Successful Business Models for Implementation of Caries Management by Risk Assessment in Private Practice Settings

YASMI O. CRYSTAL, DMD, FAAPD; JEAN L. CREASEY, RDH, DDS; LINDSEY ROBINSON, DDS; AND FRANCISCO RAMOS-GOMEZ, DDS, MS, MPH

ABSTRACT This article describes how to implement caries management by risk assessment successfully in private practice, detailing the formats used in a pediatric dental practice and in a general dentistry practice. The authors discuss the barriers for implementation as well as how they overcome these obstacles to achieve patient satisfaction, improve health outcomes, provide optimal patient care, advance their professional success, and expand the economic viability of their practices.

Caries management methods in the last 60 years have yielded major successes. Public health care measures such as water fluoridation and the widespread use of fluoride toothpaste have resulted in major decreases in caries rates. The advent of new clinical technology, techniques, and materials have improved the delivery, longevity and tissue compatibility of restorative and prosthetic treatment. Surgical improvements have restored function in patients who have had tissue loss from either caries or periodontal disease. However, although caries rates have declined significantly among most adults and school-aged children since the early 1970s, oral health disparities remain across some population groups and dental caries continues to be the most prevalent chronic disease of childhood. We need to recognize this as a warning sign since research confirms that caries in the primary dentition is the best predictor for caries in the permanent dentition.

Even though surgical methods for restoring cavities and delivering prosthesis are successful strategies to maintain function, efforts to implement preventive care are falling short. To maintain long-term dental health, we need to concentrate on improving preventive techniques as well as developing, learning, and teaching complex surgical techniques. This shifts the treatment paradigm from exclusively restorative to a proactive, preventive approach based on individual risk. For this, the rationale of health care delivery among practitioners, third-party payers, and patients needs to be altered.

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Risk assessment is an accurate indicator of future disease patterns. Numerous publications have described the caries management by risk assessment (CAMBRA) protocol, its scientific basis, its implementation, and its measurement in academic settings. However, it is still not the standard of care in private practice and it involves extra time during new patient visits or recall exams. However, prevention resonates with patients because it leads to fewer restorative treatments and maintains health, function, and esthetics. As patients gain more access to dental health information, they will begin to seek preventive measures. By empowering patients to have greater control over their caries rates, a more successful dentist-patient relationship is established, ultimately contributing to the long-term success of the practice.

Patient-centered, individualized care requires adoption of new procedures and practitioners who have departed from the current systems of treatment delivery and compensation, have achieved professional, economic, and personal success. The following describes implementation in a pediatric dental and a general dentistry practice, illustrating that CAMBRA can help achieve better health outcomes, optimal patient care and patient satisfaction, which, in turn, results in professional success, practice growth, and economic viability.

Implementing Caries Management by Risk Assessment

The following description of CAMBRA implementation refers to two well-established dental practices. The first one is a pediatric dental office in a suburban setting with multiple providers and a large staff that treats mostly private insurance patients and a small number of government-funded insurance patients. The other is a three-dentist group general dentistry practice in a rural area where approximately half of the patients have private insurance and the other half do not have coverage and are self-funded in a competitive dental marketplace. The common denominator for both practices is that their philosophy and goals have been to provide optimal comprehensive care to their patients based on specific needs with a strong emphasis on prevention. To provide this kind of welcoming and friendly patient-care environment, it is imperative for the staff to be committed, adequately trained, and have a harmonious, rewarding, and secure work place.

**Prevention resonates** with patients because it leads to fewer restorative treatments and maintains health, function, and esthetics.

**Incorporating Caries Risk Assessment Into Examinations: Determining the Level of Risk**

Assessing a patient’s risk for caries can be easily accomplished at the new patient exam; when relationships are being established and it is appropriate to review past dental experiences, oral health literacy levels, overall health, medications, diet, familial dental health patterns and attitudes.

The CAMBRA protocol, introduced and revised over the last several years, includes forms formatted to be compatible with current record keeping systems. These forms help staff and families become familiar with and identify the risk factors that make them susceptible for developing new carious lesions, the protective factors of preventive and restorative measures, and other specific disease indicators according to the patient’s individual case. The CAMBRA information is the basis for a restorative treatment plan, prescription of chemotherapeutic aids, hygiene recommendations, personalized counseling, the establishment of tailored, age-appropriate anticipatory guidance, and recall periodicity. By assessing the factors in a typical comprehensive oral exam, an analysis of caries risk can be made simultaneously. Areas of heavy biofilm accumulation, active caries and decalcification are obvious signs of a patient at moderate to high risk for caries. Subtler signs, such as lower saliva levels or the use of certain medications, are also important predictive factors and indicate a need for a more aggressive prevention protocol. A past decay and restorations history provides a dialogue that reveals a patient’s level of oral health literacy and awareness.

Once these factors have been identified and recorded, a patient’s risk can be categorized into low, moderate, high or gradations thereof. An example is a patient at low risk who has not had a carious lesion in more than two years, has little biofilm, few or no areas of demineralization, and healthy saliva levels. This categorization of risk determines the next steps to be taken in establishing an individualized prevention plan. Details are described in Ramos et al. 2010 for ages 5 and younger [http://www.cda.org/library/cda_member/pubs/journal/journal_1010.pdf](http://www.cda.org/library/cda_member/pubs/journal/journal_1010.pdf) and Featherstone et al. 2007 for ages 6 years through adult.

In the pediatric private practice, the typical patient visit starts with viewing educational videos in the waiting room, which has been well-received by the patients’ parents, as it allows them to acquire some background knowledge prior to talking to the doctor. The video messages cover the mechanisms of dental caries, prevention of cariogenic bacteria transmission, and specific diet and
hygiene recommendations. The use of entertaining mediums, animation for example, and bilingual audio when required, makes the information easy to understand for the children and their parents.

Once the parent and the child enter the treatment area, a member of the multicultural staff, usually a hygienist, sits with the parents to ask the questions that reveal the exact details of the risk and protective factors. For example, it is important to note if the child frequently drinks sweetened beverages or eats refined carbohydrate snacks and to specify the kind of beverages and food as well as the frequency and pattern of ingestion. A mother, when asked if her child drinks sweetened beverages often, may answer NO because she has been told that apple juice has no added sugar and is all natural. The mother may be unaware that the child has a greater caries risk through continual exposure to the natural sugar in the juice all day long.

All CAMBRA protective factors should be recorded with the same attention to detail, capturing as much information as possible on the form (TABLES 1 AND 2).

The dentist should then conduct a clinical examination, recording disease indicators and risk factors. To better understand their child’s oral health conditions: gingivitis, plaque accumulation, deep fissures, existing decay lesions, etc., parents are invited to look into their child’s mouth during the exam. X-rays are taken when indicated. The evaluation is completed by establishing the level of risk and formulating a treatment plan that includes: preventive (sealants) and restorative treatment required, recommendations for antibacterial and fluoride products for home use, and establishing periodicity of in-office examinations and fluoride varnish applications.

For patients found to be low risk for caries, prevention strategies can be reviewed and reinforced but less time is required for counseling since their preventive routines are working. The recall interval can be determined based on their overall oral health needs (i.e., patient may be categorized at low risk for caries but at high risk for developing periodontal disease, oral cancer, or other problems). Low-risk patients typically will have two examinations and one fluoride treatment per year; those at moderate risk may receive two examinations and two fluoride treatments per year.

A MOTHER, WHEN ASKED if her child drinks sweetened beverages often, may answer NO because she has been told that apple juice has no added sugar and is all natural.

Patients at moderate or high risk require a strategic prevention plan and they (or their parents) should specifically receive information that includes:

- Insurance benefits are the same for everyone who joins a certain plan but that benefit coverage has little to do with dealing with their specific needs;
- Cavities are only a consequence of a disease, and dental caries is an infectious, transmissible disease that is entirely preventable;
- Just because the parents have “bad teeth” doesn’t mean their children are doomed to live the same reality and painful consequences;
- Placing restorations on the cavities alone does NOT ensure that their child will have no new cavities in the near future;
- Lifestyle changes, similar to those required to control other chronic diseases like diabetes, will be necessary to control dental caries;
- It makes economic sense to make an effort to try to stop the disease progress, hopefully before the eruption of permanent teeth.

For children at high risk, who include any of those who required restorative treatment, those whose mother's or caregivers have active decay, those with white spot lesions, etc., additional recall visits are added at three month intervals. Most insurance companies do NOT cover the additional visits and staff must convince parents to the benefits of more frequent preventive care. Recommendations for these families are to have two examinations a year that include examination, prophylaxis, and fluoride treatment that are typically covered by their insurance plan; and then two visits at the three-month intervals that include re-evaluation of the home-care protocols and fluoride varnish treatment that is paid for by the parents.

For children at extreme high risk, monthly visits for re-evaluation of risk factors are recommended in addition to support with home care and therapeutic treatment compliance, and fluoride varnish applications until their level of risk is lowered. The parents need to understand and agree to pay for the additional fluoride varnish applications in excess of what is covered by their insurance plan.

All patients have a new risk assessment form completed at every recall visit regardless of the level of risk, as an evaluation is a snapshot in time. A patient’s caries risk status can change dramatically between visits due to changes in health, medications, or life situations. Adjustments to home-care routines should change accordingly. Hygienists play a key role in detecting risk level changes but the entire staff should be well-trained in caries prevention.
**Table 1**

CAMBRA — Caries Risk Assessment Form for Age 0 to 5 Years

<table>
<thead>
<tr>
<th>Patient Name: ___________________________</th>
<th>ID# ___________</th>
<th>Age: __________</th>
<th>Date: __________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment Date: _________________________</td>
<td>Please circle: Baseline, three-month follow-up or six-month follow-up</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Any one Yes in Column 1 signifies likely “High Risk” and an indication for bacteria tests

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 1. Risk Factors (Biological Predisposing Factors)

- (a) Mother or primary caregiver has had active dental decay in the past 12 months* Yes
- (b) Bottle with fluid other than water, plain milk and/or plain formula Yes
- (c) Continued bottle use Yes
- (d) Child sleeps with a bottle, or nurses on demand Yes
- (e) Frequent (>3 times/day) between-meal snacks of sugars/cooked starch/sugared beverages Yes
- (F) Saliva-reducing factors are present, including:
  - 1. medications (e.g., some for asthma [albuterol] or hyperactivity) Yes
  - 2. medical (cancer treatment) or genetic factors Yes
- (g) Child has developmental problems/CSPHCN (child with special health care needs) Yes
- (h) Caregiver has low health literacy, is a WIC participant and/or child participates in Free Lunch Program and/or Early Head Start Yes

### 2. Protective Factors

- (a) Child lives in a fluoridated community or takes fluoride supplements by slowly dissolving or as chewable tablets (note resident ZIP code) Yes
- (b) Child drinks fluoridated water (e.g., use of tap water) Yes
- (c) Teeth brushed with fluoridated toothpaste (pea-size) at least once daily Yes
- (d) Teeth brushed with fluoride toothpaste (pea-size) at least 2x daily Yes
- (e) Fluoride varnish in last six months Yes
- (f) Mother/caregiver chews/dissolves xylitol chewing gum/lozenges 2–4x daily Yes

### 3. Disease Indicators/Risk Factors – Clinical Examination of Child

- (a) Obvious white spots, decalcifications enamel defects or obvious decay present on the child’s teeth* Yes
- (b) Restorations present (past caries experience for the child)* Yes
- (c) Plaque is obvious on the teeth and/or gums bleed easily Yes
- (d) Visually inadequate saliva flow Yes

**Child’s Overall Caries Risk**

<table>
<thead>
<tr>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS:</td>
<td>LB:</td>
<td>Flow Rate: ml/min: Date:</td>
</tr>
</tbody>
</table>

**Caregiver: Bacteria/Saliva Test Results:**

| MS: | LB: | Flow Rate: ml/min: Date: |

**Self-management goals:**

1. ___________________________________________________________________________
2. ___________________________________________________________________________

**Assessment based on provider’s judgment of balance between risk factors/disease indicators and protective factors.**

**Doctor signature/#: ___________________________ Date: ___________________________**
### Table 2: Caries Risk Assessment Form — Children Age 6 and Over/Adults

<table>
<thead>
<tr>
<th>Disease Indicators</th>
<th>YES = CIRCLE</th>
<th>YES = CIRCLE</th>
<th>YES = CIRCLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visible cavities or radiographic penetration of the dentin</td>
<td>YES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiographic approximal enamel lesions (not in dentin)</td>
<td>YES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White spots on smooth surfaces</td>
<td>YES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restorations last 3 years</td>
<td>YES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Risk Factors (Biological predisposing factors)                                       | YES          |              |              |
| MS and LB both medium or high (by culture***)                                        | YES          |              |              |
| Visible heavy plaque on teeth                                                        | YES          |              |              |
| Frequent snack (> 3x daily between meals)                                            | YES          |              |              |
| Deep pits and fissures                                                              | YES          |              |              |
| Recreational drug use                                                                | YES          |              |              |
| Inadequate saliva flow by observation or measurement (**If measured, note the flow rate below) | YES          |              |              |
| Saliva-reducing factors (medications/radiation/systemic)                            | YES          |              |              |
| Exposed roots                                                                        | YES          |              |              |
| Orthodontic appliances                                                               | YES          |              |              |

| Protective Factors                                                                  | YES          |              |              |
| Lives/work/school fluoridated community                                              | YES          |              |              |
| Fluoride toothpaste at least once daily                                              | YES          |              |              |
| Fluoride toothpaste at least 2x daily                                               | YES          |              |              |
| Fluoride mouthrinse (0.05% NaF) daily                                               | YES          |              |              |
| 5,000 ppm F fluoride toothpaste daily                                               | YES          |              |              |
| Fluoride varnish in last 6 months                                                   | YES          |              |              |
| Office F topical in last 6 months                                                   | YES          |              |              |
| Chlorhexidine prescribed/used one week each of last 6 months                       | YES          |              |              |
| Xylitol gum/lozenges 4x daily last 6 months                                         | YES          |              |              |
| Calcium and phosphate paste during last 6 months                                    | YES          |              |              |
| Adequate saliva flow (> 1 ml/min stimulated)                                        | YES          |              |              |

**Bacteria/Saliva Test Results: MS: LB: Flow Rate: ml/min. Date:**

**VISUALIZE CARIES BALANCE**
(Use circled indicators/factors above)

(EXTREME RISK = HIGH RISK + SEVERE SALIVARY GLAND HYPOFUNCTION)
CARIES RISK ASSESSMENT (CIRCLE): EXTREME HIGH MODERATE LOW

Doctor signature/#: __________________________________________ Date: __________________
and risk assessment so consistent messages are delivered throughout a dental visit. Ideally, a form of saliva bacterial testing should be included in the initial and periodic examinations as a predictor for caries risk for all ages, but the cost for currently available products not usually covered by third-party payers have prevented both practices from using them routinely.

An oral evaluation for a child ends with anticipatory guidance that includes growth and occlusion development, trauma prevention and changes the parents may see in their child’s mouth until the next re-evaluation visit. At this time, any member of the staff can review the CAMBRA findings with parents or, on high-risk patients who require a subsequent visit, it can be done while their child is receiving restorative treatment.

Formulating a Treatment Plan Based on CAMBRA

A treatment plan based on individual risk should include preventive treatment (sealants and in-office fluoride treatment), restorative treatment required, individualized counseling to target specific risk factors, recommendations for antibacterial and fluoride products for home use, and establishing periodicity of in-office examinations and fluoride varnish applications.

There is a high level of evidence proving the effectiveness of interventions such as fluorides and sealants, and for that reason they form the foundation for current therapeutic recommendations.

Restorative treatment is an integral part of caries management since it can limit tissue damage and restore function. Left to advance, the infection spreads so much into surrounding tissues that extraction is the only treatment option. When evaluating a child’s restorative needs, consider conservative, preventive, and minimally invasive treatment by contemplating “What do we need to do as a team to make sure this is the one and only time we have to perform restorative treatment on this child?” This means that whatever behavioral modality is required to deliver adequate, conservative, and durable restorations should be used with the expectation that chemotherapeutic and behavioral treatments will prevent or at least reduce the need for future restorative treatment.

In adults as well as in children, the patient’s overall medical status, and the family’s social and economic situation are always considered to establish the course of action for the restorative portion of the treatment. However, the goal of restorative measures is always to prevent further tissue destruction and interventions. The use of ITR is limited as a temporary means to limit tissue destruction.

Individualized counseling is an integral part of the treatment plan. By utilizing a “motivational interviewing” approach instead of traditional “advice-centered” strategies for patients or the parents of patients, one can attain higher incidences of behavior change. Change comes from internal motivators, not external, and patients will change behaviors only when they hear themselves talk about the need for change. A traditional prevention approach is, “Mrs. Jones you really need to brush better or you’re going to continue getting cavities. You also need to eat less sugar.” A motivational interviewing style is, “Mrs. Jones, would you be interested in lowering your decay rate? We now have a better understanding of how you can control your tendency of getting cavities. Let me know if you want me to share some of these techniques with you.” The advantage of this approach is it clearly establishes that the patient is ultimately responsible for their dental health status.

Staff trained in motivational interviewing skills will prove invaluable for successful patient counseling. A successful prevention discussion should take no more than about 10 minutes. Simple illustrations can help communicate the concepts of mineral leaving the tooth structure in an acidic environment, saliva eventually neutralizing acids, and how the frequency of fermentable carbohydrate ingestion can influence mineral loss. Phrases such as “You wouldn’t think of replacing the roof on a burning building until you extinguished the flames” provide useful analogies to restoring decayed teeth before patients take control of their caries status.
Trained staff ensures parents have a clear understanding of the disease process, the caries balance concept, and their individual risk factors, guiding them to realize the need to change their routines. Counseling is targeted toward modifying the patient’s specific risk factors. The nuances of diet and the effects of refined carbohydrates on tooth structure are essential to reducing caries risk. Patients must understand that the nature and frequency of carbohydrate ingestion as the key to controlling acid challenges on their teeth. They should be encouraged to become “diet detectives,” analyzing their food choices and eliminating “caries-risk” foods. They need to realize that a food can be nutritional but also creates a caries risk. Since diet can play a major role in caries risk, both dental practices focus efforts in assessing a patient’s intake of fermentable carbohydrates. Performing a diet analysis for the patient can be of benefit since patients may be unaware of the amount, frequency, or type of carbohydrates they consume until they are compelled to write them down. The general lack of knowledge on the acid level of many commonly consumed beverages can be an eye-opening exercise for the patient.

Other counseling topics include demonstrating to patients and parents supervised toothbrushing with a smear (for under age 2) or pea-size amount (from 2 to 6 year olds) of fluoride toothpaste. Effective oral hygiene is important and recommendations for brushing three times a day with a fluoride-containing toothpaste on extreme high-risk patients are helpful to overcome frequent acid attack. Always review the proper techniques for plaque removal to prevent accumulation.

At this time, recommendations for chemotherapeutic home-care products for slowing down and reversing the demineralization cycle include home fluoride preparations, prescription-strength fluoride toothpastes or a combination product containing both fluoride and calcium phosphate, 0.12 percent chlorhexidine rinse, xylitol products, and/or MI paste with or without fluoride. High-risk patients aged 6 through adult should be advised to use high concentration (5,000 ppm) fluoride-containing prescription toothpaste at bedtime and not to rinse with water after spitting out the excess. These prescription toothpastes can also be used instead of regular toothpaste two or three times daily. The appropriate combination of the above products depends on age and risk level, and are chosen as per guidelines given in Jensen et al. for ages 6 years through adult and in Ramos-Gomez et al. 2010, for children 5 years and younger.

If the family has a prescription plan, a prescription detailing use may be given, or products can be purchased directly in the office to facilitate compliance. At these practices, products are sold at a minimum price for the purpose of encouraging use and being easily affordable to all patients. This is not expected to be significant extra income for the office, but it builds trust and a sense of partnership in health with the families. However, costs can also be recovered by building the expense into the fee schedule, or in different patient settings, the sale of preventive products can be an additional form of revenue.

Written instructions on the proper use of all products should accompany dispensing since patients often do not remember verbal chairside instructions.

The unit cost to the dentist for 5,000 ppm fluoride toothpaste is approximately $7 per tube. The use of 0.12 percent chlorhexidine mouthrinse for one minute/one time a day/one week per month is appropriate for high-risk patients who need to modify the acid producing bacteria dominating their oral flora. The approximate cost of chlorhexidine mouthrinse is $7 per 8-ounce bottle. MI paste is recommended to patients who have decalcified areas, for those too young to be on additional fluoride therapy, or for those who are against using fluoride-containing products. It should be applied for three to five minutes, twice a day. MI paste plus, which contains 900 ppm of fluoride can be recommended as an additional therapy for extreme risk patients. The cost is approximately $14.40 per tube.

The benefits of xylitol gum are well-documented and most adult patients find it easy to comply with the recommendation of chewing xylitol gum three to five times per day. Sharing facts about xylitol gum such as the natural sources that it is found in, that acid-producing bacteria cannot metabolize it and that the increase in salivary flow aids in remineralization, all help to encourage the patient to increase compliance. Xylitol gum can be purchased for approximately $1.20 per package of 10 pieces from different sources.

Practice Management Integration

CAMBRA calls for customizing a patient’s prevention plan according to individual risk. However, dental benefits are not customizable by age or risk to fit each patient’s needs. Yet, dental coverage is the most significant factor in motivating patients to use oral health care services and their covered benefits influences the
Specificity and frequency of procedures that are available. A typical benefits plan allows for two cleanings, two periodic exams, and two fluoride treatments per year, but increasingly, plans are only covering one topical application of fluoride per year. A patient deemed at moderate or high risk for caries would be required to pay for recommended supplemental office visits as well as home-care products out of their own pocket. Therefore, the practice must “sell” these patients on the concept that some upfront costs can lead to greater cost savings down the road for preventable restorative care. A recently added CDT code — D0145 — oral evaluation for a patient under age 3 and counseling with a primary caregiver, is meant to encourage early intervention and the establishment of a dental home within six months of the eruption of the first tooth. The code descriptor ideally reflects CAMBRA principles as it includes the following:

- Recording and oral and physical history;
- Caries risk assessment;
- Development of a plan to reduce the risk of caries;
- Instructions for cleaning the child’s teeth;
- Fluoride recommendations;
- Diet recommendations; and
- Recommendations to reduce transmission of bacteria.

More diagnostic codes like this combined with an individualized, flexible benefits package will be necessary to reimburse for and encourage these activities across a patient’s life span. Provider reimbursement in the private sector dental delivery system is procedure-based. The filing of claims to third-party payers is based on a set of CDT codes and includes procedures performed on a particular date of service. In contrast, the medical delivery system uses medical diagnostic codes (ICD-9) for filing medical claims that are used to describe the patient’s health and condition at the time of service and validate the procedure performed on a date of service was medically necessary. Diagnostic codes in dentistry do not exist, therefore it is not possible to bill for changes in a condition through time or track the impact of a particular intervention based upon the patient’s risk category. The current reimbursement structure provides no incentive to the clinician for improving and maintaining the patient’s oral health.

**STUDIES SHOW THAT**

Children and adults at the highest risk tend to remain at that level and develop further problems with traditional restorative treatment only. Normal business operations in private dental practice do not readily support CAMBRA implementation. None of the most widely used dental office software systems provide an off-the-shelf means of recordkeeping for caries risk status, patient compliance, and outcomes of recommended preventive interventions. As an example, there is no validated risk assessment form programmed into a clinical software package. This places a burden on private dental practices to develop their own means of implementing CAMBRA into the daily delivery of care either by scanning into the system their own risk assessment form or using a separate form to place in a paper chart. With the movement toward adoption of electronic health records, it will be essential to develop software components compatible with CAMBRA principles that integrate with electronic billing of dental insurance. Practice management companies and consultants would provide a great service for clients by encouraging business models supporting CAMBRA implementation.

**Overcoming the Barriers of Implementation**

The most significant barriers to the implementation of caries management by risk assessment in private practice are first, the current system of remuneration that is based on corrective procedures performed rather than on preserving health from the start. The second is the public’s mentality that has unquestioningly become used to this kind of remuneration system, and the third is the great difficulty for everyone to make and maintain significant lifestyle changes.

These practices overcame these barriers by educating patients on the benefits of promoting and preserving their oral health. In general, it is easier for patients to understand the benefits of prevention when they see themselves or their children struggle with extensive restorative needs; the trick is to convince everyone to act before the problem arises. This is still one of the easier problems to overcome when treating children since parents at all levels of the economic spectrum want the best for their offspring. Most of the parents in both practices have no problem paying out of pocket for additional fluoride varnish applications or sealants on primary teeth, which they see as a “fix” for their children’s high risk. However, it is hard to change behaviors and routines, and studies show that children and adults at the highest risk tend to remain at that level and develop further problems with traditional restorative treatment only. Sometimes adult patients are just not ready to make the lifestyle changes that will help them and their families be healthier.
To increase the likelihood of patient behavior change, use of a counseling approach such as motivational interviewing has been of great value in the general and pediatric dental practices described here, but the clinicians admit that “although you can lead a horse to water you can’t make it drink.” Studies on compliance with medication regimens show that nearly 20 percent of prescriptions are not filled and roughly one-half are taken incorrectly. In-office dispensing of home-care products and simple, clearly stated written directions for use will encourage proper utilization. In general, home regimens that require considerable patient attention will have worse compliance. Prioritizing recommendations to the few with the greatest impact is best. To enhance a patient’s knowledge of caries risk factors it would be advisable to provide a written copy of the patient’s caries assessment form, and where applicable, clinical intraoral photos of demineralized areas.

The aid of fluoride to overcome extreme caries risk only goes so far. With the limitations of the current chemotherapeutic agents available for use on young children, behavior modification techniques that have shown improved outcomes of health have become a crucial part of treatment. Sadly, these very effective but time-consuming procedures are not only never covered by traditional insurance plans, but also are services that parents are not receptive to pay for. Furthermore, it may take a long time to change this mentality. This barrier has been overcome by training all of the dental assistants and receptionists to do the bulk of the counseling, so then the hygienists and the doctors only have to reinforce the main points. Cross-training all auxiliary personnel into doing motivational interviewing and the concepts of the caries balance has the added benefit that patients’ backgrounds and/or styles can be matched with someone who can establish a better rapport with them. Patients can have any questions answered in the operatory, during the counseling session, or before they leave the front desk. Everyone in the staff is on the same page, and all information required is easily accessible in the caries risk assessment form. The auxiliaries, empowered with the knowledge they share with patients, many times members of their communities, realize the importance of their contribution to keeping patients healthy that gives them an added sense of achievement, which in term adds strength to the team.

Advantages Gained From a CAMBRA Practice

These practices are viewed as highly successful by all standards. In times of economic turmoil, patient volume has remained for the most part unchanged; total revenues have increased when most other practices report reductions in income; staff needs have grown when most other practices nearby have had staff reductions; and the referral base remains large and loyal, including former patients, general dentists, pediatricians, and other specialists for the pediatric practice. In the general practice, patient satisfaction is demonstrated with heartfelt acknowledgment, long-term

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advantaged patient population enrolled in government-funded insurance programs, such as Medicaid and CHIP, who typically present as high risk. Patients, and especially parents, are prepared to pay to prevent further decay and to improve their oral health of themselves and their children.

Conclusions

The general and pediatric practices described here join others (www.dentaquest.org) to illustrate how CAMBRA principles can be successfully established in private practice even with the current barriers, and that by starting very early in life, beginning at age 1, we have the potential to positively impact an individual's oral health into adulthood, and improve patient/provider satisfaction, economic viability of the dental practice, and, most importantly, the maintenance of oral health.46

References