Addressing Systems Failures that Impede Improvements in Oral Health

*Two ‘Non-Obvious’ Solutions*

Dee Robertson
Jack Kilby’s Approach to Problem Solving

1. Start with a broad, overall perspective of the issue to identify the various dimensions and elements of the problem.

2. Define clearly the part of the problem you want to address (Subtitle: be careful you don’t try to solve the wrong problem).

3. “Tune out all the obvious solutions”
Our Problem To Be Solved

- Severe, refractory caries in American Indian and Alaska Native children
- All the obvious solutions had all been tried, and had failed.
- So...Dr. Mendoza tried a non-obvious solution...and had remarkable success.

However...the glass is still half empty

Why do I say this?
One good way to measure success is whether the disease level of the children in the annual Head Start screening changes.
Characteristics of the Children Dr. Mendoza Still Has To Treat Under General Anesthesia

1. Children who were symptomatic when seen for the first time (e.g., pulpitis or abscess) or...

2. Children who entered his program, but were lost to follow-up, and later came back symptomatic.

Whose fault are these two situations?
Each of the above situations represents a systems failure.

What do they both have in common?
Each of the above situations represents a systems failure.

Neither can be resolved by the dental program alone.
“Alex, today I’d like to start with False Assumptions for $5000...”

False Assumption #1:

Caries in children is a ‘dental disease,’ that... must be addressed by the Dental Program.
Non-Obvious Solution #2

Re-define the Problem

Caries is a dental disease health problem for AI/AN children...

that must be addressed by the local dental program health care system
Non-Obvious Solution #2:
If we view caries as a health problem...and we are impeded by these two systems failures...

Is there any existing model for a program that gets past these failures – i.e.,:
- Identifies children at risk for morbidity from a disease (case-finding), and...
- Gets them into follow-up care in a timely way (tracking and recall)?

Sure, you betcha!
It’s called the pediatric clinic.
# Children’s Routine Immunization Schedule

<table>
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<th>Vaccine</th>
<th>Months of Age</th>
<th>1</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>9</th>
<th>12</th>
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<td>X</td>
<td>X</td>
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</tbody>
</table>

Since the 1980s many Indian health care programs have >80% of the children up-to-date for all recommended immunizations at all times.
Dental programs are almost never able to achieve results like that.
Eradicating Polio in Nigeria

“We had the technology and human resources... what was missing was the coordination.”

Dr. Andrew Etsano, Incident Manager, Nigeria National Polio Emergency Operations Center.

Eradicating Severe Caries in AI/AN Children

“We have the technology and human resources... what is missing is the coordination.”

Dee Robertson

QUEST 2016 Symposium on Caries in AI/AN Children
The Known Knowns and Known Unknowns
Where Does All This Leave Us?

Let’s go back to Jack Kilby’s broad view of the problem:

1. Our goal is to keep children out of pain and the teeth in the mouth until natural exfoliation.

2. We have a non-surgical way to do this, but it requires (a) early case-finding and (b) effective tracking...

3. ...which dental programs don’t do well, so...
Non-Obvious Solution #3: (A Real Paradigm Shift)

Asymptomatic caries in the primary teeth... is a health problem that often may be... best treated initially in a medical clinic... with referrals to dentists if it becomes severe.

Are there any good models to support this shameful heresy hypothesis?
Diseases that Physicians Manage Initially, and Refer to Surgeons when Needed

- Peptic ulcer disease
- Tonsillitis
- Otitis media
- Gastric reflux
- Rheumatic heart disease
- Coronary artery disease
- Hyperthyroidism
- Osteoarthritis
- Urolithiasis (kidney stones)
Could a Pediatrician Manage this Child Initially, and Refer Later As Needed?

What is there about this child’s dental disease *Health Problem* that needs a close encounter with a surgeon?

What is the best treatment option the dental program *Health Care System* can provide to this child?
Physician

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Before you get any bright ideas about having pediatricians manage all these children independently, consider the American Academy of Pediatrics guidelines for age 15 months well child visit.
In Conclusion...

Let Us Put Our Minds Together And See What Life We Can Make For Our Children.
—Sitting Bull