

Reducing the Caries Health Disparity for AI/AN Children:

Two 'Non-Obvious' Solutions

Dee Robertson, MD, MPH

President, QUEST

White Salmon, WA

Who is this man?

1. He is Jack Kilby
2. In 2000 he was awarded the Nobel Prize for inventing the 'integrated circuit' (aka, the microchip)



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 (i.e., be careful you don't try to solve the wrong problem)**.
3. **“Tune out all the obvious solutions
They have been tried and have failed.”**

Our Problem To Be Solved

- American Indian and Alaska Native (AI/AN) children experience the most severe tooth decay of any population.
- All the obvious solutions had all been tried, with disappointing results.
- So...Dr. Mendoza tried a non-obvious solution.

Non-obvious Solution #1

- Dr. Mendoza started offering parents the option of treating their children with a silver nitrate/ fluoride varnish protocol.
- He has had excellent results.



Our Problem To Be Solved

- **Dr. Mendoza's non-obvious** solution was to use SN/FV as a safe, effective, feasible and acceptable secondary prevention.
- He has had excellent results.

However...

- The proportion of his children requiring treatment under general anesthesia is still much higher than the US all races rate.
- Why?



Characteristics of the Children Dr. Mendoza Still Had 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.

*Each of the above situations
represents a systems failure.*

Neither can be resolved by the dental program alone.

Non-Obvious Solution #2

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

that needs to be addressed by
the full health care system

Non-Obvious Solution #2

Is there any historical example of a health care program that:

- Identifies children at risk for morbidity from a disease.
- Effectively tracks and recalls them to ensure they are protected in a timely way.

Answer: Yes.

Children's Routine Immunization Schedule

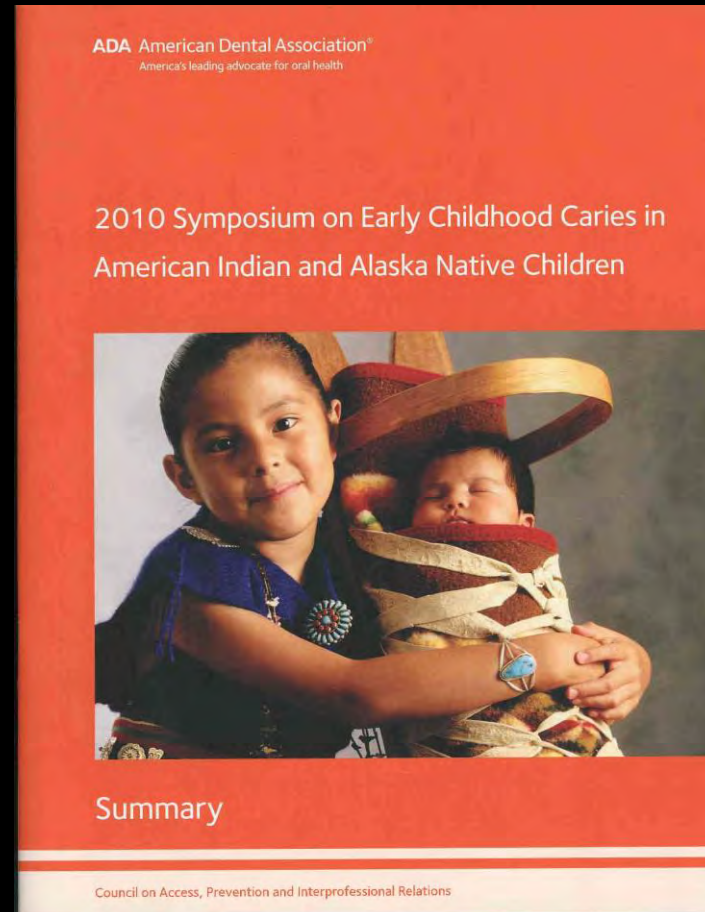
Vaccine	Months of Age						
	1	2	4	6	9	12	15
Hepatitis B	X	X			X		
Rotavirus							
DTaP							X
Hib						X	
Pneumococcal						X	
Polio						X	
Influenza						X	
MMR						X	
Varicella						X	
Hepatitis A						X	X

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 do the tracking and recall to achieve results like that.

My 2010 Symposium Presentation on “Barriers to Caries Control: Back To Reality”

- “How did we eliminate polio, measles, mumps, rubella, whooping cough, Hib meningitis among AI/AN children?”
- By a combination of technology and public health infrastructure
- Our problem is that we still have the infrastructure to control caries in AI/AN children, but we don’t have the technology.”
- *I was partly right in 2010...*



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.

*Outsmarting Polio. Bill and Melinda
Gates Foundation, New York Times,
May 30, 2016.*



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

Known Known #1:

The usual approach to caries prevention has not been efficacious in many AI/AN communities.

Known Known #2

Despite considerable publicity over the last year about using SN/SDF to treat caries in children, there is relatively little interest among many Indian health care dentists.

Known Known #3

Successfully implementing **Dr. Mendoza's approach** requires planning and coordination.

Known Known #4

SN/SDF are not the best choice for some surfaces, some teeth and some children.

Known Known #5

- Under the right circumstances, SN/SDF can be safe, effective and acceptable to AI/AN parents, children and communities

There Are Still Several Known Unknowns...

- Duration of effect
- Number of treatments needed
- Optimal treatment interval
- Should we cover arrested caries with GIC, and if so, when?
- Optimal masking product
- Will the emerging adult dentition get any benefit?
- How does it compare to traditional restorations?
- Are SN/FV and SDF equally efficacious in clinical practice?

