COUNT</td>
<td>--------------------</td>
<td>--------</td>
</tr>
<tr>
<td>COUNT</td>
<td>98</td>
<td></td>
</tr>
</tbody>
</table>
DEMO 2: How many First Visits and Revisits were there in FY 1989?

***STEP ONE: Select SEARCH PARAMETERS***

Limit search to entries in one of your Search Templates? NO//
The search will cover visits during the following time period:

Start with (and include) DATE: 10-1-87  (OCT 01, 1987)
Go to (and include) DATE: 9-30-88  (SEP 30, 1988)

Do you want to limit the search according to AGE AT TIME OF VISIT? NO//

Limit search to specific ATTENDING DENTIST(S)? NO//

Limit search to specific HYGIENIST/ THERAPIST(S)? NO//

Do you want to limit the search to visits at a particular FACILITY? NO//

Limit the search to a particular ADA Code or set of Codes? YES//
Select ADA CODE: 0000  0000  FIRST VISIT
Select ADA CODE: 0190  0190  PATIENT REVISIT
Select ADA CODE:

Do you want these ADA Codes to apply to a particular Opsite or Opsites? YES// NO

Limit the search to ADA Codes which are FOLLOWED BY a particular code? YES// NO

Do you want to review your search parameters? YES//

This search includes dental visits which meet the following specifications:

Limited to visits between OCT 1, 1987 and SEP 30, 1988
Limited to the following ADA CODES: 0000  0190

Do you want continue with this search? YES//

***STEP TWO: Specify OUTPUT FORMAT***

You have the following options for displaying this report.

Select one of the following:
1 Count Patients
2 Print Dental Record Review for Each Patient
3 Count ADA Codes
4 Count Visits
5 Print Visit List

Select Report Option: 3  Count ADA Codes

You have the following options for SUBTOTALING your report.

Select one of the following:
1 Location of visit
2 Attending Dentist
3 Hygienist/Therapist
4 Operative Site
5 ADA Procedure Code
This search includes dental visits which meet the following specifications:

Limited to visits between OCT 1, 1987 and SEP 30, 1988
Limited to the following ADA CODES:

<table>
<thead>
<tr>
<th>ADA CODE</th>
<th>PROCEDURES</th>
<th>MINUTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0190</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**ADA CODE: 0000**
- SUBTOTAL: 0
- SUBCOUNT: 23

**ADA CODE: 0190**
- SUBTOTAL: 0
- SUBCOUNT: 66

**TOTAL**
- COUNT: 89
DEMO 3: How many patients between the ages of 5 and 19 had Sealants in FY 88?
***STEP ONE: Select SEARCH PARAMETERS***

Limit search to entries in one of your Search Templates? NO//
The search will cover visits during the following time period:

Start with (and include) DATE: 1-1-87 (JAN 01, 1987)
Go to (and include) DATE: 9-30-88 (SEP 30, 1988)

Do you want to limit the search according to AGE AT TIME OF VISIT? NO// YES
Start with (and include) AGE: 5
Go to (and include) AGE: 19

Limit the search to a particular ADA Code or set of Codes? YES//
Select ADA CODE: 1350 1350 SEALANT - OTHER THAN MOLAR (PER TOOTH)
Select ADA CODE: 1351 1351 SEALANT - PERMANENT MOLAR (PER TOOTH)

Limit the search to ADA Codes which are FOLLOWED BY a particular code? YES// NO

Do you want to review your search parameters? YES//

This search includes dental visits which meet the following specifications:
Limited to visits between JAN 1,1987 and SEP 30,1988
Limited to patients whose AGE AT TIME OF VISIT was between 5 and 19 (inclusive).
Limited to the following ADA CODES:
    1350 1351

Do you want continue with this search? YES//

***STEP TWO: Specify OUTPUT FORMAT***
You have the following options for displaying this report.
Select one of the following:
1 Count Patients
2 Print Dental Record Review for Each Patient
3 Count ADA Codes
4 Count Visits
5 Print Visit List

Select Report Option: 1 Count Patients
Template will be attached to the PATIENT FILE.
Do you want to store the results of this search in a TEMPLATE?? NO//
DEVICE: HOME/

This search includes dental visits which meet the following specifications:
Limited to visits between JAN 1,1987 and SEP 30,1988
Limited to patients whose AGE AT TIME OF VISIT was between 5 and 19 (inclusive).
Limited to the following ADA CODES:
    1350 1351

PATIENT STATISTICS        JAN 10,1992 13:04 PAGE 1
PATIENT COUNT
--------------------------------------------------------------------------------
COUNT     1
EXERCISE 1:  How many patients had Extractions (7110) in FY 88?
(The answer to this and all other exercises can be found at the back of this handout.)
EXERCISE 2:  How many extractions (7110) did each dentist do in FY 88?
(HINT: Limit report to extraction code. For output, select Count ADA Codes. Subtotal by Attending Dentist.)
DEMO 4: How many teeth were accessed for endo (3300)? (Store results in a TEMPLATE.)

***STEP ONE: Select SEARCH PARAMETERS***

Limit search to entries in one of your Search Templates? NO/

The search will cover visits during the following time period:

Start with (and include) DATE: 10-1-87 (OCT 01, 1987)
Go to (and include) DATE: 9-30-88 (SEP 30, 1988)

Limit the search to a particular ADA Code or set of Codes? YES/
Select ADA CODE: 3300  3300 PULPECTOMY ENDO ACCESS PREP, PERMANENT TOOTH

Do you want these ADA Codes to apply to a particular Opsite or Opsites? YES// NO

Limit the search to ADA Codes which are FOLLOWED BY a particular code? YES// NO

Do you want to review your search parameters? YES// NO

***STEP TWO: Specify OUTPUT FORMAT***

You have the following options for displaying this report.

Select one of the following:
1 Count Patients
2 Print Dental Record Review for Each Patient
3 Count ADA Codes
4 Count Visits
5 Print Visit List

Select Report Option: 3 Count ADA Codes

You have the following options for SUBTOTALING your report.

Select one of the following:
1 Location of visit
2 Attending Dentist
3 Hygienist/Therapist
4 Operative Site
5 ADA Procedure Code

Select SUBTOTAL:
Template will be attached to the DENTAL PROCEDURE FILE.

Do you want to store the results of this search in a TEMPLATE?? NO// YES

Enter Template Name: HW-ENDO
DEVICE: HOME/

This search includes dental visits which meet the following specifications:

Limited to visits between OCT 1,1987 and SEP 30,1988
Limited to the following ADA CODES: 3300

DENTAL PROCEDURE STATISTICS  JAN 10,1992  13:44  PAGE 1
---------------------------------------------------------------------
TOTAL                  PROCEDURES   MINUTES
COUNT                  2
---------------------------------------------------------------------
30

INDIAN HEALTH SERVICE  80  MAY 1997
**STEP ONE: Select SEARCH PARAMETERS**

Limit search to entries in one of your Search Templates? NO// YES
Select SEARCH TEMPLATE: **HW-ENDO** FILE #9002007
The search will cover visits during the following time period:

Start with (and include) DATE: 10-1-87  (OCT 01, 1987)
Go to (and include) DATE: 9-30-88  (SEP 30, 1988)

Do you want to limit the search according to AGE AT TIME OF VISIT? NO//

Limit search to specific ATTENDING DENTIST(S)? NO//

Limit search to specific HYGIENIST/THERAPIST(S)? NO//

Do you want to limit the search to visits at a particular FACILITY? NO//

Limit the search to a particular ADA Code or set of Codes? YES//
Select ADA CODE: 3300  3300        PULPECTOMY ENDO ACCESS PREP, PERMANENT TOOTH
Select ADA CODE:

Do you want these ADA Codes to apply to a particular Opsite or Opsites? YES// NO

Limit the search to ADA Codes which are FOLLOWED BY a particular code? YES//
Select ADA CODE: 7112  7112        EXTRACTION FOR PERIO-XP
Select ADA CODE:

What time limit (in days) should apply to the 'FOLLOWED BY' codes? 9999
Do you want the 'FOLLOWED BY' codes to apply to the SAME OPSITE? N// YES
Do you want to review your search parameters? YES//

This search includes dental visits which meet the following specifications:

Limited to entries in the HW-ENDO Template.
Limited to visits between OCT 1,1987 and SEP 30,1988
Limited to the following ADA CODES:
  3300
Followed on the SAME Operative Site within 9999 days by these ADA CODES:
  7112

Do you want continue with this search? YES//

**STEP TWO: Specify OUTPUT FORMAT**

You have the following options for displaying this report.

Select one of the following:

1  Count Patients
2  Print Dental Record Review for Each Patient
3  Count ADA Codes
4  Count Visits
5  Print Visit List

Select Report Option: 5  Print Visit List
Template will be attached to the DENTAL PROCEDURE FILE.
Do you want to store the results of this search in a TEMPLATE?? NO/
DEVICE: HOME//

This search includes dental visits which meet the following specifications:

Limited to entries in the HW-ENDO Template.
Limited to visits between OCT 1,1987 and SEP 30,1988
Limited to the following ADA CODES:
   3300
Followed on the SAME Operative Site within 9999 days by these ADA CODES:
   7112

<table>
<thead>
<tr>
<th>CHART#</th>
<th>PATIENT</th>
<th>DATE</th>
<th>DENTIST</th>
<th>HYG/THER</th>
<th>CODE</th>
<th>SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>64475</td>
<td>DRIVER,RICHARD</td>
<td>10-05-87</td>
<td>BEASLEY</td>
<td></td>
<td>3300</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3300</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0000</td>
<td></td>
</tr>
</tbody>
</table>

Now inquire into the patient dental record to confirm the search finding:
**********************************************************************
**************************CONFIDENTIAL PATIENT DATA****************************
******************* DRIVER,RICHARD  (DENTAL SUMMARY)  pg. 1 *******************
<No Failed Appointments>
<Not on Active Dental Followup>

<No Previous Followup>
SERVICES PROVIDED:
10/25/93 ALBUQUERQ HO --BEASLEY,BRIAN J.--
   7110 ( 1) SIMPLE EXTR.       9
   0000 ( 1) FIRST VISIT
10/05/87 ALBUQUERQ HO --BEASLEY,BRIAN J.--
   3300 ( 2) ACCESS PREP        8 9
   0000 ( 1) FIRST VISIT
**********************************************************************
END CONFIDENTIAL PATIENT DATA**********************************************************************
EXERCISE 3: How many teeth sealed in FY88 (1350 or 1351) were later filled (2140-2161)?

(HINT: Search for sealants. Store the results in a template using your initials to identify your template, e.g. HW SEALED. Then use the template in the search parameters and search again for sealants but this time specify that you want sealed teeth which were followed on the same operative site by one of the restorative codes.)
**DEMO 5:** Create a report which shows how many sealants were done in each clinic by each dentist.

***STEP ONE: Select SEARCH PARAMETERS***

Limit search to entries in one of your Search Templates? NO// YES
Select SEARCH TEMPLATE: HW-SEALED USER #8 FILE #9002007
The search will cover visits during the following time period:
Start with (and include) DATE: 1-1-81 (JAN 01, 1981)
Go to (and include) DATE: T (JAN 10, 1992)
Do you want to limit the search according to AGE AT TIME OF VISIT? NO//
Limit search to specific ATTENDING DENTIST(S)? NO//
Limit search to specific HYGIENIST/THERAPIST(S)? NO//
Do you want to limit the search to visits at a particular FACILITY? NO//
Limit the search to a particular ADA Code or set of Codes? YES//
Select ADA CODE: 1350 1350 SEALANT - OTHER THAN MOLAR (PER TOOTH)
Select ADA CODE: 1351 1351 SEALANT - PERMANENT MOLAR (PER TOOTH)
Select ADA CODE:
Do you want these ADA Codes to apply to a particular Opsite or Opsites? YES// NO
Limit the search to ADA Codes which are FOLLOWED BY a particular code? YES// NO
Do you want to review your search parameters? YES// NO

***STEP TWO: Specify OUTPUT FORMAT***
You have the following options for displaying this report.
Select one of the following:
1 Count Patients
2 Print Dental Record Review for Each Patient
3 Count ADA Codes
4 Count Visits
5 Print Visit List

Select Report Option: 3 Count ADA Codes
You have the following options for SUBTOTALING your report.
Select one of the following:
1 Location of visit
2 Attending Dentist
3 Hygienist/Therapist
4 Operative Site
5 ADA Procedure Code

Select SUBTOTAL: 1 Location of visit
Select Another SUBTOTAL: (1/2/3/4/5): 2 Attending Dentist
Select Another SUBTOTAL: (1/2/3/4/5):
Template will be attached to the DENTAL PROCEDURE FILE.
Do you want to store the results of this search in a TEMPLATE?? NO//
DEVICE: HOME//
This search includes dental visits which meet the following specifications:

Limited to entries in the HW-SEALED Template.
Limited to visits between JAN 1,1981 and JAN 10,1992
Limited to the following ADA CODES:
   1350  1351

DENTAL PROCEDURE STATISTICS
PROCEDURES  MINUTES

LOCATION OF ENCOUNTER: ALBUQUERQUE PHS INDIAN HOSP.
ATTENDING DENTIST: BEASLEY,BRIAN J.

SUBTOTAL           45
SUBCOUNT           5
ATTENDING DENTIST: DENTIST,IHS

SUBTOTAL           54
SUBCOUNT           6
SUBTOTAL           99
SUBCOUNT          11
TOTAL              99
COUNT             11
DEMO 6: How many patients with Space Maintainers (1510 or 1515) did NOT have a revisit within 30 days? Print a Mailing Label for each patient.

Part 1: Create template to store patient names.

***STEP ONE: Select SEARCH PARAMETERS***

Limit search to entries in one of your Search Templates? NO/
The search will cover visits during the following time period:

Start with (and include) DATE: 10-1-87 (OCT 01, 1987)
Go to (and include) DATE: 9-30-88 (SEP 30, 1988)

Do you want to limit the search to visits at a particular FACILITY? NO/

Limit the search to a particular ADA Code or set of Codes? YES/
Select ADA CODE: 1510 1510 SPACE MAINT., FIXED UNILATERAL
Select ADA CODE: 1515 1515 SPACE MAINT., FIXED BILATERAL

Do you want these ADA Codes to apply to a particular Opsite or Opsites? YES// NO

Limit the search to ADA Codes which are FOLLOWED BY a particular code? YES/
Select ADA CODE: 0190 0190 PATIENT REVISIT
Select ADA CODE: NOT OK. I will look for procedures NOT followed by these codes.
Select ADA CODE:

What time limit (in days) should apply to the 'FOLLOWED BY' codes? 30

Do you want the 'FOLLOWED BY' codes to apply to the SAME OPSITE? N// O

Do you want to review your search parameters? YES// NO

***STEP TWO: Specify OUTPUT FORMAT***

You have the following options for displaying this report.

Select one of the following:

1 Count Patients
2 Print Dental Record Review for Each Patient
3 Count ADA Codes
4 Count Visits
5 Print Visit List

Select Report Option: 1 Count Patients
Template will be attached to the PATIENT FILE.
Do you want to store the results of this search in a TEMPLATE?? NO// YES
Enter Template Name: HWSPACE3
DEVICE: HOME//
This search includes dental visits which meet the following specifications:

Limited to visits between JAN 1, 1981 and SEP 30, 1988
Limited to the following ADA CODES:
    1510  1515
Followed within 30 days by these ADA CODES:
    0190

PATIENT STATISTICS                        JAN 10,1992  14:35    PAGE 1
PATIENT COUNT
-------------------------------------------------------------------------------
COUNT     1
-------------------------------------------------------------------------------

Part 2: Print Mailing Label  (Use MLBL Option in Patient Management Menu)
PATIENT MANAGEMENT OPTIONS...

APPT   Schedule Dental Appointment   (NOT AVAILABLE)
WAIT   Patient Waiting List Options
CALL   Patient Recall Options
NEED   Deferred Needs Register
MLBL   Print Patient Mailing Labels from Search Template
ILBL   Print Mailing Labels for Specific Patients

Select Patient Management Option: MLBL  Print Patient Mailing Labels from Search Template
Select SORT TEMPLATE: HWSpace3  USER #8  FILE #9000001
Enter Number of Lines on Blank Mailing Label: 9//

Do you want to print a test label? YES//  (YES)
Line up labels on printer and select Device

DEVICE: HOME//
LINE 1: NAME
LINE 2: STREET ADDRESS
LINE 3: CITY, STATE ZIP
LINE 4:
LINE 5:
LINE 6:
LINE 7:
LINE 8:
LINE 9:

Print another test label? YES//  N  (NO)

Ready to print mailing labels for patient names stored in the HWSpace3 Search Template of the PATIENT File. Make sure labels are lined up on printer.

DEVICE: HOME//

JIM CRAWFORD
777 N. 33RD ST.
LAS VEGAS, NM  87999
EXERCISE 4: One of our dentists (DENTIST,IHS) has tested HIV-positive. We need to notify all of the patients he treated surgically (just use ADA Code 7110 for purposes of this exercise). Construct a template with his patient names and create mailing labels for them.
Answers to Class Exercises

Exercise 5: How many patients had Extractions (7110) in FY 88?

***STEP ONE: Select SEARCH PARAMETERS***

Limit search to entries in one of your Search Templates? NO//
The search will cover visits during the following time period:

Start with (and include) DATE: 10-1-87  (OCT 01, 1987)
Go to (and include) DATE: 9-30-88  (SEP 30, 1988)

Do you want to limit the search according to AGE AT TIME OF VISIT? NO//

Limit search to specific ATTENDING DENTIST(S)? NO//

Limit search to specific HYGIENIST/THERAPIST(S)? NO//

Do you want to limit the search to visits at a particular FACILITY? NO//

Limit the search to a particular ADA Code or set of Codes? YES//
Select ADA CODE: 7110  7110        EXTRACTION, SIMPLE (ANY REASON)
Select ADA CODE:

Do you want these ADA Codes to apply to a particular Opsite or Opsites? YES// NO

Limit the search to ADA Codes which are FOLLOWED BY a particular code? YES// NO

Do you want to review your search parameters? YES//

This search includes dental visits which meet the following specifications:

Limited to visits between OCT 1,1987 and SEP 30,1988
Limited to the following ADA CODES:
    7110

Do you want continue with this search? YES//

***STEP TWO: Specify OUTPUT FORMAT***

You have the following options for displaying this report.

Select one of the following:

1    Count Patients
2    Print Dental Record Review for Each Patient
3    Count ADA Codes
4    Count Visits
5    Print Visit List

Select Report Option: 1  Count Patients
Template will be attached to the PATIENT FILE.
Do you want to store the results of this search in a TEMPLATE?? NO//
DEVICE: HOME//
This search includes dental visits which meet the following specifications:

Limited to visits between OCT 1, 1987 and SEP 30, 1988
Limited to the following ADA CODES:
   7110

<table>
<thead>
<tr>
<th>PATIENT STATISTICS</th>
<th>JAN 10, 1992 13:13</th>
<th>PAGE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATIENT COUNT</td>
<td>--------------------</td>
<td>--------</td>
</tr>
<tr>
<td>COUNT</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
Exercise 6: How many extractions (7110) did each dentist do in FY 87?

***STEP ONE: Select SEARCH PARAMETERS***

Limit search to entries in one of your Search Templates? NO//

The search will cover visits during the following time period:

Start with (and include) DATE: 10-1-87  (OCT 01, 1987)
Go to (and include) DATE: 9-30-88  (SEP 30, 1988)

Do you want to limit the search according to AGE AT TIME OF VISIT? NO//

Limit search to specific ATTENDING DENTIST(S)? NO//

Limit search to specific HYGIENIST/THERAPIST(S)? NO//

Do you want to limit the search to visits at a particular FACILITY? NO//

Limit the search to a particular ADA Code or set of Codes? YES//
Select ADA CODE: 7110  7110        EXTRACTION, SIMPLE (ANY REASON)

Select ADA CODE:

Do you want these ADA Codes to apply to a particular Opsite or Opsites? YES// NO

Limit the search to ADA Codes which are FOLLOWED BY a particular code? YES// NO

Do you want to review your search parameters? YES// NO

***STEP TWO: Specify OUTPUT FORMAT***

You have the following options for displaying this report.

Select one of the following:

1         Count Patients
2         Print Dental Record Review for Each Patient
3         Count ADA Codes
4         Count Visits
5         Print Visit List

Select Report Option: 3  Count ADA Codes

You have the following options for SUBTOTALING your report.

Select one of the following:

1         Location of visit
2         Attending Dentist
3         Hygienist/Therapist
4         Operative Site
5         ADA Procedure Code

Select SUBTOTAL: 2  Attending Dentist
Select Another SUBTOTAL:  (1/2/3/4/5):
Template will be attached to the DENTAL PROCEDURE FILE.
Do you want to store the results of this search in a TEMPLATE?? NO//
DEVICE: HOME//
This search includes dental visits which meet the following specifications:

Limited to visits between OCT 1, 1987 and SEP 30, 1988
Limited to the following ADA CODES:
  7110

<table>
<thead>
<tr>
<th>PROCEDURES</th>
<th>MINUTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBTOTAL</td>
<td>135</td>
</tr>
<tr>
<td>SUBCOUNT</td>
<td>9</td>
</tr>
<tr>
<td>ATTENDING DENTIST:</td>
<td>DENTIST, IHS</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td>15</td>
</tr>
<tr>
<td>SUBCOUNT</td>
<td>1</td>
</tr>
<tr>
<td>ATTENDING DENTIST:</td>
<td>KELLAM, GARY A</td>
</tr>
<tr>
<td>TOTAL</td>
<td>150</td>
</tr>
<tr>
<td>COUNT</td>
<td>10</td>
</tr>
</tbody>
</table>
Exercise 7: How many teeth with sealants were later restored?

Part 1: Search for sealed teeth, store results in template.

***STEP ONE: Select SEARCH PARAMETERS***

Limit search to entries in one of your Search Templates? NO//
The search will cover visits during the following time period:
Start with (and include) DATE: 10-1-87 (OCT 01, 1987)
Go to (and include) DATE: 9-30-88 (SEP 30, 1988)
Do you want to limit the search according to AGE AT TIME OF VISIT? NO//
Limit search to specific ATTENDING DENTIST(S)? NO//
Limit search to specific HYGIENIST/ THERAPIST(S)? NO//
Do you want to limit the search to visits at a particular FACILITY? NO//
Limit the search to a particular ADA Code or set of Codes? YES//
Select ADA CODE: 1350 1350 SEALANT - OTHER THAN MOLAR (PER TOOTH)
Select ADA CODE: 1351 1351 SEALANT - PERMANENT MOLAR (PER TOOTH)
Select ADA CODE:
Do you want these ADA Codes to apply to a particular Opsite or Opsites? YES// NO
Limit the search to ADA Codes which are FOLLOWED BY a particular code? YES// NO
Do you want to review your search parameters? YES// NO

***STEP TWO: Specify OUTPUT FORMAT***

You have the following options for displaying this report.

Select one of the following:
1 Count Patients
2 Print Dental Record Review for Each Patient
3 Count ADA Codes
4 Count Visits
5 Print Visit List

Select Report Option: 3 Count ADA Codes

You have the following options for SUBTOTALING your report.

Select one of the following:
1 Location of visit
2 Attending Dentist
3 Hygienist/Therapist
4 Operative Site
5 ADA Procedure Code

Select SUBTOTAL: 5 ADA Procedure Code
Select Another SUBTOTAL: (1/2/3/4/5):
Template will be attached to the DENTAL PROCEDURE FILE.
Do you want to store the results of this search in a TEMPLATE?? NO// YES
Enter Template Name: HW-SEALED
DEVICE: HOME//
This search includes dental visits which meet the following specifications:

Limited to visits between OCT 1, 1987 and SEP 30, 1988
Limited to the following ADA CODES:
  1350  1351

DENTAL PROCEDURE STATISTICS

<table>
<thead>
<tr>
<th>ADA CODE: 1351</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBTOTAL</td>
</tr>
<tr>
<td>SUBCOUNT</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
<tr>
<td>COUNT</td>
</tr>
</tbody>
</table>

Part 2: Use template to search for sealants followed by restorations:

***STEP ONE: Select SEARCH PARAMETERS***

Limit search to entries in one of your Search Templates? NO// YES
Select SEARCH TEMPLATE: HW-SEALED USER #8 FILE #9002007
The search will cover visits during the following time period:
Start with (and include) DATE: 10-1-87 (OCT 01, 1987)
Go to (and include) DATE: 9-30-88 (SEP 30, 1988)
Do you want to limit the search according to AGE AT TIME OF VISIT? NO//
Limit search to specific ATTENDING DENTIST(S)? NO//
Limit search to specific HYGIENIST/THERAPIST(S)? NO//
Do you want to limit the search to visits at a particular FACILITY? NO//
Limit the search to a particular ADA Code or set of Codes? YES//
Select ADA CODE: 1351 1351 SEALANT - PERMANENT MOLAR (PER TOOTH)
Select ADA CODE: 1350 1350 SEALANT - OTHER THAN MOLAR (PER TOOTH)
Select ADA CODE:
Do you want these ADA Codes to apply to a particular Opsite or Opsites? YES// NO
Limit the search to ADA Codes which are FOLLOWED BY a particular code? YES//
Select ADA CODE: 2140-2161
  2150 AMALGAM-TWO SURFACE PERMANENT
  2151 AMALGAM, TWO SURF. PERM. TOOTH (P&F CARIES)
  2160 AMALGAM-THREE SURFACE PERMANENT
  2161 AMALGAM-FOUR+ SURFACES PERMANENT
Select ADA CODE: 2140 2140 AMALGAM-ONE SURFACE PERMANENT
Select ADA CODE:
What time limit (in days) should apply to the 'FOLLOWED BY' codes? 9999
Do you want the 'FOLLOWED BY' codes to apply to the SAME OPSITE? N// YES
Do you want to review your search parameters? YES//

This search includes dental visits which meet the following specifications:
Limited to entries in the HW-SEALED Template.
Limited to visits between OCT 1,1987 and SEP 30,1988
Limited to the following ADA CODES:
  1351  1350
Followed on the SAME Operative Site within 9999 days by these ADA CODES:
  2150  2151  2160  2161  2140

Do you want continue with this search? YES/

***STEP TWO: Specify OUTPUT FORMAT***
You have the following options for displaying this report.

Select one of the following:

1         Count Patients
2         Print Dental Record Review for Each Patient
3         Count ADA Codes
4         Count Visits
5         Print Visit List

Select Report Option: 3  Count ADA Codes

You have the following options for SUBTOTALING your report.

Select one of the following:

1         Location of visit
2         Attending Dentist
3         Hygienist/Therapist
4         Operative Site
5         ADA Procedure Code

Select SUBTOTAL:
Template will be attached to the DENTAL PROCEDURE FILE.
Do you want to store the results of this search in a TEMPLATE?? NO/
DEVICE: HOME/

This search includes dental visits which meet the following specifications:

Limited to entries in the HW-SEALED Template.
Limited to visits between OCT 1,1987 and SEP 30,1988
Limited to the following ADA CODES:
  1351  1350
Followed on the SAME Operative Site within 9999 days by these ADA CODES:
  2150  2151  2160  2161  2140

DENTAL PROCEDURE STATISTICS            APR 25,1994  18:01   PAGE 1
PROCEDURES  MINUTES

-------------------------------
TOTAL         9
COUNT         1

------------------------------
Exercise 8: Find all of DENTIST,IHS’s surgical patients and print mailing labels:

Step 1: Do the search & store results in template.

***STEP ONE: Select SEARCH PARAMETERS***

Limit search to entries in one of your Search Templates? NO//
The search will cover visits during the following time period:

Start with (and include) DATE: 1-1-81 (JAN 01, 1981)
Go to (and include) DATE: T (APR 26, 1994)

Do you want to limit the search according to AGE AT TIME OF VISIT? NO/

Limit search to specific ATTENDING DENTIST(S)? NO// YES
Select Attending Dentist: DENTIST,IHS
Select ANOTHER Attending Dentist:

Limit search to specific HYGIENIST/THERAPIST(S)? NO/

Do you want to limit the search to visits at a particular FACILITY? NO/

Limit the search to a particular ADA Code or set of Codes? YES//
Select ADA CODE: 7110  7110        EXTRACTION, SIMPLE (ANY REASON)
Select ADA CODE:

Limit the search to ADA Codes which are FOLLOWED BY a particular code? YES// NO

Do you want to review your search parameters? YES/

This search includes dental visits which meet the following specifications:

Limited to visits between JAN 1,1981 and APR 26, 1994
Limited to the following ATTENDING DENTISTS:
    DENTIST,IHS
Limited to the following ADA CODES:
    7110

Do you want continue with this search? YES/

***STEP TWO: Specify OUTPUT FORMAT***

You have the following options for displaying this report.

Select one of the following:

1   Count Patients
2   Print Dental Record Review for Each Patient
3   Count ADA Codes
4   Count Visits
5   Print Visit List

Select Report Option: 1  Count Patients
Template will be attached to the PATIENT FILE.
Do you want to store the results of this search in a TEMPLATE?? NO// YES
Enter Template Name: HW-HIV
DEVICE: HOME//
This search includes dental visits which meet the following specifications:

Limited to visits between JAN 1, 1981 and APR 26, 1994
Limited to the following ATTENDING DENTISTS:
  DENTIST, IHS
Limited to the following ADA CODES:
  7110

PATIENT STATISTICS
PATIENT COUNT

----------------------------------------------
COUNT      5

Step 2: Use the template to print mailing labels

PATIENT MANAGEMENT OPTIONS...

APPT   Schedule Dental Appointment   (NOT AVAILABLE)
WAIT   Patient Waiting List Options
CALL   Patient Recall Options
NEED   Deferred Needs Register
MLBL   Print Patient Mailing Labels from Search Template
ILBL   Print Mailing Labels for Specific Patients

Select Patient Management Option: MLBL  Print Patient Mailing Labels from Search Template
Select SORT TEMPLATE: HW-HIV
Enter Number of Lines on Blank Mailing Label: 9// 5

Do you want to print a test label? YES// N (NO)

Ready to print mailing labels for patient names stored in the HWGRAU Search Template of the PATIENT File.
Make sure labels are lined up on printer.

DEVICE: HOME//
LYNETTE LORETTO
98 FILLMORE LANE
RATON, NM  87999

VINCENT TOYA
8 N. VINE AVE. APT 3
GALLUP, NM  87999

GARY GEORGE
1266 TURQUOISE PLACE
CLAYTON, NM  87999

KATHY MARIANO
P.O. BOX 3355
ALBUQUERQUE, NM  87999
USER MANUAL FOR
THE COMPILED STATISTICAL REPORTS
MODULE OF THE RPMS
DENTAL DATA SOFTWARE
(DDS) PACKAGE, VERSION 5.4

RELEASED JULY, 1995

For further information regarding this material contact:
Dental Field Support & Program Development Section
Headquarters - West Offices, Indian Health Service
5300 Homestead Rd.
Albuquerque, NM  87110
Phone: 505-248-4175
Fax: 505-248-4181
# TABLE OF CONTENTS

1.0 Background Information 102
1.1 What is the Compiled Statistical Reports Module? 102
1.2 The Two Components of Compiled Statistical Reports in DDS v5.4 102
1.3 Use of the Compiled Reports in a GUI/PC Environment 102
2.0 Using the Compiled Reports Options 103
2.1. How to get to the Compiled Statistical Reports Menu 103
2.2. Specifying the time period to be included in a report 105
2.3 Compiling or Recompiling Data for Reports on a Quarterly Basis 106
2.4 Selecting the type of compiled reports you want to view 109
2.5. Sending the compiled reports to a printer or other device 109
3.0 The Basic Measures (Clinical Productivity) Reports Module 111
3.1 The Basic Measures Data Elements 113
3.2 The Basic Measures Annual Report format 114
3.3 The Basic Measures Quarterly Report format 116
4.0 The 437 Oral Health Objectives Monitoring Module 118
4.1 Data Elements of the 437 Objectives Reports 118
4.2 Important Considerations In Using the 437 Objectives Component 119
4.3 The 437 Objectives Quarterly Detail Reports 121
4.4 The 437 Objectives Quarterly Combined Reports 125
4.5 The 437 Objectives Annual Detail Reports 129
4.6 The 437 Objectives Annual Combined Reports 132
Appendix I: Software Installation Instructions 134
Appendix II. Clinical Productivity Indicators Supported by the Basic Measures 137
Appendix III: Special Procedure Codes for Monitoring 437 Objectives 140
Appendix IV: Reporting Guidelines for Monitoring the 437 Objectives 141
Appendix V: The California Program Annual Reports 144
1.0 Background Information

The following information describes the features of the Compiled Statistical Reports Module which is available for the first time in Version 5.4 of the DDS software package:

1.1 What is the Compiled Statistical Reports Module?

The Compiled Statistical Reports are a new and unique feature of the RPMS reporting system. Unlike all other data retrieval options available for local RPMS applications, the new module retrieves, organizes, and permanently stores sets of summary data in a common format for making comparisons of like data over time. This format can be used universally by IHS and tribal programs to track dental workload activity in relation to established baseline measures, contractual requirements, or other performance standards. Special formats can be devised to display only selected data if needed by a local program director or Area Office consultant.

The Compiled Statistical Reports are designed to take advantage of all existing data in a local database. Thus, when the module is installed, specific data elements are automatically compiled to provide quarterly and annual summaries dating back to when the dental program began using the DDS software package if desired. The compiled reports are not limited to a Fiscal Year (Oct 1 to Sept 30) format; however, the third quarter annual reports can be used for that purpose. (As an example, see Appendix V: California Annual Dental Reports). Each Basic Measures report is structured around a rolling 3 month (quarter) or 12 month (annual) aggregate of data beginning with the most recent quarter of data.

1.2 The Two Components of Compiled Statistical Reports in DDS v5.4

The compiled reports module available in version 5.4 of the DDS is designed to support two different applications. They are:

- the Basic Measures (of clinical workload) reports
- the P.L.94 437 Oral Health Objectives monitoring reports

The Basic Measures module provides data to support a range of indicators for monitoring clinical productivity on a quarterly and annual basis. The 437 Objectives module provides a method for the local dental program to track progress and deficiency with regard to a specific set of national oral health status objectives mandated through recent amendments to Public Law 94-437.

1.3 Use of the Compiled Reports in a GUI/PC Environment

The Compiled Statistical Reports were designed with the assumption that desktop computers (PCs), will be available as RPMS workstations on local and wide-area networks as the IHS moves rapidly toward providing support for user applications in the graphical user interface (GUI) environment. Future releases of the DDS package will provide direct connectivity with local RPMS database applications via a GUI. Until then, local and remote PC users are encouraged to manipulate the output from these reports by using common desktop tools such as MS Excel 5.0 or Lotus 1-2-3 after capturing the compiled reports to a file on a PC workstation.
2.0 Using the Compiled Reports Options

The Compiled Statistical Reports are available to all users who have general access to the Dental Data System software package (security key ADEZMENU has been assigned). The local RPMS Site Manager must install the package properly to ensure that:
1) the routines which compile data on a quarterly basis are queued to run automatically under Taskman, 2) the bulletins that inform users each time the most recent quarter of data have been compiled has been set up to include members of a mail group which includes one or more active dental users. Further detail regarding these instructions to the Site Manager are provided in the Software Installation Instructions (see Appendix I).

2.1. How to get to the Compiled Statistical Reports Menu

A. At the DDS Main Menu prompt, you can jump directly to the compiled reports menu by entering its option synonym RCST and pressing return.

B. If the jump feature is unavailable, you can start from the main menu (shown below) by selecting the Clinical Services Reports (REPT) option, then select the Compiled Statistical Reports option from the list of available reports.

DDS PACKAGE MAIN MENU (V5.4)
HELP Help for Users ...
INQ Inquiry to Patient Records ...
PM Patient Management ...
DVIS Dental Visit Data Entry ...
QAT Quality Assurance Tracking ...
**REPT Clinical Services Reports** ...
SUP Supervisory Functions ...

Select Dental Data System Menu Option: (Enter REPT and press return).

REPORTS ON CLINICAL SERVICES PROVIDED....
RSVC Service Minute/Level of Care Reports ...
**RCST Compiled Statistical Reports**
RCOM Community Visit Report
RTRI Visits by Tribal Membership
RDEN Visits by Facility and Dentist
RIND Individual Patient Services by Dentist
RDAS Individual Patient Services by Auxiliary Provider
Select Clinical Services Reports Option:  (Enter RCST and press return).
2.2. Specifying the time period to be included in a report

After selecting the RCST option, you will see a list of all the compiled datasets available on the computer, starting with the earliest year and quarter that dental data entry began. In the example below, 94.4 includes the data compiled for the fourth quarter (Oct, Nov, Dec) of calendar year 1994. Select the year and quarter (format YY.Q) which you want to serve as the most recent data included in the report. Note that the prompt gives the most recent quarter of compiled data as the default (///) value. Press return to accept the default value, or enter any other yr./qtr. of compiled data from the list.

Select one of the following:
1  94.2  (APR-JUN)
2  94.3  (JUL-SEP)
3  94.4  (OCT-DEC)
4  95.1  (JAN-MAR)
5  95.2  (APR-JUN)

Select the calendar year and quarter for the report.
Statistics have been compiled for the quarters listed above.
Select YEAR.QUARTER: 95.2/

The list of compiled data values should begin with the quarter of the year in which dental visit data were first entered into the local RPMS computer. It should then include every quarter since that time in chronological sequence. If it doesn’t, then the missing quarters must be compiled by the user or site manager using the Compile Dental Quarterly Statistics option via the Supervisor’s Data Entry Options Menu (See Section 2.3).
2.3 Compiling or Recompiling Data for Reports on a Quarterly Basis

Normally the data needed for all reports are automatically compiled when the module is installed and then after the end of each quarter of a year. If the Site Manager has set up compiled reports module as instructed (See Appendix I), the Dental Supervisor should receive a Mailman message from the POSTMASTER at least 10 days after each quarter which indicates that the dental data for the most recent quarter has been compiled successfully. A message will also be sent if the compiling task was not successful.

From time-to-time it may be necessary to recompile data for a given quarter due to unusual circumstances. For example, when there is a chronic delay in entering dental visit data into the local RPMS database and thus substantial data were omitted when the data were automatically compiled. Any local computer user who has been assigned the Dental Supervisor’s security key (ADEZMSUPFUN) can recompile data or compile new data when needed by using the Supervisory Functions menu of the DDS package as shown below.

SUPERVISORY FUNCTIONS MENU:
DPRP Prepare DENTAL Data for Central Processing ...
FPRP Prepare FLUORIDATION Data for Central Processing ...
DEO Supervisor's Data Entry
LST List Entries in Supervisor's Files ...
DIAG Dental Software Diagnostics ...

Then enter DEO to select the Supervisor's Data Entry Options menu.

ENTER/EDIT SUPERVISOR'S FILES
EEMP Employee File Data Entry
ERES Resource Type File Data Entry
EWSF Water System File Data Entry
ESTE Sterilizer File Data Entry
ESIT Edit Dental Site Parameters
RSET Remove Patient Record 'Lock' (Read Help First)
EBAK Restart Dental Background Processing
EFEEADA Code Fees Data Entry
EFOL Create or Edit Followup Types and Letters
ECMP Compile Dental Quarterly Statistics
Enter **ECMP** to select the option to Compile Dental Quarterly Statistics
2.3 **Compiling Basic Measures Data, continued.**

After you reach the compile option by entering ECMP and pressing the Enter key, you will see a list of all existing quarters of compiled data (example shown below). The prompt will ask you to specify the quarterly time period of data you wish to compile or recompile.

**EXAMPLE:**

Statistics have already been compiled for the following quarters:

- 94.2 (APR-JUN)
- 94.3 (JUL-SEP)
- 94.4 (OCT-DEC)  
  (Note: the list of compiled data will get much longer as data get automatically get compiled each quarter).
- 95.1 (JAN-MAR)
- 95.2 (APR-JUN)

Enter YEAR.QUARTER:

Enter the calendar year and quarter for which you wish to compile statistics. Use the format YY.Q where YY is the last 2 digits of the year and Q is the quarter of the year, e.g., 91.2 for the second quarter of 1991.

You must specify a quarter in the required format. To recompile data for a quarter which has been compiled previously, enter one from the list. For example, if you entered 94.4 as the quarter to compile, you would receive the following message:

Statistics have already been compiled for period 94.4

Do you want to re-compile the statistics for this period? NO//

Press the Enter key to accept default value of NO (which means the data will not be compiled), or enter Y for YES if you want to recompile data for the quarter you specified. You may then press return at the following prompt or delay (queue) the task to run later.

Requested Start Time: NOW// (APR 5, 1995@10:14:21)

Press the Enter key to accept default time which is NOW, or enter a future date and time if you want the data to be compiled later.
2.4 Selecting the type of compiled reports you want to view

After specifying the time period for the report by year/quarter, you will see a list of the types of compiled reports available in DDS version 5.4. You can then select one or more types of reports (437 Objectives or Basic Measures) which you can view on your video screen or send to a printer. You must select one type of report at a time at the ‘Select REPORT’ prompt. Each time you make a selection, the report type will be marked on the menu after you press return as shown below. You must enter the number of a report which you wish to view or A to view all report types 1-6. The reports that you select will be marked with an asterisk. Press ENTER to quit selecting reports.

Select one of the following:

1  437 QUARTERLY DETAIL
2  437 QUARTERLY COMBINED
3  437 ANNUAL DETAIL
4  *437 ANNUAL COMBINED
5  *ANNUAL BASIC MEASURES
6  QUARTERLY BASIC MEASURES
A  ALL REPORTS

Select REPORT: 5  ANNUAL BASIC MEASURES (for example)

2.5. Sending the compiled reports to a printer or other device

After selecting the report(s) you wish to view, the DEVICE prompt allows you to direct the reports to your video terminal screen or to a printer.

Enter 'Q' at the DEVICE prompt to queue this report to run in the background.

DEVICE: HOME//

From the DEVICE prompt shown above you can:

A. Press Enter/Return to accept the default HOME value which will display the reports to your screen.

B. Enter the number of a line printer which is attached to the RPMS computer. To see a list of the printers available in the Device File, enter ? or ??
C. Enter the designation of a SLAVE printer, if one is attached to the video terminal you are using.
3.0 The Basic Measures (Clinical Productivity) Reports Module

This compiled report module enables local program managers to monitor trends in the clinical productivity from all the dental visit data which have been entered into the local RPMS computer. A predefined set of Basic Measures data elements are computed and displayed in quarterly and annual report formats. Some important characteristics in this version of the Basic Measures module are as follows:

To assist tribal and urban programs, all Basic Measures reports display Indian and Non-Indian clinical workload data separately. The definition of Indian is based upon the data value entered into the Tribe of Membership field of the RPMS Patient file. If the field is left blank, the patient is considered to be Indian for reporting purposes. If the field entry points to a Tribal code value of less than 969 the patient is assumed to be Indian. These are the same criteria used by the Patient Care Component (PCC) reporting options.

All reports are derived from the entire local database. No distinctions are made between providers and reporting facilities. Thus, the Basic Measures reports augment, but do not take the place of other clinical report options in the DDS package, which can provide more detailed point-in-time analysis when needed. If visit data are entered for multiple dental facilities at the local RPMS site, those data will be included in the compiled basic measures computations. Also, if contract dental care data are entered into the database, these data will also be included in the compiled reports.

The annual reports are designed to follow a business report model which includes the past twelve months of data from the end of a quarter. The quarters are numbered on a calendar basis, not a Fiscal Year basis. The rolling 12-month summary reports, therefore, do not fit the year-to-date type of data analysis which has been traditionally used by the IHS. The 3rd quarter annual report of each year (which ends Sept. 30) provides totals for an entire Fiscal Year. Note that at least three and as many as six years of data may be needed to establish a complete dataset for all types of measures. For example, New Users will automatically be overcounted if the dental database has been in existence for less than 3 years.

The Basic Measures data can be used to create various “indicators” of clinical efficiency and effectiveness (See Appendix II) on a quarterly and annual basis. The raw summary data for each time period are formatted in a chronological sequence, which may be difficult to interpret when long-term trends are being analyzed for multiple data elements. Therefore, it is recommended that selected data from the report be key-entered or captured into spreadsheet software (if available) to produce a graphical picture of all trend analyses.
The IHS Area Dental Consultant in each region is prepared to assist local users in conducting analyses on a desktop computer.
3.1 The Basic Measures Data Elements

**Facility Users:** A count of all registered medical and dental patients who have encounters reported into the local RPMS database during the past 36 months (in the annual report) or past 12 months (in the quarterly report). The calculation is the same used in the PCC 3-year user reports.

**Dental Users:** A count of the patients who have one or more dental visits reported during the time period covered by the report (excluding broken/canceled appointments).

**New (Dental) Users:** A count of patients having a First Visit (0000) in the reporting period (qtr. or annual) and they had no other visits for 36-months prior to the date of the First Visit.

**Dental Visits:** A count of all dental visits reported into the database for the time period covered which contained the event code 0000 First Visit or 0190 Revisit.

**Clinical Services:** A count of all billable dental services reported for the reporting period. It is based upon the use of standard dental procedure codes in all series (0100-9000) categorized into Level I through VI in the IHS Schedule of Dental Services.

**Service Minutes:** An estimate of the total time spent by all dental care providers to produce the clinical services reported. The calculation is based upon a table of average time values (in minutes) it takes for a dental team to complete each procedure.

**Emergency Visits:** A count of the dental visits which had the primary purpose of the relief of symptoms or acute conditions rather than for the provision of routine dental care. The calculation uses all visit records which contained the dental event code 9170 - Emergency Encounter and/or the code 0140 for Emergency Examinations.

**Broken Appointments:** A count of the total number of times patients did not present for their scheduled dental appointment (same as “no show” or “did not answer”) based upon encounter records which contained the dental event code 9130 - Broken Appointment during the period covered by the report.

**Patients Treatment Planned (Examined):** A count of dental patients who have had at least one routine oral examination (code 0150 Initial Exam or 0120 Periodic Exam) recorded in their visit records during the reporting period. This assumes that a treatment plan for at least basic care is formulated for all patients who receive a routine examination.

**Patients PTC’ed (Planned Tx Completed):** A count of patients who had their dental treatment plan completed during the reporting period. The calculation is based upon dental visit records which contained the dental event code 9990 - Planned Treatment Completed during the reporting period.

**Dentist-Days:** A count of days in which dental care was provided based upon the number of dentists who were entered as the ATTENDING DENTIST during each day of the reporting period (for all facilities). The calculation examines each dental visit record and sums the number of dentists who provided care to one or more patients on each day that any care was provided.
### 3.2 The Basic Measures Annual Report format

The annual report compiles data at the end of each quarter into a rolling 12 month format. It lists the summary data for the same quarter of each consecutive year for as many years back as dental visit data are available on the local computer. This format provides datasets of sufficient size to make comparisons quarterly, but still using annual indicator rates. The New Dental User count is based upon patients who had a First Visit (0000) in the past 12 months but no other visits in the preceding 36 months from the date of the reported first visit.

#### ANNUAL DENTAL BASIC MEASURES FOR YEAR ENDING JUNE 1995

<table>
<thead>
<tr>
<th></th>
<th>NON-INDIAN</th>
<th>INDIAN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>12 MONTHS ENDING WITH QUARTER 95.2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FACILITY USERS PAST 36 MONTHS</td>
<td>1922</td>
<td>413</td>
<td>2335</td>
</tr>
<tr>
<td>FACILITY USERS PAST 12 MONTHS</td>
<td>1897</td>
<td>401</td>
<td>2298</td>
</tr>
<tr>
<td>DENTAL USERS PAST 36 MONTHS</td>
<td>2877</td>
<td>913</td>
<td>3790</td>
</tr>
<tr>
<td>DENTAL USERS PAST 12 MONTHS</td>
<td>883</td>
<td>151</td>
<td>1034</td>
</tr>
<tr>
<td>NEW USERS PAST 36 MONTHS</td>
<td>1513</td>
<td>582</td>
<td>2095</td>
</tr>
<tr>
<td>NEW USERS PAST 12 MONTHS</td>
<td>249</td>
<td>52</td>
<td>301</td>
</tr>
<tr>
<td>DENTAL VISITS PAST 12 MONTHS</td>
<td>2386</td>
<td>421</td>
<td>2807</td>
</tr>
<tr>
<td>CLINICAL SERVICES (I-VI)</td>
<td>7553</td>
<td>1314</td>
<td>8867</td>
</tr>
<tr>
<td>SERVICE MINUTES (I-VI)</td>
<td>105712</td>
<td>18222</td>
<td>123934</td>
</tr>
<tr>
<td>EMERGENCY VISITS (0140/9170)</td>
<td>395</td>
<td>88</td>
<td>483</td>
</tr>
<tr>
<td>BROKEN APTS (9130)</td>
<td></td>
<td></td>
<td>560</td>
</tr>
<tr>
<td>PATIENTS TREATMENT PLANNED</td>
<td>474</td>
<td>71</td>
<td>545</td>
</tr>
<tr>
<td>PATIENTS PLANNED TX COMPLETED</td>
<td>307</td>
<td>43</td>
<td>350</td>
</tr>
<tr>
<td>DENTIST-DAYS</td>
<td></td>
<td></td>
<td>385</td>
</tr>
</tbody>
</table>

<p>|                  | NON-INDIAN | INDIAN | TOTAL |
| <strong>12 MONTHS ENDING WITH QUARTER 94.2</strong> |
| FACILITY USERS PAST 36 MONTHS | 1668       | 360    | 2028  |
| FACILITY USERS PAST 12 MONTHS | 1668       | 359    | 2027  |
| DENTAL USERS PAST 36 MONTHS  | 2877       | 913    | 3790  |
| DENTAL USERS PAST 12 MONTHS  | 822        | 145    | 967   |</p>
<table>
<thead>
<tr>
<th>NEW USERS PAST 36 MONTHS</th>
<th>1758</th>
<th>636</th>
<th>2394</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW USERS PAST 12 MONTHS</td>
<td>320</td>
<td>65</td>
<td>385</td>
</tr>
<tr>
<td>DENTAL VISITS PAST 12 MONTHS</td>
<td>2058</td>
<td>370</td>
<td>2428</td>
</tr>
<tr>
<td>CLINICAL SERVICES (I-VI)</td>
<td>6700</td>
<td>1197</td>
<td>7897</td>
</tr>
<tr>
<td>SERVICE MINUTES (I-VI)</td>
<td>93468</td>
<td>16711</td>
<td>110179</td>
</tr>
<tr>
<td>EMERGENCY VISITS (0140/9170)</td>
<td>386</td>
<td>88</td>
<td>474</td>
</tr>
<tr>
<td>BROKEN APTS (9130)</td>
<td></td>
<td></td>
<td>467</td>
</tr>
<tr>
<td>PATIENTS TREATMENT PLANNED</td>
<td>445</td>
<td>67</td>
<td>512</td>
</tr>
<tr>
<td>PATIENTS PLANNED TX COMPLETED</td>
<td>276</td>
<td>37</td>
<td>313</td>
</tr>
<tr>
<td>DENTIST-DAYS</td>
<td></td>
<td></td>
<td>326</td>
</tr>
</tbody>
</table>

(Other previous years are not shown in this example)
### 3.3 The Basic Measures Quarterly Report format

The quarterly report is compiled at the end of each quarter to include only the data for each quarter. It lists summary data for five consecutive quarters beginning with the most recent. This format provides for direct comparisons in productivity between quarters. These datasets are more sensitive to quarterly variation than the larger 12 month reports, but annual indicators cannot be used directly. The New Dental User count includes patients having a First Visit (0000) in the past 3 months, but on other visits in the 36 months preceding that visit.

#### QUARTERLY DENTAL BASIC MEASURES FOR QUARTER 2, YEAR 1995

<table>
<thead>
<tr>
<th></th>
<th>NON-INDIAN</th>
<th>INDIAN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3 MONTHS ENDING WITH YEAR.QUARTER: 95.2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FACILITY USERS THIS QUARTER</td>
<td>1184</td>
<td>215</td>
<td>1399</td>
</tr>
<tr>
<td>DENTAL USERS THIS QUARTER</td>
<td>427</td>
<td>65</td>
<td>492</td>
</tr>
<tr>
<td>NEW DENTAL USERS THIS QUARTER</td>
<td>91</td>
<td>17</td>
<td>108</td>
</tr>
<tr>
<td>DENTAL VISITS THIS QUARTER</td>
<td>787</td>
<td>129</td>
<td>916</td>
</tr>
<tr>
<td>CLINICAL SERVICES (I-VI)</td>
<td>2489</td>
<td>371</td>
<td>2860</td>
</tr>
<tr>
<td>SERVICE MINUTES (I-VI)</td>
<td>34634</td>
<td>5556</td>
<td>40190</td>
</tr>
<tr>
<td>EMERGENCY VISITS (0140/9170)</td>
<td>109</td>
<td>17</td>
<td>126</td>
</tr>
<tr>
<td>BROKEN APTS (9130)</td>
<td></td>
<td></td>
<td>177</td>
</tr>
<tr>
<td>PATIENTS TREATMENT PLANNED</td>
<td>140</td>
<td>22</td>
<td>162</td>
</tr>
<tr>
<td>PATIENTS PLANNED TX COMPLETED</td>
<td>104</td>
<td>13</td>
<td>117</td>
</tr>
<tr>
<td>DENTIST-DAYS</td>
<td></td>
<td></td>
<td>121</td>
</tr>
<tr>
<td>PTS THIS FY - CUMULATIVE</td>
<td>616</td>
<td>90</td>
<td>706</td>
</tr>
<tr>
<td>PTS THIS FY - CURRENT</td>
<td>257</td>
<td>39</td>
<td>296</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>NON-INDIAN</th>
<th>INDIAN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3 MONTHS ENDING WITH YEAR.QUARTER: 95.1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FACILITY USERS THIS QUARTER</td>
<td>1052</td>
<td>201</td>
<td>1253</td>
</tr>
<tr>
<td>DENTAL USERS THIS QUARTER</td>
<td>359</td>
<td>51</td>
<td>410</td>
</tr>
<tr>
<td>NEW USERS THIS QUARTER</td>
<td>160</td>
<td>25</td>
<td>185</td>
</tr>
<tr>
<td>DENTAL VISITS THIS QUARTER</td>
<td>646</td>
<td>114</td>
<td>760</td>
</tr>
<tr>
<td>CLINICAL SERVICES (I-VI)</td>
<td>2119</td>
<td>348</td>
<td>2467</td>
</tr>
<tr>
<td>SERVICE MINUTES (I-VI)</td>
<td>29071</td>
<td>4904</td>
<td>33975</td>
</tr>
<tr>
<td>Category</td>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>EMERGENCY VISITS (0140/9170)</td>
<td>90</td>
<td>24</td>
<td>114</td>
</tr>
<tr>
<td>BROKEN APTS (9130)</td>
<td></td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>PATIENTS TREATMENT PLANNED</td>
<td>133</td>
<td>19</td>
<td>152</td>
</tr>
<tr>
<td>PATIENTS PLANNED TX COMPLETED</td>
<td>95</td>
<td>11</td>
<td>106</td>
</tr>
<tr>
<td>DENTIST-DAYS</td>
<td></td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>PTS THIS FY - CUMULATIVE</td>
<td>652</td>
<td>107</td>
<td>759</td>
</tr>
<tr>
<td>PTS THIS FY - CURRENT</td>
<td>154</td>
<td>31</td>
<td>185</td>
</tr>
</tbody>
</table>

(Previous three quarters not shown).
4.0 The 437 Oral Health Objectives Monitoring Module

The 437 Objectives Reports component is designed to enable local dental programs to monitor trends in specific measures of oral health status among dental patients. In 1991, Public Law 94-437 mandated that all IHS, tribal and urban health programs establish a way to monitor progress toward meeting a list of national health objectives by the year 2000. A set of dental procedure codes was created by the IHS to track seven of the oral health objectives (See Appendix III). Therefore, the accuracy and value of these reports depends on the consistency in the use of these codes in the local dental database for each patient. The guidelines for using these special 437 procedure codes are included in Appendix IV.

All of the 437 reports contain the same data elements, but the data are organized by the:
1) level of age detail provided for each objective, and
2) the time frame covered by the report: quarterly or annual.

Separate menu options are used to generate the following four types of reports:
1) Quarterly Detail Report
2) Quarterly Combined Objectives Report
3) Annual Detail Report
4) Annual Combined Objectives Report

Information for each of the seven health objectives is provided on all four types of reports. The data are sorted by the year and quarter (e.g., 95.1) for each objective. Only Indian patients are included in the data totals for each report. Also, data for all reporting facilities are combined in the totals of each report.

4.1 Data Elements of the 437 Objectives Reports

**Age of Patients:** The age of patients at the end of the most recent reporting period, not at the time they were assessed.

**Local 3-Year Users:** The count of persons who have had a medical or dental visit at the reporting facility(ies) during the past 36 months beginning with the end of the most recent quarter. The same calculation is used in PCC reports.

**Dental 3-Year Users:** The count of persons who have had a medical or dental visit at the reporting facility(ies) during the past 36 months beginning with the end of the most recent quarter of the report.

**Pts. Assessed Past Qtr./Yr.:** The count of patients who were assessed for the 437 objectives and any of the codes 4370 to 4377 were entered into their RPMS/DDS visit record during the past quarter or year depending upon the report.
Percent Meeting Criteria: The proportion of patients meeting the criteria for an objective. It is based upon the number of persons who received the specific 437 code divided by the number of persons who were assessed in that age group.

Number Not Meeting Criteria: The count of patients who were assessed and the 4370 code was reported because they did not meet the criteria for any objective.

4.2 Important Considerations In Using the 437 Objectives Component

The value of the monitoring system depends upon a strong, long-term commitment by the local dental staff:

1) to properly assess as many patients as possible relative to the objectives, and
2) to use the 437 procedure codes which were created specifically for monitoring the oral health objectives.

The reliability of the 437 objectives monitoring reports is heavily dependent upon the consistent and proper use of the special procedure codes (Appendix III and IV). Among these codes is the 4370 code which must be used when patients are assessed, but no other 437 procedure code is applicable.

There is no requirement to conduct the 437 objectives assessment by direct observation of a patient’s mouth. The assessment can be deduced from a recent routine examination record, if available. Emergency examination patients will need to have the assessment done directly from the mouth if they have not had an exam record completed or updated during the past 12 months. Dental auxiliaries and hygienists should play an important role in the assessments, when possible, through the direct observation of patients and by using examination records.

The sample size of the patients assessed in each age group must be as large as possible! Therefore, all dental patients should be assessed relative to the 437 objectives once during a given 12 month period. If the number of patients assessed annually in an age group is very small (e.g., <50), the reports may not provide reliable data for making comparisons. The sample size for some of the age groups of adults may remain chronically small and thus they will be less reliable than the larger samples of children.

In most cases, at least three years of data are needed to determine the progress being made toward meeting the 437 oral health objective(s). Trends generally will not be significant in shorter time intervals. In some programs, progress may appear to decrease as access to care improves. This phenomenon might occur when the number of new dental patients increases substantially and more people with a greater backlog of oral health needs have been assessed.
The monitoring system assumes that dental patients are generally representative of the local 3-year user population. The greater the percentage of 3-year facility users (medical and dental) that can be assessed annually, the stronger this assumption. At locations where only the dental program is entering RPMS data, the 3-year user count will equal the count of dental patients. In such cases, it would be useful to obtain a 3-year facility user count from another source, such as the IHS Area Office.
4.3 The 437 Objectives Quarterly Detail Reports

This report provides data for a specified quarter to include detail for the targeted age groups for seven oral health objectives. It lists the individual ages, 0-19 years, for children and 35-44 and 65-74 years for adults in order to analyze the size of target groups in relation to the number of patients assessed each quarter.

FACILITY DETAILED OBJECTIVES FOR QUARTER 4, YEAR 1994

<table>
<thead>
<tr>
<th>Age</th>
<th>Local 3-Year Users</th>
<th>Dental 3-Year Users</th>
<th>Past Qtr Pts</th>
<th>Pts Assessed</th>
<th>Percent Meeting</th>
<th>Not Meeting</th>
</tr>
</thead>
</table>

OBJECTIVE: 4371 - CARIES FREE

| 0   | 0 0 0 0 0 0 0 0 |
| 1   | 40 3 3 0 - - |
| 2   | 42 3 1 0 - - |
| 3   | 36 8 2 0 - - |
| 4   | 39 27 5 1 0.0 1 |
| 5   | 55 63 11 6 50.0 3 |
| 6   | 47 73 9 2 0.0 2 |
| 7   | 61 94 13 6 16.7 5 |
| 8   | 52 76 17 7 28.6 5 |
| 9   | 38 70 10 3 33.3 2 |
| 10  | 39 75 9 3 33.3 2 |
| 11  | 50 80 15 6 16.7 5 |
| 12  | 41 63 11 3 33.3 2 |
| 13  | 41 60 8 2 0.0 2 |
| 14  | 40 73 16 7 14.3 6 |
| 15  | 37 53 6 2 0.0 2 |
| 16  | 37 56 7 1 0.0 1 |
| 17  | 37 54 8 2 0.0 2 |
| 18  | 26 45 3 1 0.0 1 |
| 19  | 32 46 4 1 0.0 1 |
**OBJECTIVE:4372 - HAVE UNTREATED DECAY**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>40</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>42</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>36</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>39</td>
<td>27</td>
<td>5</td>
<td>1</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>55</td>
<td>63</td>
<td>11</td>
<td>6</td>
<td>50.0</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>47</td>
<td>73</td>
<td>9</td>
<td>2</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>61</td>
<td>94</td>
<td>13</td>
<td>6</td>
<td>83.3</td>
<td>1</td>
</tr>
</tbody>
</table>

(This example report shows the age detail for children for only two objectives).
(437 objectives report format, continued.)

(This example report shows the age detail for only two of the adult objectives in order to show the different age detail for the objectives).

<table>
<thead>
<tr>
<th>OBJECTIVE: 4375 - HAVE DEEP POCKETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>2452</td>
</tr>
<tr>
<td>3438</td>
</tr>
<tr>
<td>40</td>
</tr>
<tr>
<td>42</td>
</tr>
<tr>
<td>36</td>
</tr>
<tr>
<td>38</td>
</tr>
<tr>
<td>55</td>
</tr>
<tr>
<td>47</td>
</tr>
<tr>
<td>61</td>
</tr>
<tr>
<td>52</td>
</tr>
<tr>
<td>38</td>
</tr>
<tr>
<td>52</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OBJECTIVE: 4377 - COMPLETELY EDENTULOUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>45-54</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>5452</td>
</tr>
<tr>
<td>6438</td>
</tr>
<tr>
<td>40</td>
</tr>
<tr>
<td>42</td>
</tr>
<tr>
<td>36</td>
</tr>
<tr>
<td>38</td>
</tr>
<tr>
<td>55</td>
</tr>
<tr>
<td>47</td>
</tr>
<tr>
<td>61</td>
</tr>
<tr>
<td>52</td>
</tr>
<tr>
<td>38</td>
</tr>
<tr>
<td>52</td>
</tr>
</tbody>
</table>
4.4 The 437 Objectives Quarterly Combined Reports

This report provides 5 consecutive quarters of monitoring data for each objective. The age groups are combined into 4 distinct cohorts for children 0-4, 5-9, 10-14, and 15-19 years and 6 for adults: 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, and 75+. These reports can be useful for reviewing the adequacy of monitoring activity in terms of the numbers of patients seen and assessed each quarter.

### FACILITY COMBINED OBJECTIVES FOR QUARTER 4, YEAR 1994

<table>
<thead>
<tr>
<th>Age</th>
<th>Local Users</th>
<th>Dental Users</th>
<th>3-Year Visit</th>
<th>Dental Pts</th>
<th>Past Qtr</th>
<th>Percent</th>
<th>Not Meeting</th>
<th>Meeting Criteria</th>
</tr>
</thead>
</table>

**OBJECTIVE: 4371 - CARIES FREE**

**YEAR.QUARTER: 95.1**

<table>
<thead>
<tr>
<th>Age</th>
<th>Local Users</th>
<th>Dental Users</th>
<th>3-Year Visit</th>
<th>Dental Pts</th>
<th>Past Qtr</th>
<th>Percent</th>
<th>Not Meeting</th>
<th>Meeting Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-9</td>
<td>253</td>
<td>376</td>
<td>60</td>
<td>24</td>
<td>0.0</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-14</td>
<td>211</td>
<td>351</td>
<td>59</td>
<td>21</td>
<td>0.0</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>169</td>
<td>254</td>
<td>28</td>
<td>17</td>
<td>0.0</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**YEAR.QUARTER: 94.4**

<table>
<thead>
<tr>
<th>Age</th>
<th>Local Users</th>
<th>Dental Users</th>
<th>3-Year Visit</th>
<th>Dental Pts</th>
<th>Past Qtr</th>
<th>Percent</th>
<th>Not Meeting</th>
<th>Meeting Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-9</td>
<td>210</td>
<td>381</td>
<td>49</td>
<td>9</td>
<td>0.0</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-14</td>
<td>135</td>
<td>333</td>
<td>51</td>
<td>13</td>
<td>0.0</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>119</td>
<td>271</td>
<td>42</td>
<td>10</td>
<td>0.0</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**YEAR.QUARTER: 94.3**

<table>
<thead>
<tr>
<th>Age</th>
<th>Local Users</th>
<th>Dental Users</th>
<th>3-Year Visit</th>
<th>Dental Pts</th>
<th>Past Qtr</th>
<th>Percent</th>
<th>Not Meeting</th>
<th>Meeting Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-9</td>
<td>177</td>
<td>388</td>
<td>41</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-14</td>
<td>14135</td>
<td>333</td>
<td>51</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>19119</td>
<td>271</td>
<td>36</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**YEAR.QUARTER: 94.2**
<table>
<thead>
<tr>
<th>Year</th>
<th>Count</th>
<th>Quarter</th>
<th>Total</th>
<th>Percent</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5-9</td>
<td>113</td>
<td>389</td>
<td>54</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>10-14</td>
<td>38</td>
<td>10</td>
<td>10.0</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>15-19</td>
<td>28</td>
<td>3</td>
<td>0.0</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>YEAR</td>
<td>QUARTER</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(437 objectives report format, continued.)

<table>
<thead>
<tr>
<th>Number</th>
<th>Local Users Age</th>
<th>Dental Users Past Qtr</th>
<th>Dental Pts Assessed</th>
<th>Percent Meeting</th>
<th>Not Meeting Criteria</th>
<th>Not Meeting Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-Year</td>
<td>3-Year Visit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Users</td>
<td>Users</td>
<td>Past Qtr</td>
<td>Criteria</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OBJECTIVE: 4372 - HAVE UNTREATED DECAY**

YEAR.QUARTER: 95.1

<table>
<thead>
<tr>
<th>Age</th>
<th>Users</th>
<th>Dental Users</th>
<th>Past Qtr</th>
<th>Pts Assessed</th>
<th>Percent Meeting</th>
<th>Not Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5-9</td>
<td>253</td>
<td>376</td>
<td>24</td>
<td>70.8</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>10-14</td>
<td>1351</td>
<td>21</td>
<td>119</td>
<td>66.7</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>19169</td>
<td>254</td>
<td>28</td>
<td>100.0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

(Note: four previous quarters of data not shown for this objective)

**OBJECTIVE: 4373 - HAVE SEALED MOLARS**

YEAR.QUARTER: 95.1

<table>
<thead>
<tr>
<th>Age</th>
<th>Users</th>
<th>Dental Users</th>
<th>Past Qtr</th>
<th>Pts Assessed</th>
<th>Percent Meeting</th>
<th>Not Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-9</td>
<td>253</td>
<td>376</td>
<td>24</td>
<td>70.8</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>10-14</td>
<td>1351</td>
<td>21</td>
<td>119</td>
<td>66.7</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>19169</td>
<td>254</td>
<td>28</td>
<td>100.0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

(Note: four previous quarters of data not shown for this objective)

**OBJECTIVE: 4374 - HAVE ACCEPTABLE PERIO. HEALTH**

YEAR.QUARTER: 95.1

<table>
<thead>
<tr>
<th>Age</th>
<th>Users</th>
<th>Dental Users</th>
<th>Past Qtr</th>
<th>Pts Assessed</th>
<th>Percent Meeting</th>
<th>Not Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24</td>
<td>3180</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>25-34</td>
<td>3940</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>35-44</td>
<td>3550</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

(Note: four previous quarters of data not shown for this objective)

**OBJECTIVE: 4375 - HAVE DEEP POCKETS**

YEAR.QUARTER: 95.1

<table>
<thead>
<tr>
<th>Age</th>
<th>Users</th>
<th>Dental Users</th>
<th>Past Qtr</th>
<th>Pts Assessed</th>
<th>Percent Meeting</th>
<th>Not Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24</td>
<td>318503</td>
<td>151</td>
<td>42</td>
<td>0.0</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>25-34</td>
<td>394577</td>
<td>192</td>
<td>32</td>
<td>18.8</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>35-44</td>
<td>355525</td>
<td>178</td>
<td>33</td>
<td>15.2</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

(Note: four previous quarters of data not shown for this objective)

**OBJECTIVE: 4376 - HAVE MISSING TEETH**

RPMS Dental Software Package 127 May 1997
YEAR.QUARTER:95.1
15-24318503  151 42   4.8   40
25-34394577  192 32   34.4  21
35-44355525  173 33   30.3  23
(Note: four previous quarters of data not shown for this objective)

OBJECTIVE:4377 - COMPLETELY EDENTULOUS

YEAR.QUARTER:95.1
45-543180      0   0   0   0
55-643940      0   0   0   0
65-743550      0   0   0   0
(Note: In this example, four previous quarters of data not shown for this objective)
4.5 The 437 Objectives Annual Detail Reports

This report provides target age group detail for children and adults for each objective on a rolling 12-month basis at the end of each quarter. The report should provide a large enough dataset among children and adults to estimate progress in reaching the objectives at the end of each quarter. The 3rd quarter report can be used as a Fiscal Year summary.

FACILITY DETAILED OBJECTIVES FOR YEAR ENDING DEC. 1994

<table>
<thead>
<tr>
<th>Number</th>
<th>Local 3-Year Age</th>
<th>Dental 3-Year Users</th>
<th>Dental Visit</th>
<th>Pts Assessed</th>
<th>Percent Meeting</th>
<th>Not Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>40</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1</td>
<td>40</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>42</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>36</td>
<td>8</td>
<td>3</td>
<td>1</td>
<td>0.0</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>39</td>
<td>27</td>
<td>13</td>
<td>1</td>
<td>0.0</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>55</td>
<td>63</td>
<td>33.3</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>47</td>
<td>73</td>
<td>21</td>
<td>3</td>
<td>0.0</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>61</td>
<td>94</td>
<td>20.0</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>52</td>
<td>76</td>
<td>27</td>
<td>12</td>
<td>16.7</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>38</td>
<td>70</td>
<td>26</td>
<td>5</td>
<td>20.0</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>39</td>
<td>75</td>
<td>22</td>
<td>11</td>
<td>18.2</td>
<td>9</td>
</tr>
<tr>
<td>11</td>
<td>50</td>
<td>80</td>
<td>32</td>
<td>15</td>
<td>26.7</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>41</td>
<td>63</td>
<td>23</td>
<td>9</td>
<td>22.2</td>
<td>7</td>
</tr>
<tr>
<td>13</td>
<td>41</td>
<td>60</td>
<td>19</td>
<td>9</td>
<td>11.1</td>
<td>8</td>
</tr>
<tr>
<td>14</td>
<td>40</td>
<td>73</td>
<td>26</td>
<td>12</td>
<td>8.3</td>
<td>11</td>
</tr>
<tr>
<td>15</td>
<td>37</td>
<td>53</td>
<td>19</td>
<td>4</td>
<td>0.0</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>37</td>
<td>56</td>
<td>21</td>
<td>8</td>
<td>0.0</td>
<td>8</td>
</tr>
<tr>
<td>17</td>
<td>37</td>
<td>54</td>
<td>22</td>
<td>7</td>
<td>0.0</td>
<td>7</td>
</tr>
<tr>
<td>18</td>
<td>26</td>
<td>45</td>
<td>12</td>
<td>4</td>
<td>0.0</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>32</td>
<td>46</td>
<td>18</td>
<td>5</td>
<td>0.0</td>
<td>5</td>
</tr>
</tbody>
</table>
**OBJECTIVE:4372 - HAVE UNTREATED DECAY**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Age 0</th>
<th>Age 1</th>
<th>Age 2</th>
<th>Age 3</th>
<th>Age 4</th>
<th>Age 5</th>
<th>Age 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>40</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>42</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>36</td>
<td>8</td>
<td>3</td>
<td>1</td>
<td>100.0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>39</td>
<td>27</td>
<td>13</td>
<td>1</td>
<td>100.0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>55</td>
<td>63</td>
<td>23</td>
<td>9</td>
<td>66.7</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>47</td>
<td>73</td>
<td>21</td>
<td>3</td>
<td>100.0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

(This example report shows the age detail for children for only two objectives).
(437 objectives report format, continued.)

**OBJECTIVE:4375 - HAVE DEEP POCKETS**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Count</th>
<th>Value</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24</td>
<td>27</td>
<td>12</td>
<td>66.7</td>
<td>4</td>
</tr>
<tr>
<td>25-34</td>
<td>26</td>
<td>5</td>
<td>80.0</td>
<td>1</td>
</tr>
<tr>
<td>35</td>
<td>40</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>36</td>
<td>42</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>37</td>
<td>36</td>
<td>3</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>38</td>
<td>39</td>
<td>13</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>39</td>
<td>55</td>
<td>23</td>
<td>66.7</td>
<td>3</td>
</tr>
<tr>
<td>40</td>
<td>47</td>
<td>21</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>41</td>
<td>61</td>
<td>30</td>
<td>80.0</td>
<td>2</td>
</tr>
<tr>
<td>42</td>
<td>52</td>
<td>27</td>
<td>66.7</td>
<td>4</td>
</tr>
<tr>
<td>43</td>
<td>38</td>
<td>26</td>
<td>80.0</td>
<td>1</td>
</tr>
<tr>
<td>44</td>
<td>52</td>
<td>27</td>
<td>66.7</td>
<td>4</td>
</tr>
</tbody>
</table>

**OBJECTIVE:4377 - COMPLETELY EDENTULOUS**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Count</th>
<th>Value</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>45-54</td>
<td>27</td>
<td>12</td>
<td>66.7</td>
<td>4</td>
</tr>
<tr>
<td>55-64</td>
<td>26</td>
<td>5</td>
<td>80.0</td>
<td>1</td>
</tr>
<tr>
<td>65</td>
<td>40</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>66</td>
<td>42</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>67</td>
<td>36</td>
<td>3</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>68</td>
<td>39</td>
<td>13</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>69</td>
<td>55</td>
<td>23</td>
<td>66.7</td>
<td>3</td>
</tr>
<tr>
<td>70</td>
<td>47</td>
<td>21</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>71</td>
<td>61</td>
<td>30</td>
<td>80.0</td>
<td>2</td>
</tr>
<tr>
<td>72</td>
<td>52</td>
<td>27</td>
<td>66.7</td>
<td>4</td>
</tr>
<tr>
<td>73</td>
<td>38</td>
<td>26</td>
<td>80.0</td>
<td>1</td>
</tr>
<tr>
<td>74</td>
<td>52</td>
<td>27</td>
<td>66.7</td>
<td>4</td>
</tr>
</tbody>
</table>

(This example report shows the age detail for only two objectives).
### 4.6 The 437 Objectives Annual Combined Reports

This report uses the same age group format as the quarterly combined report, but using 12 months of data starting from the end of each quarter.

<table>
<thead>
<tr>
<th>FACILITY COMBINED OBJECTIVES FOR YEAR ENDING DEC. 1994</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>0-4</td>
</tr>
<tr>
<td>5-9</td>
</tr>
<tr>
<td>10-14</td>
</tr>
<tr>
<td>15-19</td>
</tr>
</tbody>
</table>

**OBJECTIVE:4371 - CARIES FREE**

| 0-4 | 0 0 0 0 0 0 | 0 | |
| 5-9 | 253376 127 39 | 74.4 | 10 |
| 10-14 | 122 56 | 67.9 | 18 |
| 15-19 | 92 28 | 85.7 | 4 |

**OBJECTIVE:4372 - HAVE UNTREATED DECAY**

| 0-4 | 0 0 0 0 0 0 | 0 | |
| 5-9 | 253376 127 39 | 10.3 | 35 |
| 10-14 | 122 56 | 33.9 | 37 |
| 15-19 | 92 28 | 28.6 | 20 |

**OBJECTIVE:4373 - MOLARS SEALED**

| 0-4 | 0 0 0 0 0 0 | 0 | |
| 5-9 | 253376 127 39 | 10.3 | 35 |
| 10-14 | 122 56 | 33.9 | 37 |
| 15-19 | 92 28 | 28.6 | 20 |

**OBJECTIVE:4374 - HAVE ACCEPTABLE PERIO. HEALTH**

| 15-24318503 151 42 | 7.1 | 39 |
| 25-34394577 192 32 | 0.0 | 32 |
| 35-44355525 178 33 | 0.0 | 33 |

**OBJECTIVE:4375 - HAVE DEEP POCKETS**

<p>| 15-24318503 151 42 | 0.0 | 42 |
| 25-34394577 192 32 | 18.8 | 26 |
| 35-44355525 178 33 | 15.2 | 28 |</p>
<table>
<thead>
<tr>
<th>Objective</th>
<th>Age Group</th>
<th>Count</th>
<th>Mean</th>
<th>SD</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAVE MISSING TEETH</td>
<td>15-24</td>
<td>24318503</td>
<td>151</td>
<td>42</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td>25-34</td>
<td>34394577</td>
<td>192</td>
<td>32</td>
<td>34.4</td>
</tr>
<tr>
<td></td>
<td>35-44</td>
<td>355525</td>
<td>178</td>
<td>33</td>
<td>30.3</td>
</tr>
<tr>
<td>COMPLETELY EDENTULOUS</td>
<td>45-54</td>
<td>318503</td>
<td>151</td>
<td>42</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>55-64</td>
<td>394577</td>
<td>192</td>
<td>32</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>65-74</td>
<td>355525</td>
<td>178</td>
<td>33</td>
<td>0.0</td>
</tr>
</tbody>
</table>
Appendix I: Software Installation Instructions

DENTAL REPORT ENHANCEMENTS

PREFIX:  ADEK PATCH:

************************************************************************
* READ THE ENTIRE NOTES FILE PRIOR TO ATTEMPTING INSTALLATION!!*
************************************************************************

1. CONTENTS OF DISTRIBUTION:
   a. adek0540.r - includes dental report enhancement routines plus all current patches (patches 1 and 2) of IHS DENTAL ver. 5.4.
   b. adek0540.g - contains the dental report enhancement global ^ADEKOB.
   c. adek0540.n - this note file.

2. INSTALLATION REQUIREMENTS:
   This package requires IHS DENTAL version 5.4, VA KERNEL version 7 and FILEMAN version 20.

3. INSTALLATION INSTRUCTIONS:
   1. Log in to the production UCI.

   2. Kill globals ^ADEKNT and ^ADEKOB.  (K ^ADEKNT,^ADEKOB)

   3. Restore globals from host file adek0540.g

   4. Restore routines from host file adek0540.r

   5. Run routine ^ADEKINIT.  (D ^ADEKINIT)

   6. Using the Bulletin Edit option of Manage Mailman, add the DENTAL mailgroup to the 2 new bulletins ADEK-ABEND and ADEK-COMPLETE.  If you don't have a DENTAL mailgroup on your machine, add one using the Mail Group Edit option of Manage Mailman and add all local dental users to the mailgroup. Then add all ADE-namespaced bulletins to your new mailgroup.
Appendix I: Installation Instructions, continued.

7. Use the Schedule/Unschedule option in the Task Manager menu to schedule the option ADEK-QUARTER. The option should be scheduled to run on or about the 10th day of the first month of each quarter. To do this, schedule the option for the 10th day of the next upcoming quarter. For example if today is July 4th, schedule the option to run on October 10th. Then specify a RESCHEDULING FREQUENCY of 3M. The following screen dialog demonstrates how this should be done. (Note that the time you specify must be later than the current time of day, even though the date is three months in the future. This is a Taskman quirk.)

**SUO Schedule/Unschedule Options**

OOQ One-time Option Queue
TMU Taskman Management Utilities ...
LTMT List Tasks
DTMT Dequeue Tasks
RTMT Requeue Tasks
DTMT Delete Tasks
POBD Print Options that Have Background Data

Select Task Manager Option: **SUO** Schedule/Unschedule Options

Select OPTION to schedule or reschedule: **ADEK-QUARTER**

**DENTAL QUARTERLY STATISTICS**

Enter the date and time you want this option to be started by taskman.

QUEUED TO RUN AT WHAT TIME: JUL 10,1995@18:00

Only enter a DEVICE if the job needs an output device.

DEVICE FOR QUEUED JOB OUTPUT:

If this field is blank then the job will run only once.

RESCHEDULING FREQUENCY: 3M
This is the volume set (CPU) that you want the job to run on.

QUEUED TO RUN ON VOLUME SET:

Subj: Quarterly Dental Statistics Successfully Compiled [#3334]
03 May 95 12:58  2 Lines

From: DENTAL PACKAGE in 'IN' basket.  Page 1 **NEW**

The Quarterly Dental Statistics were successfully compiled today for year.quarter 94.1.  The compilation took 6 Minutes to complete.

4. POINT OF CONTACT:  Horace Whitt, Headquarters West, Dental (505) 837-4175
Appendix II. Clinical Productivity Indicators Supported by the Basic Measures Reports

Indices of clinical productivity can be created from the Basic Measures Reports to produce annual or quarterly rates. These indices (or indicators) are more generally useful than raw data for making longitudinal comparisons of performance. Dental procedure codes which are used in some Basic Measures calculations are given in parentheses. Local dental program resource data, such as the number of dental operatories, dentists or FTEs must be supplied by the user to provide a denominator for some indices.

CLINICAL EFFICIENCY INDICATORS

1. Total **dental visits** (0000+0190) per:
   a. dental operatory (user provides count)
   b. dentist-day
   c. dental FTE, dentist, or provider (user provides count)
   d. dental care user

2. Total **service minutes** (Level I-VI) per:
   a. dental operatory
   b. dental visit
   c. dentist-day
   d. dental FTE, dentist, or provider (user provides count)
   e. dental care user
   f. clinical service

3. Total **clinical services** (Level I-VI) per:
   a. visit
   b. dental user
   c. dollar spent (user provides cost data)

4. Total **scheduled visits** (0000+0190+9130) per:
   a. broken appointment (9130)
   b. dental operatory
c. dentist-day

d. emergency visit (0140 and/or 9170)
Appendix II. Clinical Productivity Indicators, continued.

CLINICAL EFFECTIVENESS INDICATORS

ACCESS TO CARE

1. **Ratio of dentists** to:
   a. 3-year facility user population
   b. 3-year dental user population

2. **Dental users** (0000) as a proportion (%) of:
   a. facility users (medical+dental)
   b. dental users previous reporting period

3. **New dental users** (not seen in previous 3 yrs.) as a proportion (%) of:
   a. dental users
   b. new facility users
   c. new dental users previous reporting period

4. **Patients treatment planned** (0150) as a proportion (%) of:
   a. dental users
   b. new dental users
   c. patients treatment planned (0150) during previous reporting periods

5. **Patients completed** (9990) as a proportion (%) of:
   a. dental users
   b. patients treatment planned (0150)
   c. patients completed during previous reporting periods
## Appendix III: Special Procedure Codes for Monitoring 437 Objectives

For user convenience, the special 437 dental procedure codes 4370 through 4377 are numbered to correspond to the oral health 437 objectives.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description of Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>9340</td>
<td>Dental visit, Pre-natal (optional)</td>
</tr>
<tr>
<td>9341</td>
<td>Dental visit, Parent/caregiver (optional)</td>
</tr>
<tr>
<td>0003</td>
<td>Patient with BBTD/Rampant Caries (optional)</td>
</tr>
<tr>
<td>4370</td>
<td>Patient Assessed and no other 437 codes apply</td>
</tr>
<tr>
<td>4371</td>
<td>Patient is Caries Free</td>
</tr>
<tr>
<td>4372</td>
<td>Patient with Untreated Dental Decay</td>
</tr>
<tr>
<td>4373</td>
<td>Patient with Molar Sealant</td>
</tr>
<tr>
<td>4374</td>
<td>Patient with Acceptable Periodontal Health</td>
</tr>
<tr>
<td>4375</td>
<td>Patient with Destructive Periodontal Disease</td>
</tr>
<tr>
<td>4376</td>
<td>Patient with Missing Tooth</td>
</tr>
<tr>
<td>4377</td>
<td>Edentulated Patient</td>
</tr>
</tbody>
</table>
Appendix IV: Reporting Guidelines for Monitoring the 437 Objectives

Assessment goal: All dental patients are assessed annually to determine their oral health status in relation to one or more of the goals established for the Year 2000.

It is imperative that the code 4370 Patient Assessed be used to identify patients who have been assessed, but who do not meet any of the criteria for the goals. The use of this code and all other 437 codes will provide a complete accounting of all patients who have been assessed.

Goal 1. Reduce the prevalence of tooth decay among children.

Reported for each "caries free" dental patient 0-19 years during the First Visit (0000) of each Fiscal Year. Caries free means the patient has no decayed, missing (due to caries) or filled teeth. Use special code 4371 if:
- the 0-9 year old patient is caries free in the primary or mixed dentition, including permanent teeth, or
- the 10-19 year old patient is caries free in the permanent dentition only.

Goal 2: Reduce the prevalence of untreated tooth decay among children.

Reported for each dental patient age 5-19 who is found to have one or more teeth which need treatment (a filling or an extraction) due to decay at the First Visit (0000) of the fiscal year. Use special code 4372 if:
- the 0-9 year old patient needs treatment of the primary molars or any permanent teeth.
- the 10-19 year patient, if treatment is needed in any permanent teeth.

Arrested caries and lesions in the primary teeth which you would not normally treat should not be classified as "untreated" teeth.

Goal 3. Increase the number of children who receive sealants on the occlusal surfaces of permanent molar teeth.

Reported for each patient age 5-19 who has received an occlusal sealant on at least one permanent molar. Use special code 4373 at the First Visit (0000) or at a subsequent visit, but only once per Fiscal Year for a patient who has received a molar sealant. For example, if the first sealant is placed on a molar during a revisit (0190), the 4373 code should be reported for that visit.

Goal 4. Reduce gingivitis (increase acceptable perio. health) among adults.

Monitored on patients age 15 to 45 years of age during their first routine dental exam (code 0150 or 0120) of each fiscal year, based upon the CPITN scoring system and using a given definition of an "acceptable" level of periodontal health. Use special code 4374 if the patient is found to have at least 3 sextants with a CPITN score of "0" and no other
sextants have a score greater than "2". In other words, at least half the mouth is healthy and no pathological pockets exist.
Goal 5. Reduce the prevalence of destructive periodontitis (deep pocketing) among adults.

Monitored on patients age 15 to 45 years of age during their first routine dental exam (code 0150 or 0120) of each fiscal year, based upon the CPITN scoring system and using a given definition of destructive periodontitis. Use special code 4375 if the patient has deep (6mm or greater) pocketing present, indicated by a CPITN score of "4" in at least one sextant of the mouth. This includes findings on teeth which may need extraction due to periodontitis.

Goal 6. Increase the number of adults who have not lost any permanent teeth to dental caries or periodontal disease.

Monitored on all patients 15 to 45 years old at the First Visit of each Fiscal Year. Use special code 4376 if the patient is found to have one or more teeth missing due to tooth decay or periodontal disease. Use this code for the First Visit if a tooth is already missing or at a subsequent revisit if tooth loss first occurs at that appointment.

Goal 7. Reduce the number of adults who have lost all of their teeth.

Reported only once for each dental patient age 15 years and over who becomes edentulous at this clinic. Use special code 4377 for the visit when the patient has the last of their remaining teeth extracted. This code monitors the incidence rate of new edentulous patients and not patients who are already edentulous.
Appendix V: The California Area Annual Reports

This special feature of the Basic Measures component is designed to support the annual report format used by the California Area Office at the end of each Fiscal Year. It functions in the following manner:

1. When the dental data are automatically compiled for the Basic Measures Annual Reports, after the third quarter of the calendar year (ending Sept. 30th), the dental software sends a Mailman message to local RPMS computer users containing selected Basic Measures data in an annual report format. These data are used to monitor the performance of urban and tribally-managed programs relative to contract requirements negotiated with the IHS. Additional text is included in the message to assist users in interpreting the data. An example of the Annual Dental Program Report bulletin is shown on the following page.

2. In order for users to be sent the annual dental report bulletins automatically, the local RPMS Site Manager must specify (or create) a Mail Group to include the names of users who will receive the message. The names of dental users and program administrators should be included as recipients of the annual report message. Recipients of the message can also forward it to other users who are not in the mail group if desired.

3. Each time the Annual Report bulletin is generated (in early October), the computer will notify all recipients when they sign on with the phrase, “You have new Messages”. The User should then enter the word MAIL and press Enter at any RPMS menu option to reach Mailman in order to read their messages. The Annual Dental Report messages are delivered to the user’s IN basket. After reading the bulletin, users can delete the message or save it in a mail “Basket” for future reference. These messages also can be sent to a printer in the usual manner, or captured to a file if a PC is being used as a terminal with communications software. Hardcopies of the reports can be sent to the local program director or to the California Area Office as needed.

4. Users having access to the Dental Supervisory Functions menu can regenerate Annual Report Bulletins for any prior Fiscal Year for which there are data in the computer. To do this:
   - the user first selects the ‘SUP’ option from the DDS v5.4 main menu.
   - then the Data Entry Option (DEO) should be selected.
   - the last option on the DEO menu is “Create California Annual report Message” (ECAL). When the ECAL option is selected, the user chooses from a list of Fiscal Years for which the Basic Measures data have been compiled. When a year is entered from the list, the user is informed “Message Created” and then notified that “You have 1 (or more) New Messages”. The user then must use Mailman (see statement #3) to read the Annual Dental Program Report message.

Appendix V. continued, California Annual Report Message
An Example of the Annual Local Dental Program Report bulletins is shown below:

Subj: Annual Dental Program Report  [#6542] 23 May 95 10:27  33 Lines
From: THE DENTAL REPORT BULLETIN in 'IN' basket.   Page 1

-----------------------------------------------------------------.

OROVILLE CLINIC: Cumulative Dental Data for FY94

The purpose of this report is to provide dental information pertaining to the past fiscal year for program administrators and dental staff. The following direct care data have been credited to your clinic for the time period OCT 1,1993 to SEP 30,1994.

<table>
<thead>
<tr>
<th>Indian</th>
<th>Non-Indian</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Individual Patients Seen (0000)</td>
<td>357</td>
<td>65</td>
</tr>
<tr>
<td>Total Visits</td>
<td>540</td>
<td>79</td>
</tr>
<tr>
<td>Total Clinical Services</td>
<td>2001</td>
<td>114</td>
</tr>
<tr>
<td>Total Clinical Service Minutes</td>
<td>63153</td>
<td>1430</td>
</tr>
</tbody>
</table>

Number of Broken Appointments for FY94: 468 = 234 Hours

Below is a list of variables that have an impact on the above figures. Some of these factors may pertain to your clinic.

1. Incomplete or inaccurate key entry of visit data into your RPMS computer, especially forgetting to include all appropriate procedure codes.

2. Large number of broken appointments with no remedies in place.

3. Inefficient scheduling of patients and under-utilization of
four-handed dentistry techniques.

4. The need for more treatment rooms, more staff, more equipment, etc.

The data above for your program have been compiled from patient treatment data entered into your RPMS computer. If after reviewing the data you feel there is a problem or you have some questions or comments, please contact your Area Dental Consultant.
CONTROLLING AN OVERLOADED APPOINTMENT BOOK

(Prepared by Dr. Jeff Hagen, California Area)

Goal: To schedule patients no more than three weeks in advance of their appointments.

Tip #1-- Have emergency patients call back for a regular exam appointment, rather than giving them one at the end of their emergency visit. Virtually all emergency patients will accept a routine appointment, but in most programs approximately two-thirds of these emergency patients are episodic users who will not show up for the routine appointment. Asking them to call back will help you to screen out those patients who are not really interested in an appointment. This will save you several slots in the appointment book.

Tip #2-- Instead of using six months as the "standard recall interval" for patients with low to moderate disease rates, extend the interval to one year. You should still recall patients with severe perio or caries on a more frequent basis, e.g., every three to six months, but most patients who have low to moderate dental disease rates will do very well with a one-year recall interval. The dental literature does not support the need for six-month recalls for patients with low disease rates. This was merely a marketing ploy that appeared in a Pepsodent toothpaste ad in the 1930's and is now ingrained in the minds of patients and private dentists. From a public health standpoint, if you have patients who must wait a long time for an appointment, you will do more good for your population if you will save the three-month, four-month, and six-month recalls for those patients with high disease rates. Obviously, extending the standard recall interval also will save you slots in the appointment book.

Tip #3-- If your appointment schedule is still booked too far ahead after adopting Tip #1 and Tip #2, consider using a call-in system or waiting list system. Both systems can work well, but generally the call-in system works better if a large majority of your patients have telephones, and the waiting list system works better if a significant proportion of your patients do not have phones. Whichever system you use, make sure that you get it approved by your program director and tribal health board so that you will have support for the policy.
Elements That Apply Both to Call-In and Waiting List Systems

1. To start either system, you need to "bite the bullet" and stop appointing new patients until your book is down to the three-week maximum. Patients needing exam appointments should be told that you are starting a new appointment system and cannot make any new appointments at this time. Then give them an estimate as to when you expect to start making appointments again.

2. With either system, once a patient receives a dental exam he or she gets subsequent appointments until all basic treatment is completed. In other words, the patient does not need to go through the call-in or waiting list mechanism to get follow-up operative appointments, prophies, simple endo treatment, etc. It will be the decision of your program as to whether you will also complete the patient's specialty treatment (such as dentures, crowns, molar root canal treatments, etc.) during this sequence of appointments or whether you will defer these types of procedures to a specialty treatment waiting list.

3. The number of new exam patients that you can appoint each week (people coming off the recall system plus new patients) will approximate the number of patients that you have finished during the previous week. For example, let's assume that it is the first week of August. Your appointment book is full for the first two weeks of August, and the third week of August is partially filled with patients needing subsequent appointments. There should be some slots available during the third week approximately equal to the number of patients that you finished up during the last week of July.

Note: If your staff go to a meeting and the clinic is closed for a week, then you would not add any new patients until you get back to the three-week maximum.

4. The mix of recall patients versus new patients should be determined by your dental program, with input from the program director. Remember that the sum of these two numbers will equal the number of slots to be filled in your appointment book.

Specifications for Call-In System

1. A designated time is selected during which new patients (including emergency patients who need to call back for complete exams) can make appointments by telephone. This is usually done once per week at a time that is convenient for the dental staff. For example, you might want to have people call in at 8:00 A.M. every Tuesday in order to avoid the problem of Monday holidays and the large number of emergency patients typically seen on Mondays.
2. Do not begin taking calls until exactly the designated call-in time. If you start taking calls at 7:45 or 7:55 when your designated time is 8:00, it is going to be difficult to explain to the people who call in at 8:00 why all the slots are already full.

3. When the number of slots available for call-in patients has been filled, tell subsequent callers that the book is full and that they can try again next week. It is also a good idea to ask these callers if they would like their name to be placed on a short-notice call list in case someone cancels an appointment during the week. Even though the chances of the patients getting in this way might be slim, it does give them some hope.

Specifics for Waiting List System

1. When new patients (including emergency patients needing a complete exam) ask for an appointment, their names are placed on a waiting list. The list should include columns for the date the name is entered, the date the letter or postcard is mailed telling the patient that their name has come off the waiting list, and the date that the patient responded.

2. Unless your waiting list system is computerized, the patient is also asked to fill in his/her address on the front of a postcard. If the patient calls in, the receptionist can fill in the name and address from information gained over the phone. The postcard is then filed until the patient's name comes up on the waiting list.

3. If your waiting list is computerized, your notification letters can probably be generated by the computer. Your master list with the columns mentioned in #1 can also be tracked using spreadsheet or database software.

4. The postcard or letter should not include an appointment time. It should merely state, "Your name has come up on the waiting list. Please call the dental clinic by August 12, 1995 (for example) to receive your appointment time." If the patient is late in responding because he was out of town for several days, you might want to go ahead and give him an appointment when he calls. Late responses usually aren't so common as to be a problem.

5. It will take some experience with the system to determine how many postcards or letters to send out to get enough respondees to fill the slots available in your appointment book. Not everyone who is sent a card will respond to the card. You might start by sending out twice as many cards as you have slots available, and then adjust the number from there.
Tip #4— Avoid giving a series of appointments to one patient. Programs sometimes will give a patient a series of appointments, even though the appointment schedule is booked far in advance, in order to decrease the period of time between appointments for that patient. If you are booked ahead no more than three weeks ahead, scheduling a series of appointments is generally not necessary, especially for routine operative dentistry. If you are booked beyond three weeks, giving patients multiple appointments will only fill up the appointment book faster, thus undermining your appointment system.

Possible exception: Once the appointment book is down to three weeks, it is probably okay to schedule a series of appointments for your denture patients, so they are not required to wait three weeks between appointments. This is especially important if the patient does not have an old denture to wear in the meantime. If the patient breaks an appointment in the series, the staff can evaluate the reason and determine whether to terminate the series and switch to one appointment at a time for that patient.

Note: Keeping the time interval between appointments at a reasonable length is important to patients. If patients complain when you initiate a call-in or waiting list system, you can tell them that the new system will decrease the length of time between their appointments, once they get into the system. In the long run, they will probably get finished sooner than if you had continued to give appointments several months ahead.