January 1, 2016

Dear Valued Member,

I would like to thank you for your participation in the National Dental Practice-Based Research Network (National Dental PBRN). Your efforts and contributions have helped us to advance our research projects, as well as develop an enthusiastic and collegial membership.

The Network has grown tremendously in the past year to more than 6,300 members! In 2015, members contributed to the Network in many ways, including research, speaking engagements, and participation in quick polls. The “2015 by the Numbers” infographic shows a few highlights of the year.

This year, we hope that you will continue to participate in Network activities, and if possible, increase your involvement. See our idea sheet enclosed in this packet for suggestions.

An exciting new opportunity for collaboration is our online member forum. Use this members-only section of the National Dental PBRN website (NationalDentalPBRN.org) to connect virtually with your peers to share and discuss study results, new and upcoming studies, dentistry issues, and more. Sign up and store your login information on the password tracker included in your packet.

The Network succeeds and grows because of the support of members like you. Thank you for your continued involvement. We look forward to working with you in the years to come.

Best regards,

Gregg Gilbert, DDS, MBA, FAAHD, FICD
National Network Director and Regional Director
Welcome to the National Dental PBRN

Here’s a little more about the Network:

• Nearly 6,000 dental professionals¹ have enrolled in the Network, and new dental practitioners across the U.S. are joining every day.

• There are six regional coordinating centers with staff who will work with you to maximize your experience as a member.

• National Dental PBRN members have participated in a total of 26 studies. These studies led to 97 peer-reviewed publications that are in print, in press, or accepted.¹

• The Network is a collaborative body, and members are encouraged to connect with colleagues and work together.

You’ve joined the National Dental Practice-Based Network (National Dental PBRN), an effort in which dental professionals directly improve the efficiency and effectiveness of dental care. The Network’s research is conducted in the “real world” of daily clinical practice and has an impact on patient health outcomes and satisfaction.

Stay connected—join the member forum today!

Use this members-only section of the National Dental PBRN website to connect virtually with your peers across the Network to share and discuss study results, new and upcoming studies, dentistry issues, and more. Sign up and store your login information on the card included with this packet.

See reverse side to learn more about how you and your practice can participate in the Network.

¹As of March 2015
How will my practice and patients benefit from participating in the Network?

The benefits from participation are numerous for you and your patients. Members tell us that participating has allowed them to:

• Participate in research projects that are relevant to their practices
• Improve the quality of dental care by contributing to the scientific basis for important clinical procedures
• Enhance communication with patients by showing that they care about improving clinical practice
• See what is effective in their practices in comparison to other practices
• Engage practice staff members in the excitement of discovery, quality improvement, and team building
• Earn continuing education credits
• Become part of a community of learning and camaraderie

What are the requirements to participate?

You need Internet access and email at your office or home. Internet access will be an important part of the research process. There is no fee to enroll, and there is no membership fee.

What kinds of clinical studies will I be asked to do?

There are four main types of studies that may involve you and/or your patients: retrospective studies using dental records, observational studies of routine care activities, case-control studies, and clinical trials comparing alternative treatment strategies. See NationalDentalPBRN.org/Studies.php for details.

How much time will I have to commit when I participate in a study?

The amount of time needed for training and implementation will vary depending on the specific study. Our goal is to implement studies that can be easily integrated into your everyday practice routine. Contact your regional coordinators for more information on the studies that interest you.

Are there different ways to participate in the Network besides doing clinical studies?

Yes. You can be involved in many other areas of the Network, including leadership, recruitment of new members, presentations, manuscript preparation, study design, and the dissemination of research results.

Contact your regional coordinator to find out how you can become engaged in the Network.
Participate in a study.

Our practice-based research studies are the cornerstone of the Network. If you have not done so already, consider our open and upcoming studies and choose one that interests you and your practice. There may be training and implementation time required to participate. Once you implement the study in your practice, you will receive renumeration for the time it takes to consent patients and complete data collection forms. You will need to be a full member to participate in a clinical study. Contact your regional coordinator to upgrade your membership, at no cost to you, and get more information on available studies. Check out our video describing how a study is conducted in a typical dental office. Scan the QR code below with your phone or other hand-held device to view the video.

Join the member forum.

The newly-launched members-only forum, a virtual platform for sharing information among colleagues, is a good way for you to connect directly with members in your region and across the nation. Visit NationalDentalPBRN.org/Forums to sign up.

Respond to a quick poll.

We field quick polls monthly to better understand the practices, attitudes, and needs of our membership. Respond to the next poll to ensure that your voice is heard. Each poll takes approximately 1-2 minutes to complete. Check back when the results are in to see how your colleagues responded.

Join the speaker’s bureau.

We look to our members to promote the Network to other dental practitioners who are passionate about research. There are several promotional materials available at NationalDentalPBRN.org/Resources.php. When giving dental presentations, speaking at conferences, or during informal conversations with colleagues, consider sharing your experiences in the Network and encouraging others to join.
Randy Harvell, DMD

I have been a member of the Network for a number of years and have always found the open interaction with other practitioners to be one of the best parts of the annual meetings. Although I covet the information garnered by the studies and presentation of the results, I find that I learn a lot from just hearing the open and honest experiences and observations of individual practitioners.

Jennifer Guidoni, RDH

As a full time hygienist of a busy practice, I thought the participation in the studies would interrupt the normal course of the dental office. I was pleasantly surprised when I found out how easy these studies were. By participating as a researcher, I have witnessed a rejuvenation of my own efforts in the practice; being a hygienist for 27 years, you tend to need inspiration at times. This form of practice-based research has continued to encourage me to practice at the highest level achievable with each and every patient as it may ultimately influence others.

Gerald A. Anderson, DMD

I completed the study “Reasons for placing the first restoration on permanent tooth surfaces” on restorative materials and was interested with what I learned about the types of materials I placed. It gave me great insight into how and where I used certain materials and an overall view of what I was doing. My patients were very interested in what I was doing and loved the fact that I was involved with cutting edge research. The training that our office received before beginning the study made everything go so smoothly. I also attended the annual meeting in Birmingham and was so inspired to continue with this practice network to affect dental research first hand. This has been an opportunity that has greatly impacted not only my patients and staff but also my daily practice of dentistry.
As engaged practitioner-researchers, your participation in studies have contributed greatly to the success of the Network. Many of you have described how the study implementation process has been beneficial for you and your practices. In recruiting other practitioners to join the Network, feedback from enthusiastic experienced members is influential. Our new speaker’s bureau materials can assist you in giving a formal presentation or having an informal conversation to promote the Network to your colleagues.

**MISSION STATEMENT**

The National Dental Practice-Based Research Network speaker’s bureau educates peers in the dental profession about membership in and the value of the Network. Members who choose to be a part of the speaker’s bureau enter into these discussions prepared to disseminate accurate information, answer questions, and to introduce dental professionals to a Network designed to gather real world evidence.

Join the Speaker’s Bureau

**MISSION STATEMENT**

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Find these materials online and available for download at [http://nationaldentalpbrn.org/speaker-resources.php](http://nationaldentalpbrn.org/speaker-resources.php).

Sharing a personal story about your experience as a member is a great way to demonstrate your passion for the Network. Refer interested colleagues to their regional coordinator if they have questions or are ready to enroll.

**We appreciate your commitment to spreading the word about the Network!**
When I was first introduced to the Network as a dental student, I didn’t know at what level I’d be able to functionally participate. I liked the idea of evidence-based dentistry that translates directly into clinical practice. However, without any experience in the real world, I didn’t know how much time and effort I’d have to commit.

I started as an informational member; however, I quickly learned that there is greater benefit to being a full member and updated my profile. You can be as involved as you want to be. You do not have to worry about being bombarded with too much information or being asked to participate beyond your availability. Full membership is just a way to listen to what the Network has to say, as well as contribute and give back when you can.
Several Network studies are currently underway. If you and your practice are interested in participating, we encourage you to learn about trainings and other requirements for participation at NationalDentalPBRN.org/Training.php. Here is a snapshot of the Network studies that are recruiting participants at this time.

Factors for Successful Crowns—Part 2
- **Scope:** A 3-month, in-office study to analyze dentist and clinical variables to find predictors for crown success.
- **Participation:** 200 practitioners enroll 20 patients each needing single-unit crowns. Data from dental laboratories will also be collected in the clinical study to determine the prevalence of acceptable impressions, crown preparations and jaw relation records sent to labs for crown fabrication.
- **Goal:** Identify risk factors for crowns that have to be re-made. Estimate the percentage of single-unit crowns deemed acceptable by the practitioners and identify techniques associated with crown success.

A Pilot Study to Evaluate Feasibility and Acceptance of Oral HPV Detection in the National Dental PBRN
- **Scope:** A 6-month, in-office study gathering oral rinse specimens.
- **Participation:** 40 practitioners enroll 25-30 patients each (1000-1200 patients total)
- **Goal:** Assess the proportion of study population with an oral high-risk HPV infection.

Anterior Openbite (AOB) Malocclusion in Adults: Recommendations, Treatment, and Stability
- **Scope:** A 3.5-year observational cohort study
- **Participation:** 210 practitioners enroll approximately 840 adult patients in active orthodontic treatment for AOB, who expect to have treatment completed within 24 months of enrollment into the study.

- **Goals:** Assess the proportion of patients 1) treated successfully (determined at the end of active treatment, and 2) whose treatment is stable (determined at one year post-active treatment).

Leveraging Electronic Dental Record (EDR) Data for Clinical Research
- **Scope:** A 1-year proof-of-concept retrospective cohort study
- **Participation:** 100 practitioners who placed at least 1 posterior composite restoration (PCR) on at least 100 patients or performed at least one root canal treatment (RCT) on at least 50 patients.
- **Goals:** Explore the extent to which EDR data can be used to assess 1) PCR longevity, and 2) tooth loss following RCT (regardless of where the tooth received dental restorations following RCT or not).

The following studies are planned to start during 2016. We are not yet recruiting participants, but we will post updated information online and in our monthly newsletter.
- Common practices of head and neck cancer examinations
- Management of TMJD pain patients
- Predicting outcomes of root canal therapy
- Knowledge Networks

If you have questions about a study, contact NationalDPBRN@uab.edu or reach out directly to your regional coordinator.
Questions? Ask your Regional Coordinator!

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January 2016
To our current members:
Dedicated and enthusiastic members are essential to making the Network and its vision successful. Please refer a colleague or friend to the Network to help build a diverse and progressive group. Encourage them to use the card below and find out more!

To prospective members:
To express interest in the Network, fill out this card and mail it to us. A coordinator in your region will contact you with general information.

Name ____________________________________________
Practice ____________________________________________
Address ___________________________________________ Suite __________
City _____________________________ State _______ Zip __________
Phone ____________________________________________
Email ____________________________________________

We like to recognize our members who spread the word to colleagues. Let us know who referred you to the Network in the space below.

Name of referring member ________________________________________

Fold the card in half and seal it before mailing. Use this label.
The National Dental Practice-Based Research Network
c/o Westat
1600 Research Boulevard
Rockville, Maryland 20850-9973
Lessons Learned During the Conduct of Clinical Studies in the Dental PBRN

This article discusses the 23 main substantive and methodologic lessons learned by the Dental Practice-Based Research Network (DPBRN) as it conducted its studies in the 2005–2012 funding cycle. DPBRN demonstrated that large numbers of practitioners and patients can be enrolled in PBRN studies (more than 70,000 participant units); from a broad range of practice types; for a broad range of study topics, enrollments sizes, and study designs. They found that patient acceptance is high and that practitioners can be effectively engaged at every step of the research process (from idea generation, to data collection, to presentation of results, to incorporation of DPBRN evidence into daily clinical practice). With its studies that have had to do with overlaps between dentistry and medicine (a total of five studies about smoking cessation, bisphosphonate-associated osteonecrosis of the jaw, and diabetes screening topics), DPBRN demonstrated that it can utilize its large existing infrastructure to quickly evaluate emerging health problems and to conduct research on topics that are of interest to oral health and systemic disease.

As of March 2014, the National Dental PBRN completed a total of 26 studies. These studies led to 97 peer-reviewed publications that are in print, in press, or accepted.

Citation:

PEARL Non-carious Cervical Lesion RCT Baseline and Sleep Bruxism Findings

This study is the longest duration hypersensitivity study conducted to date. The study design provides an answer to a clinical question of what is the best treatment option for non-carious cervical lesions. This three arm study compared the use of an FDA approved dentinﬁce containing potassium nitrate, against placement of a sealant, and resin based composite. Additionally, during the recall visits impressions were taken of the lesions to assess the integrity of the treatments and subjected to scanning electron microscope evaluation. This study was the first randomized controlled study conducted in a dental PBRN with patients randomized in the practitioner’s ofﬁce and demonstrated an extraordinary level of practitioner and patient compliance (97 percent), well above industry standards. The PEARL Network found that the use of a sealant, a dentin bonding agent followed resin based composite restoration signiﬁcantly lowered both calibrated air blast and patient reported sensitivity compared to the reduction achieved with a potassium nitrate dentinece all recalls through the 6 months of the study. Laboratory evaluation of follow-up impressions of the lesion and restorations indicated that open dentinal tubules may not correlate with patient sensitivity.

View the International Association for Dental Research abstract online by scanning the QR code (right) with your phone or other hand-held device.

Longitudinal Study of Questionable Occlusal Caries Lesions

**Background:** A questionable occlusal caries (QOC) lesion can be deﬁned as an occlusal surface with no radiographic evidence of caries, but caries is suspected because of clinical appearance. Although the progression of cavitated dental caries has slowed dramatically over the years, the prevalence of precavitated lesions has signiﬁcantly increased; therefore, diagnosing and following these lesions has become an important part of daily clinical practice. There has been some debate on the best way to manage and treat these small lesions long-term. Some clinicians believe it is best to perform operative treatment and conserve tooth structure; whereas, other clinicians believe in managing it with preventive treatment, allowing the lesion the potential to remineralize or arrest over time. Limited literature is available for these “questionable” lesions and the reasons behind why clinicians are having difﬁculty diagnosing and treating them.

**Objectives:** The aims of this study were to 1) for unopened questionable occlusal carious lesions, to test the hypothesis that the baseline clinical characteristics are signiﬁcantly associated with change in caries status; and 2) for opened questionable occlusal carious lesions, to test the hypothesis that the clinical characteristics at baseline are signiﬁcantly associated with caries depth.

**Methods:** Fifty-three clinicians from The National Dental Practice-Based Research Network participated in this study, recording lesion characteristics at baseline and lesion status at 20 months.

**Results:** At baseline, 1,341 QOC lesions were examined; the treatment that was planned for 1,033 of those at baseline was monitoring (oral hygiene instruction, applying or prescribing ﬂuoride or varnish, or both), and the remaining 308 received a sealant (n = 192) or invasive therapy (n = 116). At the 20-month visit, clinicians continued to monitor 927 (90 percent) of the 1,033 monitored lesions. Clinicians decided to seal 61 (6 percent) of the 1,033 lesions (mean follow-up, 19 months) and invasively treat 45 (4 percent) of them (mean follow-up, 15 months). Young patient age (< 18 years) (odds ratio = 3.4; 95 percent conﬁdence interval, 1.7-6.8) and the lesion’s being on a molar (odds ratio = 1.8; 95 percent conﬁdence interval, 1.3-2.6) were associated with the clinician’s deciding at some point after follow-up to seal the lesion or treat it invasively.

**Conclusions:** Almost all (90 percent) QOC lesions for which the treatment plan at baseline was monitoring still were planned to undergo monitoring after 20 months. This ﬁnding suggests that noninvasive management was appropriate for these lesions.
**Assessing Outcomes of Cracked Teeth**

**Objectives:** Cracked tooth syndrome (CTS) is a term applied to a presumptive diagnosis of incomplete tooth fracture that typically presents with consistent symptoms of pain to biting and temperature stimuli, especially cold. The purposes of this cracked tooth study were 1) to identify risk factors for predicting adverse outcomes in both symptomatic and asymptomatic cracked teeth; and 2) to evaluate outcomes of common treatments for symptomatic and asymptomatic cracked teeth.

**Methods:** Practices were asked to assess for the presence of cracks in randomly selected subjects starting with randomly selected posterior teeth. Teeth were assessed via visual examination, magnification, tactile perception, and transillumination. To be included, a crack had to be detectable under magnification. Various patient-, tooth-, and crack-level criteria were assessed, along with treatment recommendations. The goal for each practice was to enroll 12 asymptomatic and 8 symptomatic cracked teeth and follow them for a minimum of 1 year. To aid in subject enrollment, practices could enroll any subject with a symptomatic cracked tooth that met inclusion criteria.

**Results:** Thirty-six practices in Northwest PRECEDENT evaluated 634 subjects with either symptomatic or asymptomatic cracked teeth. Among 400 randomly selected subjects, 70 percent had at least one posterior cracked tooth, emphasizing how ubiquitous this condition was. In fact, one of the practitioners participating in this study noted, “This is a very important study. Just participating in it has changed the way I think and practice.” In addition, 93 percent of these teeth were asymptomatic, which provided a diagnostic and treatment problem for the dentist. A “watch and wait” approach must be used with caution, since 27 percent of cracked teeth showed at least one component of crack progression (e.g., length, depth, staining, direction, number of cracked surfaces, total number of cracks, periodontal pocket formation) in just 1 year.

**Conclusions:** From analysis of preliminary data, closer examination of the characteristics of cracked teeth revealed that teeth with multiple cracks on multiple surfaces, and the presence of a restoration in the tooth of a younger (18–60 year old) individual may help the dentist predict if the tooth is more likely to become symptomatic. Fortunately, most cracked teeth were recommended for restorative treatment (92–95 percent of the time), resulting in less need for more invasive treatment (endodontic therapy, extraction).

**Further Research:** This study led to the formation of a new study, the Cracked Tooth Registry, which is a prospective, observational 3–4-year cohort study of both symptomatic and asymptomatic cracked teeth in 3,000 patients ages 19–85 from 150–300 National Dental PBRN practices.

**Citations:**

**Remineralization of White Spot Lesions After Removal of Orthodontic Brackets**

**Objectives:** White spot lesions (WSL) on teeth are a common sequela of orthodontic therapy, and can present a significant aesthetic compromise. We present preliminary data from a single-blinded randomized trial designed to assess the effectiveness of two agents commonly used to ameliorate WSL.

**Methods:** Patients aged 12 to 20 were recruited from offices of orthodontists who belonged to Northwest PRECEDENT. Patients had their orthodontic appliances removed less than 12 months from the time of enrollment, and had at least one WSL on their maxillary incisors. Photographs were taken at enrollment, after which subjects were randomized to one of three arms: 1) a single application of Prevident fluoride varnish (VF), 2) 8-week regimen of MI Paste Plus (MII), or 3) no active agent (control). All patients received routine home care instructions and non-prescription fluoride toothpaste. Eight weeks after enrollment, the patients were recalled for follow-up photographs. Before-and-after pairs of photographs were assessed by a panel of five dental professionals and a panel of five lay people. The judges were asked to assess percent improvement of the WSL using a visual analog scale. Self-assessment of improvement was also obtained.

**Results:** Of the 102 subjects, 36 received VF, 30 received MII, and 36 received no active treatment. The mean improvements assessed by the professional panel were 28 percent, 21 percent, and 30 percent in the VF, MII, and control groups, respectively. Results from the lay panel were 32 percent, 30 percent, and 27 percent, respectively. These rates were not significantly different in either panel of judges. Self-assessment of improvement was 38 percent, 37 percent, and 38 percent, respectively, indicating no significant difference among subjects in the three groups.

**Conclusions:** In this study, preliminary data indicated that neither Prevident varnish nor MI Paste Plus are more effective than normal home care over an 8-week period.

**Citation:**
Visit the National Dental PBRN’s member forum at NationalDentalPBRN.org/Forums

Keep your user ID and password on the back of this card. Store in a safe place!