

University of Pittsburgh

Dissemination and Implementation – Routine Practice

Presenter:
Heiko Spallek, DMD, PhD, MSBA(CIS)



School of Dental Medicine



Dissemination and Implementation – Routine Practice @DQA, 2015

Agenda

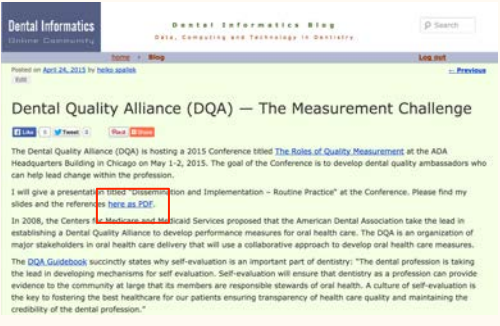
1. Find information
2. Disseminate information

<http://bit.ly/Spallek-DQA>



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<http://bit.ly/Spallek-DQA>



Dental Informatics
Dental Community

Posted on April 26, 2015 by heiko.spallek

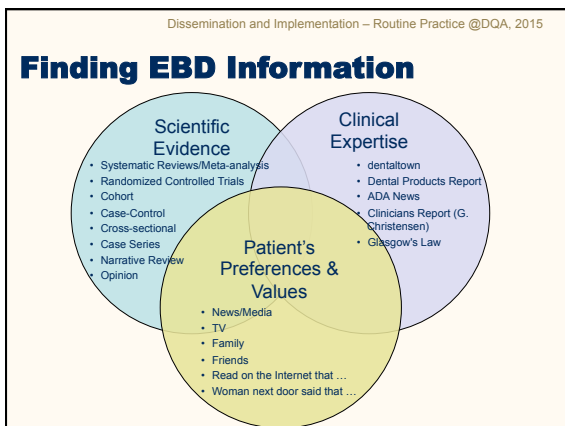
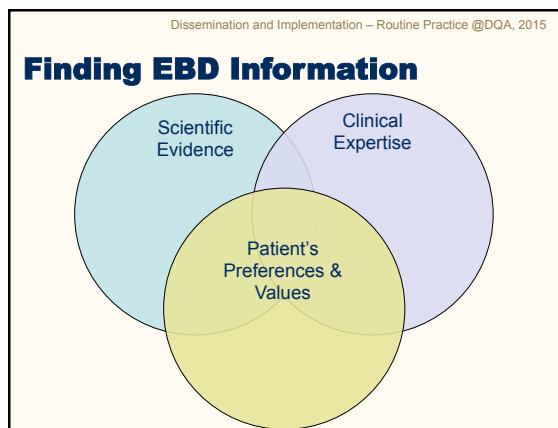
Dental Quality Alliance (DQA) – The Measurement Challenge

The Dental Quality Alliance (DQA) is having a 2015 Conference titled *The Rules of Quality Measurement* at the ADA Headquarters Building in Chicago on May 1-2, 2015. The goal of the Conference is to develop dental quality ambassadors who can help lead change within the profession.

I will give a presentation titled "Dissemination and Implementation – Routine Practice" at the Conference. Please find my slides and the references [here as PDF](#).

In 2008, the Centers for Medicare and Medicaid Services proposed that the American Dental Association take the lead in establishing a Dental Quality Alliance to develop performance measures for oral health care. The DQA is an organization of major stakeholders in oral health care delivery that will use a collaborative approach to develop oral health care measures.

The *DQA Guidebook* succinctly states why self-evaluation is an important part of dentistry: "The dental profession is taking the lead in developing mechanisms for self-evaluation. Self-evaluation will ensure that dentistry as a profession can provide evidence to the community at large that its members are responsible stewards of oral health. A culture of self-evaluation is the key to fostering the best healthcare for our patients ensuring transparency of health care quality and maintaining the credibility of the dental profession."



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Glasgow's Law

"one half-cooked observation by myself is worth more than five randomized, controlled studies in the literature"


from a book review of "Practical aspects of antibiotic review" by Calvin M. Kunin, 1979

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Eminence-based Information

Storytelling is the individual account of an event to create a memorable picture in the mind of the listener.

Kirkpatrick, 2007



1902 by E. Irving Couse, A. N. A.; The Historian (in the public domain)

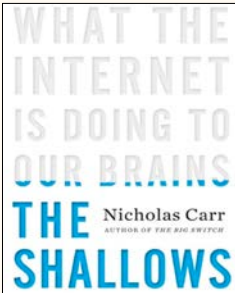
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Our Brains

Nicholas Carr:
“Is Google Making Us Stupid?”

Serious thought gives way to skimming and multitasking.

Thanks to Google and Mapquest, the human brain will completely atrophy by 2018. (Andy Borowitz)




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How do we find good information?

Joe McNally
shot cover stories for TIME, Newsweek, Fortune, New York, Entertainment Weekly, The New York Times, Sports Illustrated, LIFE, National Geographic

“if you want your pictures to be better, stand in front of more interesting stuff”



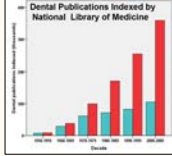
© 2006, Heiko Spallek

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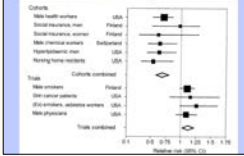
Information Overload

voluminous & ambiguous

1) There is just toooooo much to read!



Beta-carotene & cardiovascular mortality

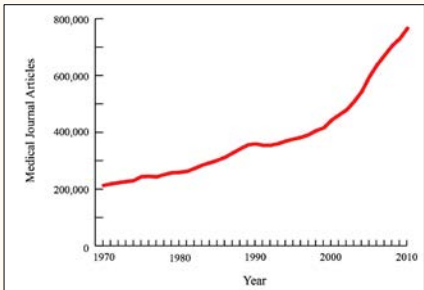


John Rugh, University of Texas HSC, San Antonio
EBD Champions Conference, 2013

Elliot Abt, Advocate Illinois Masonic Medical Center
EBD Champions Conference, 2013

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Information Overload



Institute of Medicine report
Best Care at Lower Cost: The Path to Continuously Learning Health Care in America

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Information Overload?

“there is no such thing as information overload, there's only a filter failure”


“Interview with Clay Shirky, Part I,” Columbia Journalism Rev., 19 Dec. 2008

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Old Paradigms

There's a lot of information out there


- "Caries Research" has been published monthly for over forty years
- Caries is the most prevalent disease in the world
- *S. mutans* is the second most popular organism in all of the scientific literature



Brian Novy, DDS, FADI
EBD Champions Conference, 2013

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Old Paradigms




Jane Forrest, USC
EBD Champions Conference, 2013

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Old Paradigms

Keeping up with the literature



Elliot Abt, Advocate Illinois Masonic Medical Center
EBD Champions Conference, 2013

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Old Paradigms




Jane Gillette, Sprout Oral Health
EBD Champions Conference, 2013

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Old Paradigms

C = Candor
H = Honesty
A = Accountability
I = Information Quality
N = Neighborly


T = Timeliness
R = Relevant
U = Unbiased
S = Scope
T = Trustworthy



Chain of Trust > Level of Evidence
© 2006, P. F. Anderson

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Sorting Evidence into Types




SEARCH THE ANSWER FOR YOUR QUESTION
Search in your own language, or in English. As easy as searching in Google.

INFORMATION IN YOUR OWN LANGUAGE
We are different from any other site, since all the information is translated in all languages.

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Sorting Evidence into Types




WIDE COVERAGE AND RELIABILITY
Epistemonikos gathers information from multiple sources, using transparent methods.

RELATED EVIDENCE
Epistemonikos can suggest related evidence with more precision than any other resource.

PROFESSIONAL TEAM
We are supported by multiple experts that help us deliver accurate information always.

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Sorting Evidence into Types



etching and "enamel decalcification"

etching and "enamel decalcification"

Advanced search

Filter results Results: 1-10 of 48

By classification
All
Systematic Reviews (5)
Structured Summaries (37)
Primary Studies (0)

By year
All
Last year
Last 5 years
Last 10 years
Custom range

Primary Study
Effects of sealant and self-etching primer on enamel decalcification. Part II: an in-vivo study.
AUTHORS: Ghis MA, Ngeen P, Klotz E, Martin G, Curjel E
JOURNALS: American journal of orthodontics and dental facial orthopedics : official publication of the American Association of Orthodontists, its constituent societies, and the American Board of Orthodontics
YEAR: 2009
LINKS: PubMed, Publisher Site
This article is included in 1 Systematic Review

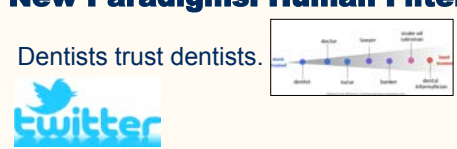
Weak evidence suggests higher risk for bracket bonding failure with self-etch primer compared to conventional acid etch over 12 months.
AUTHORS: Elshalem A, Ouda N
JOURNALS: Evidence-based dentistry
YEAR: 2013
LINKS: PubMed, Publisher Site

Acid etching of human enamel in clinical applications: A systematic review.
AUTHORS: Zhu JJ, Tang AT, Matsumoto JP, Hogg U
JOURNALS: The Journal of prosthetic dentistry
YEAR: 2014
LINKS: PubMed, Publisher Site

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New Paradigms: Human Filters

Dentists trust dentists.



- free micro-blogging, remarkably simple
- messages = tweets: < 140 characters
- include links to blogs, articles, web pages, images, videos
- anytime; from computer, smart phone or tablet

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New Paradigms: Human Filters

Can anything of professional value ever be said in just 140 characters?

- Web 2.0: undeniably change how we share & distribute information
- 2 more Twitter features:
 - hashtags (#) allow for grouping of related posts
 - Follow:
 - experts in your field
 - medical bloggers
 - medical journalists
 - colleagues

ADA American Dental Association
America's leading advocate for oral health

www.ada.org American Dental Association American Dental Association

American Dental Association Dentists Tweet Tooth Tips for National Children's Dental Health Month

PHI 10K 24, 2012 10:48 EST

Sharecare Hosts "Chat-a-Change: Kid's Dental Health," Feb. 24, noon-2 p.m. Eastern Time
CHICAGO, FEB. 24, 2012 - In celebration of National Children's Dental Health Month, dentists from the American Dental Association will be participating in a Twitter chat on Feb. 24, 2012, at 12:00 p.m. Eastern Time.

How to join the chat

To join the chat, search Twitter using the hashtag #CavityFightrs and bring up all tweets containing this hashtag, including questions, answers, retweets, mentions and promotional tweets. All tweets need to have the #CavityFightrs hashtag so participants will easily be able to identify the tweet as part of the Twitter chat. If you do not have a Twitter account, you can create one at www.twitter.com.

"An infant's teeth are valuable and need as much attention as adult teeth," said Dr. Sherman, who practices in Augusta, Ga. "Parents should visit their dentist no later than their first birthday. It's a health insurance plan of a child."

#cdaANA

- example for hashtags (#) in right column
- Conference for the California Dental Association in Anaheim
- Tweetdeck = Twitter application: left column for own tweets

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If Michelangelo had Twitter, the Sistine Chapel ceiling would still be white.
(Andy Borowitz)

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Global Societal Struggle

“We are now witnessing a global societal struggle to assure universal delivery of our know-how. We in medicine, however, have been slow to grasp why this is such a struggle, or how the volume of discovery has changed our work and responsibilities.”

Atul Gawande, 2011 commencement address at Harvard Medical School

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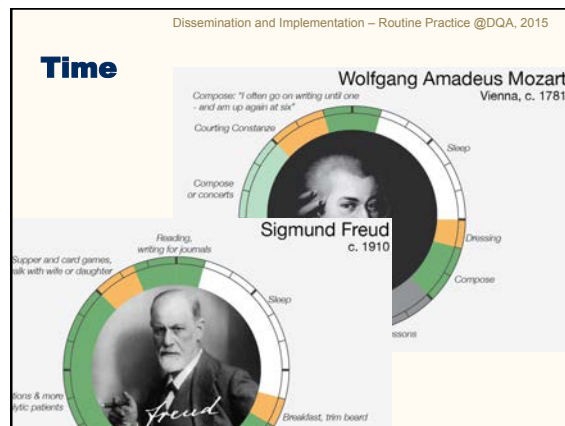
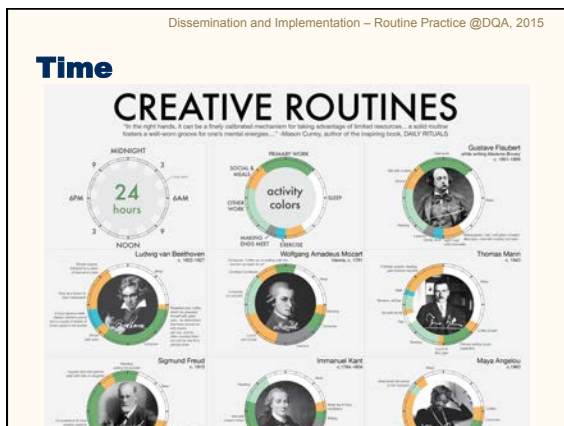
Barriers to Dissemination

Time, Resources, Tools

Trends

- **Longer-term Results on Impact of EBD**
 - >70% in 2008; >86% in 2010-2012
 - Quality of patient care
 - My knowledge
 - My treatment decisions
 - Advancement of science of dentistry
 - Continuing Education
- **Longer-term Results on Implementation**
 - 88% of respondents are implementing EBD/98% in 2010
 - Barriers to implementation
 - Time
 - Resources – can I find an answer to my question?
 - Tools to disseminate EBD

J. Leslie Winston, DDS, PhD
Procter & Gamble Oral Health
EBD Champions Conference, 2013



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Barrier: Resources

"What ultimately makes the difference is how well people use technology. We have devoted drastically little attention to fostering those abilities."

Atul Gawande: Top athletes and singers have coaches. *The New Yorker*, 10/3/2011

The screenshot shows the title page of a journal article. The title is "Paradigm Shift or Annoying Distraction" from the journal *Applied Clinical Informatics*. The authors listed are H. Spallek, J. O'Donnell, M. Clayton, P. Anderson, and A. Krueger. The article is categorized as a "Case Report".

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Barrier: Tools to Disseminate EBD

Dissemination:

The active and targeted distribution of information and interventions to a specific public health or clinical practice audience via determined channels using planned strategies. The intent is to spread knowledge and the associated evidence-based interventions in order to **enhance the adoption and the implementation of the information and/ or intervention.** (NIH)

Implementation

Research: A Synthesis of the Literature

The book cover features the title "Implementation Research: A Synthesis of the Literature" and lists the authors: Susan L. Rosen, Sarah A. Rosen, and Karen A. Rose. The cover art shows a group of people in a meeting.

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Knowledge alone is insufficient.

Sealants and dental caries

Insight into dentists' behaviors regarding implementation of clinical practice recommendations

Jean A. O'Donnell, DMD, MSN; Adriana Modesto, DDS, MS, PhD, DMD; Marnie Oakley, DMD; Deborah E. Polk, PhD; Benita Valappil, MPH; Heiko Spallek, DMD, PhD, MSBA

The topic of evidence-based (EB) dentistry has been in the spotlight with regard to the American Dental Association's (ADA) clinical recommendations for the use of pit-and-fissure sealants in the treatment of noncavitated carious lesions. Tellez and colleagues¹ conducted a study, the results of which showed that less than 40 percent of practicing dentists surveyed followed the ADA's recommendations to seal non-cavitated carious lesions in children, adolescents and adults.¹ The study elicited a strong reaction from readers of *The Journal of the American Dental Association*.² In a guest

ABSTRACT

Background. The authors conducted a qualitative study of private-practice dentists in their offices by using vignette-based interviews to assess barriers to the use of evidence-based clinical recommendations in the treatment of noncavitated carious lesions.

Methods. The authors recruited 22 dentists as a convenience sample and pre-announced interviews to assess barriers to the use of evidence-based clinical recommendations in the treatment of noncavitated carious lesions.

Results. The authors articulated the barriers to the use of evidence-based clinical recommendations with the American Dental Association's (ADA) clinical recommendations to seal non-cavitated carious lesions in children, adolescents and adults.¹ The study elicited a strong reaction from readers of *The Journal of the American Dental Association*.² In a guest

"... knowledge alone was insufficient to create changes in practice behavior..."

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"... colleagues were an important source of information..."

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Peer influence!

- change in provider behavior through peer influence:
Dr. Partha Mukherji
- pilot study supported by NIDCR
Implementing Research Findings and Evidence-based Interventions into Real-World Dental Practice Settings (1R21DE021494-01)
- next stage: large cluster RCT
compare the effectiveness of complex, social interventions involving technology-enabled, peer-to-peer coaching



Partha Mukherji DDS, FAGD

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Understanding Dissemination

1. Technology to overcome professional isolation
2. Story telling techniques to persuade.

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Peer influence!

- story telling for dissemination
- behavior change through peer influence, social norms, peer pressure



1922 by E. Irving Cowie, A. N. A.: The Wintona (in the public domain) shared by Holo Spallek

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Peer influence!

"Each time, those who espouse only evidence—without narratives about real people—struggle to control the debate. Typically, they lose."

Meisel, Z. F., & Karlawish, J. (2011). Narrative vs evidence-based medicine—and, not or. *JAMA*, 306(1538-3598, 2022–2023).



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- Rich Oravetz, MS
- Deborah E. Polk, PhD
- Titus Schleyer, DMD, PhD
- Mei Song, PhD
- Thankam Thyvalikakath, MDS, MS, PhD
- Benita Valappil, MPH
- Adriana Modesto Vieira, DDS, MS, PhD
- Robert Weyant, MS, DMD, DrPH
- Amit Acharya, BDS, PhD
- many more...





<http://bit.ly/Spallek-DQA>

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Q/A or Break?

The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it.

M. Weiser, The Computer for the 21st Century. *Scientific American* 1991; 265 (3): 94-101.



<http://bit.ly/Spallek-DQA>

References

The Beginner's Guide to Twitter

<http://mashable.com/2012/06/05/twitter-for-beginners/>

Using Twitter in University research, teaching, and impact activities

<http://eprints.lse.ac.uk/38489/>

Hashtag Example

<http://news.cision.com/american-dental-association/t/american-dental-association-dentists-tweet-tooth-tips-for-national-children-s-dental-health-month,c9224609>

Implementation Research: A Synthesis of the Literature

<http://ctndisseminationlibrary.org/PDF/nirnmonograph.pdf>

Glakow's Law

<http://www.jstor.org/discover/10.2307/30143798?uid=3739864&uid=2&uid=4&uid=3739256&sid=21106175626691>

The Shallows

<http://www.amazon.com/The-Shallows-Internet-Doing-Brains/dp/0393072223?tag=viglink125418-20>

Is Google making us stupid?

<http://www.theatlantic.com/magazine/archive/2008/07/is-google-making-us-stupid/306868/>

Interview wit Clay Shirky Part I

http://www.cjr.org/overload/interview_with_clay_shirky_par.php?page=all

Personal Storytelling

<http://www.iriss.org.uk/resources/role-personal-storytelling-practice>

The Chain of Trust/Level of Experience

<http://www-personal.umich.edu/~pfa/pro/courses/>

The Case for New Physician Literacies in the Digital Age

<http://33charts.com/2012/09/new-physician-literacies.html>

About TweetDeck

<https://about.twitter.com/products/tweetdeck>

Paradigm Shift or Annoying Distraction Emerging Implications of Web 2.0 for Clinical Practice

<http://aci.schattauer.de/en/contents/archive/issue/1062/manuscript/12955.html>

Comparison of e-mail communication skills among first- and fourth-year dental students.

<http://www.ncbi.nlm.nih.gov/pubmed/24192406>

Social media in dental education: a call for research and action

<http://www.ncbi.nlm.nih.gov/pubmed/22383595>

Sealants and dental carries: insight into dentists' behaviors regarding implementation of clinical practice recommendations

<http://www.ncbi.nlm.nih.gov/pubmed/23543700>

Narrative vs Evidence based Medicine-And, Not Or

<http://jama.jamanetwork.com/article.aspx?articleid=1104599>

Implementation Research Findings and Evidence-based interventions into Real-World dental practice settings

http://projectreporter.nih.gov/project_info_description.cfm?aid=8333257

The Historian

[http://commons.wikimedia.org/wiki/File:The_Historian_\(The_How_and_Why_Library\).jpg](http://commons.wikimedia.org/wiki/File:The_Historian_(The_How_and_Why_Library).jpg)

Here's How The Worlds Most Brilliant People Scheduled Their Days

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Best Care at Lower Cost: The Path to Continuously Learning Health Care in America

<http://www.iom.edu/Reports/2012/Best-Care-at-Lower-Cost-The-Path-to-Continuously-Learning-Health-Care-in-America.aspx>