

## Chapter 2--Oral Diagnosis and Treatment Planning

### Introduction

The provision of dental services is the core function of the IHS Dental Program. Adequate provision of services is based on sound diagnosis of disease and treatment needs followed by an orderly treatment plan and delivery of services. Oral diagnosis and treatment planning skills are among the very first introduced in dental schools.

All dental services provided to patients and communities are based on the process of diagnosis and treatment planning, yet significant variations exist. The Journal of American Dental Association states, "In the largest *in vivo* study that compared dentists' diagnoses, less than half of all teeth receiving a recommendation for treatment for reason of caries received such a recommendation from a majority of all dentists examining the tooth." Disparity exists throughout the Indian Health Service. The inability of all providers to agree on all diagnoses and treatments leads to a wide variation in how many and what kinds of services are delivered in IHS facilities. Many factors lead to this disparity.

The following are examples of just a few of the many factors that can result in disparity in diagnosis and treatment.

- Example 1: Dental students need to meet minimal treatment requirements. This can often lead to treatment choices based on the need to fulfill these requirements leaving the student with a false impression of what "needs" treatment.
- Example 2: Reimbursement (whether by direct reimbursement in the private sector, third party billing, or by service minutes in the IHS) is based on "doing procedures" which may lead to over-treatment of individual patients.
- Example 3: Employees may under-treat patients because they get paid the same no matter the quantity of work.
- Example 4: The desire to deal with the deluge of patients seeking care may lead to treatment choices based on turning over numbers of patients rather than individual patient needs.

This chapter will cover the following topics:

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## Basic Rules of Diagnosis and Treatment

Ideally diagnosis is performed within a common frame of reference and consistent diagnosis patterns will follow. In the IHS, it seems that there is considerable variability among providers with regard to the way they diagnose oral conditions. It doesn't have to be that way. Diagnosis is supported by the patient's signs and symptoms, this should be rather straight forward. In a public health-oriented program, certain basic rules are applied to ensure that patients are seen within the same context (in regards to treatment planning and said treatment).

These rules will assist you in providing fair and equitable diagnosis and treatment:

Rule 1: The community is the patient. Our goal is to provide the highest level of health to the greatest number of people. This may mean not providing some higher level (e.g., levels 4, 5 of the IHS schedule of Services) services to individual patients so that more patients can receive other more basic services.

**REMEMBER**, patients can always access the private sector for higher levels of care; the IHS is not the end of line for treatment alternatives. We are the foundation for sound oral health care.

Rule 2: Most oral disease only gets worse if left untreated. Failure to get basic care results in the need for more complex care. The worse case scenario for untreated disease is a life-threatening situation.

Rule 3: In treatment planning, emergent care comes first, prevention of disease second, containment of disease third, and restoration of the effects of disease fourth. In planning clinical programs, priority is given to some services and activities over others (i.e. the bare minimum most clinics will provide is true emergent care).

Rule 4: Triage patient **and** community needs. The five IHS care levels can serve as a guide.

Rule 5: The decision to do one thing is usually by default a decision not to do something else. There is only so much time and resources, and the demand for care generally exceeds both.

Rule 6: We are in the business of managed care. We have the responsibility to ensure that the greatest amount of care is provided to the greatest number of people.

- Level I**      Emergency Oral Health Services: Those services necessary for the relief of acute conditions. Emergency dental care services include all necessary laboratory and pre-operative work, including exam, radiographs, and appropriate anesthesia. Examples are fractures, subluxations, and avulsion of teeth and/or facial bones, soft tissue injuries, broken dentures, chipped tooth, initial treatment of acute infections.
- Level II**      Preventative Oral Health Services: The listed services prevent the onset of the dental disease process. Some of the services provided to individuals are modified by IHS definitions, exclusions, limitations, and processing policies. Please refer to the appropriate sections for further descriptions of exclusions, limitations, and processing policies.
- Level III**      Basic Oral Health Services: Basic dental care includes those services provided early in the disease process and which limit the disease from progressing. They include most diagnostic procedures, simple restoration of diseased teeth, and many surgical procedures needed to remove or treat oral pathology.
- Level IV**      Basic Rehabilitative Oral Health Service: Those services necessary to contain the disease process after it is established or improve the form and/or restore the function of the oral structures. The word “function” as used here includes some psychosocial considerations as well as the mastication of food. These services are more difficult to provide since the disease process is well established. The investment of resources will have a good cost-effectiveness because the procedures are directed at containment or basic rehabilitation. They include, but are not limited to complex restorative procedures (onlays, cores, crowns), the majority of endodontic procedures, most advanced periodontal procedures, prosthetic appliances that restore function, pre-prosthetic surgery, and most interceptive or limited orthodontic procedures.
- Level V**      Complex Rehabilitative Oral Health Services: Those services that require significant time, special skill or cost to provide. Certain patients will require referral to dental care providers skilled in providing the specific procedure and/or which have limited their practice to that specific specialty area. Generally the patient must present special circumstances that would warrant the added time and transportation associated with the specialty referral. Level V services may not improve the overall prognosis for most patients so patient selection is of critical importance when considering the provision of these services.
- Level IX**      Exclusions: These services have been determined to be of limited benefit in the treatment of oral disease or maintenance or oral health. These services have a variable rate of success, are difficult to monitor from appropriateness or effectiveness standpoint, are not universally defined or accepted as the preferred method of treatment. Some of the services listed under exclusions require heroic

effort and therefore are questionable from a cost-benefit standpoint. Other services use material which is obsolete or of disputable effectiveness. In other cases the services are considered part of the treatment and do not warrant a separate fee or value. In certain other cases the IHS simply will not pay for the service.

## Diagnosis and Treatment Planning Factors

Many things influence diagnosis and treatment within the framework of a public health practice. Each of these factors impacts on the appropriateness of planning services for a patient and the ability to provide those services. The treatment plan is based on the sum total of these influences. Many of these factors also affect the diagnosis.

### Factors

The major factors that affect diagnosis/treatment are grouped into four categories; Dentist, Patient, Program, and Community.

#### Dentist Factors

The following factors and their influence are related to the dentist:

Factor	Influence
Training	Dentist training defines the types and scopes of services provided.
Experience	Type and amount of experience influence services provided.
Personal Desires	All dentists enjoy areas of dentistry differently and tend to do more of what they like
Other Duties	The dentist is often called upon to take on additional assignments or serve on various committees which can remove them from delivering dental services.
Ability	Dentists come with different abilities and skill levels and must be honest with themselves when choosing treatments to carry out.

#### Patient Factors

The following factors and their influence are related to the patient:

Factor	Influence
Health history	The status of a patient's health influences oral disease risk, ability to tolerate some procedures, and precautions to be taken when providing procedures.
Medication/ drug use	This factor can define or modify treatment choices and precautions.
Diet	A patient's diet impacts the risk of oral disease and overall health.

Social	Habits, employment, lifestyle, family, and home environment may all impact on choices of care (made by both doctor and patient).
Clinic use patterns	Episodic users need different treatment choices than regular users.
Age	This factor often defines the risk category, timing of treatment, necessity of treatment, and the condition of the enamel and dentin.
Caries rates	The patient's risk of new disease influences the complexity of the services to be provided.
Periodontal status	Treatment choices can be defined and limited by the patient's periodontal status.
Oral hygiene	Good oral hygiene is essential to ensure reasonable prognosis for complex dental services.
Patient expectations	This factor impacts on what services can be reasonably offered to a patient.
Oral Health Status	Evidence of episodic use and failure to follow up treatment can limit services planned for a patient.

### Program Factors

The following factors and their influence are related to the dental program:

Factor	Influence
Facility size	Available operatories can be the limiting factor in the number of patients that can be seen and the amount and variety of services that can be delivered.
Staff size and mix	Adequate staff with the necessary scope of skills is necessary to deliver quality and quantity of services.
Available equipment	Type, age, maintenance, or availability of equipment influence the ability to provide services.
Available materials	The ability to deliver services is often dependent on the choice of available materials.
Alternate resources	Contract Health dollars, volunteers, and other services programs all influence what services can be provided.
Other duties-staff	Any assignment that removes dental staff from dental activities reduces the ability to provide direct dental services.
Recall patterns	Recall appropriate to the patient's needs is essential to maintain individual patient health.
Training and skills	The experience and abilities of staff members influence the quality and quantity of services provided.

### Community Factors

The following factors and their influence are related to the community and environment in which the patient lives:

<b>Factor</b>	<b>Influence</b>
Water fluoridation	Ideal levels of fluoride prevent caries and reduce the risk of disease. The taste of the water and dietary habits may reduce the effectiveness of water fluoridation.
Population numbers	A large population (relative to staff and facility size) will influence treatment choices.
Remoteness	Generally, the more isolated the community, the fewer the provider options the patients have. Fewer patients will seek care from other sources.
Education levels	Generally, the higher the average education level, the lower the average disease risk
Attitudes/Beliefs	Patients who believe in wellness and have confidence in their providers tend to be healthier.
Alternate resources	The ability of individual patients to seek care elsewhere (e.g., in urban areas and when patients have insurance or other resources) reduces the demand on a clinic. This allows the clinic to offer greater choices in services to those who use it.
Referral services	Treatment choices in a public health setting are often based on the ability of a patient to get to specialty providers.

All of these factors and more are considered when developing diagnosis and treatment plans.

## Diagnostic Tools

As in all professions, dentistry has a basic set of tools to assist in diagnosing and treating patients. These tools include physical and mental abilities of the doctor and the equipment that the doctor may use.

Some of the more common diagnostic tools and uses are as follows:

<b>The tool</b>	<b>Is used to</b>
Vision	observe all aspects of the patient.
Hearing	listen to what the patient is telling you
Touch	determine everything from the patient's temperature to swelling and tooth mobility
Bright light	clearly visualize oral structures
Clean, dry field	ensure good, unobstructed visibility. (The air/water syringe should be used to remove debris/moisture.)
Mirrors (both patient and intra-oral)	provide better visibility (intra-oral mirror) and allow the patient to more fully participate (patient mirror).
Explorer*	act as an extension of the sense of touch
Probe	determine periodontal status prior to planning any other

	procedures and extends touch.
Radiographs <sup>2</sup>	take films based upon-- <ul style="list-style-type: none"> <li>• patient age</li> <li>• clinic utilization history</li> <li>• oral disease risk status</li> <li>• medical history</li> </ul>
Percussion test	evaluate presence of periradicular pain
Palpation	evaluate mobility, presence and characteristics of swelling
Thermal test	evaluate the blood flow of the pulpal apparatus (vitality)
Blood test	evaluate deficiencies, septicemia, and patients health status
Urine tests	evaluate patients health status
Culture & Sensitivity	evaluate types of bacteria present and susceptibility
Judgment	assimilate all of the other diagnostic tool information and factors and decide on an appropriate and realistic treatment plan. This is probably the most important diagnostic tool.

\*All explorer "sticks" are not necessarily caries. Softness should be felt to confirm the explorer diagnosis of caries.

<sup>2</sup>Professional judgment should be used to determine the type, frequency, and extent of each radiographic examination. Diagnostic radiography should be used only after clinical examination, consideration of patient history, review of prior radiographs, and consideration of both the dental and general health needs of the patient. All patients are different and have different needs, so the radiographic exam should be individualized for each patient

## Decision Making

Diagnosis and treatment planning involves using your judgment to make sound decisions. Using a set process in making your decisions will enable you to develop an accurate and sound diagnosis which enables one to make an accurate treatment plan.

The following steps should be performed (with or without intentionally thinking about them) each time you make a decision.

Step	Action
1	Reflect on the alternatives.
2	Become aware of the uncertainties.
3	Be able to modify your judgment on the basis of accumulated evidence.
4	Balance the judgment of the risks of various kinds.
5	Consider the potential consequences of each choice.
6	Synthesize all of the above factors in making a treatment decision.

### Example of Decision-Making Actions

Example: The choice to treat must be weighed heavily.

- **NO** restoration ever placed by a dentist is as good as the disease-free tooth structure.
- Tooth preparation is based on the choice of restorative materials as well as the needs of the tooth.
- A restoration can be expected to structurally compromise a tooth, yet it should be considered to be better than the current status of a tooth that has caries, a fracture or a failure of a previous restoration.
- When restorations are placed, especially in endodontically treated teeth, the structural integrity of the tooth is greatly compromised. Crowns are the traditional solution to this problem but often cannot be provided due to resource limitations.