THE CROCODILE'S TOOTHACHE

The Crocodile
Went to the dentist
And sat down in the chair,
And the dentist said, "Now tell me, sir,
Why does it hurt and where?"
And the Crocodile said, "I'll tell you the truth,
I have a terrible ache in my tooth."
And he opened his jaws so wide, so wide,
That the dentist, he climbed right inside,
And the dentist laughed, "Oh isn't this fun?"
As he pulled the teeth out, one by one.
And the Crocodile cried, "You're hurting me so!
Please put down your pliers and let me go."
But the dentist just laughed with a Ho Ho Ho,
And he said, "I still have twelve to go—
Oops, that's the wrong one, I confess,
But what's one crocodile's tooth, more or less?"
Then suddenly, the jaws went SNAP,
And the dentist was gone, right off the map,
And where he went one could only guess . . .
To North or South or East or West . . .
He left no forwarding address.
But what's one dentist, more or less?
A New Paradigm for Oral Health

“The future is where our greatest leverage is.”

Paradigms, the Business of Discovering the Future, Joel Arthur Barker
Welcome and Introductions
What questions would you like to leave here with today?

Nothing tastes as good as being thin feels”
Elizabeth Berg, The Day I Ate Whatever I Wanted: And Other Small Acts of Liberation

R. Mike Shirtcliff DMD President/CEO
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Advantage Dental Overview

Founded in 1994 by a group of dentists concerned with lack of dental care in rural Oregon.

- **Mission:** To provide dental leadership, service and access to care for our communities in a professional, entrepreneurial, and sustainable manner.

- **Commitment:** Do everything possible to ensure that no member of any community Advantage serves suffers the ravage of tooth decay or suffers from dental caused pain which inhibits their daily life.
Advantage Dental
Commercial Contracted Provider Locations

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“A difficult dilemma confronts us when we consider the topic of will, discussion, and responsibility in relation to health. The dilemma is that the new scientific discoveries and techniques for curing people, within the physical and psychological spheres, tend to take away the patient's responsibility, make him or her an object of cure; whereas health in its deeper and authentic sense can come only with the growth of the sense of responsibility on the part of the patient.”

(Unknown)

“Aid, by its very nature will flow toward the problems rather than toward opportunities. It will go where the needs are greatest rather than where the results are. It will, therefore, tend to create, or at least, perpetuate dependence … Reliance on aid also encourages diversion of scarce resources to the wrong projects whose developmental impact is minimal.”

~ Robert Barkley, DDS

Successful Dental Practices Published by Yeast Offset Printing in 1972

“...What do I believe is impossible to do in my field but, if it could be done, would fundamentally change my business?”

- Paradigms, The Business of Discovering the Future

Joel Arthur Barker
The Triple Aim: Care, Health, And Cost

The remaining barriers to integrated care are not technical; they are political.

by Donald M. Berwick, Thomas W. Nolan, and John Whittington

ABSTRACT: Improving the U.S. health care system requires simultaneous pursuit of three aims: improving the experience of care, improving the health of populations, and reducing per capita costs of health care. Preconditions for this include the enrollment of an identified population, a commitment to universality for its members, and the existence of an organization (an “integrator”) that accepts responsibility for all three aims for that population. The integrator’s role includes at least five components: partnership with individuals and families, redesign of primary care, population health management, financial management, and macro system integration. [Health Affairs 27, no. 3 (2008): 759–769; 10.1377/hlthaff.27.3.759]
Changing Paradigms

“You can and should shape your own future. Because if you don’t, someone else surely will.”

“A paradigm is a set of rules and regulations (written and unwritten) that does two things: 1) it establishes or defines boundaries; and 2) it tells you how to behave inside the boundaries in order to be successful.”
“And sooner or later, every paradigm begins to develop a very special set of problems that everyone in the field wants to be able to solve and no one has a clue as to how to do it.”

Paradigms, the Business of Discovering the Future, Joel Arthur Barker

Old Paradigm

Restorative/Replacement to Oral Health Paradigm
To a World where a filling is a failed outcome
Output to Outcomes
Philosophy of Care

Philosophy and Goals
- Philosophy
- Science
- Oral Health Disparities
- Access

Delivery System
- Expanded Practice Dental Hygienist (EPDH)
- Contracted Clinics / Advantage Clinics
- 24 hour call system

Capabilities
- Production Services
- Information Technology Services
- EHR / Digital x-ray
- Advanced Dental Information Network (ADIN)
- Electronic Data Interchange (EDI)
- Business Intelligence (BI)
- Customer Service
- Provider Relations
- Case Management
- Credentialing
- Claims

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End of Disease
Dental End of Disease - Implant
Preservatives

Transformers vs. Preservatives

While the opportunities are massive, what’s the biggest obstacle to healthcare transformers? It’s the “preservatives” — the incumbent healthcare players. That is, the preservatives are trying to protect the status quo, rather than focusing on how to sincerely address the Triple Aim (improve outcomes, reduce cost, improve patient experience). In every healthcare organization I’ve talked with, whether they are a provider, pharma, or health plan, there are transformers internally who know what to do but are stymied by preservatives.

HealthCare’s Trillion Dollar Disruption
Dave Chase, Forbes, January 17, 2013
Does Drilling & Filling Work to Treat an Infection?

- 40-70% recurrent decay within 1 year after treatment under GA
- 70% of fillings done by dentists are replacements, and 70% of replaced posterior restorations increase the number of surfaces
Molar Life Cycle

Healthy Tooth
Annual Maintenance $10/year

Cavities
Filling $100

Replacement Filling $150

Crown $1,000

Root Canal $900

Implant $4,000

Total Average Lifetime Cost $6,000

HealthPartners Dental Group

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Who Can’t Get Dental Care?
The Pew Charitable Trusts, May 31, 2017
By John Grant (Directs the Pew Charitable Trusts dental campaign)

Neglect can lead to long-term health problems for millions.

Only about a third of U.S. dentists accept public insurance, which limits access to care for the 72 million children and adults who rely on Medicaid and the Children’s Health Insurance Program. More than 50 million people live in areas with dentist shortages. Access to dental care disproportionately affects seniors, people of color, those with low incomes.
Cavities
The End of an Out of Control Oral Infection
Adolescence Dental Infection
Young Adulthood Dental Infection
Middle Age Dental Infection
Older Age Dental Infection
Transformation

Any intelligent fool can make things bigger and more complex... It takes a touch of genius - and a lot of courage to move in the opposite direction.-- Albert Einstein
Perhaps it is time to think about prevention as the management of oral health risks, including the identification, assessment and prioritization of these risks, and to take actions designed to mitigate the risks of oral disease or dysfunction.

William R. Calnon, DDS, President, American Dental Association, J Evid Base Dent Pract 2012
Break the Cycle

- Increase preventive visits for pregnant women and children
  - Decrease bacterial transmission between mother and child
  - Four fluoride varnishes by 30 months
- Decrease hospital OR cases
  - Costly
  - Reduce exposure to sedation
- Decrease hospital ED visits for dental concerns
  - Doesn’t address the root cause
- Decrease unnecessary drug use (opioids & antibiotics)
- Control infection and decrease disease burden for chronic disease patients
- Reduce barriers to care
- Increase Patient Satisfaction
- Bend the Cost Curve of Care
Disparities
Goal of Treatment:
Oral Health Over a Lifetime!

Objective:
1. Caries Risk Assessment for 100% of assigned members
2. Prioritize care based on risk
Oral Health Over a Lifetime – How Do We Get There?

Oral Health Over a Lifetime

Institution of Care
- Prenatal Care
- Mothers of Newborns
- WIC/Early Head Start
- Head Start
- Elementary School
- Middle School
- High School
- Dental Office
- Care Institution

Coverage Type
- Medicaid/Private Insurance/Cash
- SCHIP/Private Insurance/Cash
- Medicaid/Private Insurance/Cash

Intervening Provider and Dental Team
- Prenatal Care Provider and Dental Team
- Pediatrician
- Dental Team and Pediatrician
- Dental Team

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WIC/Early Head Start

Head Start

SCHIP/Private Insurance

3 years
- Biannual exam
- Varnish application
- MMC if decay present
- Intermediate restorations

1st grade
- Biannual exam
- Varnish application
- MMC if decay present
- Intermediate restorations
- Sealant on 1st molars

Dentist and Pediatrician
Elementary School

Middle School

High School

Insurance/Cash

Medical

6th grade

- Biannual exam
- Varnish application
- MMC if decay present
- Restorative care
- Sealants on 2nd molars

9th grade

- Biannual exam
- Fluoride Varnish
- Dental cleaning
- MMC if decay present
- Restorations

High School Graduation

- Caries Experience Indices completed on all graduating seniors

Adulthood

- Annual Exam
- Cleaning
- Fluoride TX
- OHI
- Glass Ionomer
- Extractions
- Dentures
- Traditional restorative care

Dentist

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Dental Caries is a Communicable Disease

One of the major bacteria that cause tooth decay is called Strep Mutans. Everyone has this bacteria in their mouth. The number of bacteria grows when sugar is present.

The bacteria forms a biofilm called plaque and can create an acid that dissolves the supporting organic material, allowing the enamel crystal to collapse which causes cavities.

The strep mutans are transferred from primary care giver (usually the mother) to the child through contact with saliva, etc.
Caries Risk Assessments are performed in community settings where algorithms are running in the background to guide treatment and referral decisions based on risk assessment and clinical findings.

<table>
<thead>
<tr>
<th>Low Risk</th>
<th>Moderate Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>No previous caries experience AND</td>
<td>Previous caries experience OR</td>
<td>Distinct cavity into dentin OR</td>
</tr>
<tr>
<td>No visual changes in tooth structure AND</td>
<td>Visual changes in tooth structure (white/brown spots) OR</td>
<td>Extensive cavity into dentin</td>
</tr>
<tr>
<td>No breakdown or cavitation</td>
<td>Localized enamel breakdown AND No cavitation</td>
<td></td>
</tr>
</tbody>
</table>

ASTDD 0 and low caries risk

ASTDD 0 and moderate caries risk

ASTDD 1 or 2 and high caries risk
Lift the Lip

to check baby’s teeth

Babies can get cavities as soon as teeth appear.
Help keep your baby’s teeth healthy.

- Clean baby’s teeth daily.
- Lift the lip once a month to look at teeth and check for early cavities.
- Never put baby to bed with a bottle that has anything other than plain water in it.
- Avoid constant sipping from a bottle or a sippy-cup during the daytime—it can cause cavities!
- Visit the dentist by age one.

Parents should check baby’s teeth once a month to look for signs of tooth decay.

Stage 1: Very Early Decay
White chalky areas around the gum line. It can be reversed if found early.

Stage 2: Decay
Brown areas or decayed spots along gumline. Requires dental treatment.

Stage 3: Severe Decay
Spots continue to expand and tooth structure can be lost. Can result in tooth loss.

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New Scientific Technologies

- Fluoride toothpaste
- Fluoride varnish
- Iodine products
- Silver diamine fluoride
- Xylitol products
- Lift the lip knee to knee exam
Daily use of xylitol gum by mother to prevent transmission reduced caries in children medically

At 5 years cavities were reduced 71-75% lower in the chewing gum group.

(Isokangas et al., JDR 2000)
Betadine (PVP-I) & Fluoride Varnish

Combined treatment reduced new tooth decay by 31% over the standard fluoride varnish.

Silver Diamine Fluoride: 72% Arrest in Oregon Study

Cavity 1. Isolate with cotton 2. Dry 3. Apply with microbrush

Arrested cavities after 1 year

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Meeting People Where they are with Service and Science

- Dental Office Barriers (traditional service)
  - Inconvenient
  - Transportation Barriers
  - Trauma inducing for some individuals

- Dental Outreach (non-traditional in the community)
  - Risk assess
    - Pregnant women
    - Women, Infant, Children (WIC)
    - Head Start
    - Schools
    - Medical offices
    - Residential facilities
  - Trusted Community Partners

“That’s our mission statement. If people follow that, everything else seems to fall into place.”

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Taking the Knowledge & Science to the People

Expanded Practice Permit Dental Hygienist (EPDH)
- Assess, triage, refer for curative care
- Prevention & disease stabilization

Cost of Neglect
(transportation, cost of dental treatment, costly hospital ED/OR visits, associated medical problems, lost days of school and work)

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Connecting the Dental Team

- On-site patient and caries risk assessment
- Prevention service provided based on risk
- Electronic notification to Case management for follow-up
- Electronic notification to primary care dentist
- Case manager advocates with PCD and patient
- Level of urgency identified & preventive procedures performed
Which is better?
Cavities: The End of an Out of Control Oral Infection
Information Websites

www.mmclibrary.com
www.advantagedental.com
www.elevateoralcare.com