



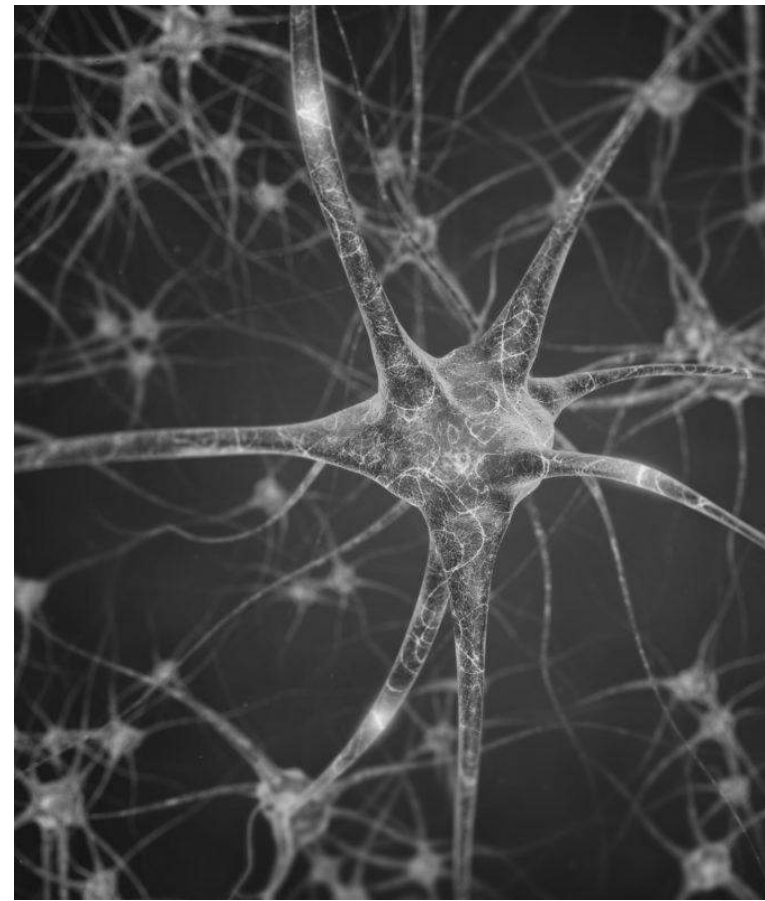
UNIVERSITY OF ROCHESTER  
MEDICAL CENTER

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**VOLUNTEERS *in***  
**PARTNERSHIP**  
**CONFERENCE**

*March 30, 2019*

# THE RISE OF PARKINSON DISEASE



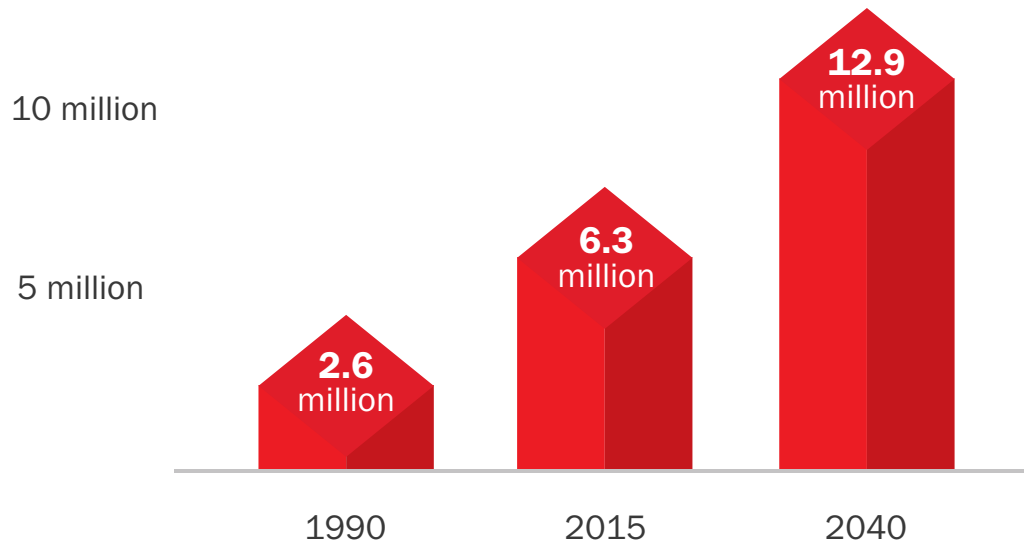
Center for health + technology  
University of Rochester Medical Center



**CHET**  
CENTER FOR HEALTH + TECHNOLOGY

# The fastest growing neurological disease in the world

ESTIMATED AND PROJECTED NUMBER OF INDIVIDUALS WITH PARKINSON DISEASE, 1990 - 2040



Source: Dorsey ER, Bloem BR, The Parkinson Pandemic: a call to action. *JAMA Neurology* 2017

## Telehealth enables us to reach the unreachable

Doctors deliver care from their office



Patients see doctor from their home



## Technology will help us to bring care to the patient



	Timeline of Care Delivery Evolution			
YEAR OF FIRST RANDOMIZED CONTROLLED TRIAL	1993	1998	1999	2011
NUMBER OF RANDOMIZED CONTROLLED TRIALS	653	347	225	50
BANKING ANALOGY	Teller at a bank	ATM at bank	Banking at home	Mobile banking

Source: Teleneurology and mobile technologies: the future of neurological care. *Nature Reviews Neurology*. 2018;14:285-97.

We now cover New Yorkers with Parkinson disease



# UR Medicine Telebehavioral Health

Michael Hasselberg, PhD, RN, PMHNP-BC  
Assistant Professor of Psychiatry, Clinical Nursing, and Health Lab  
Robert Wood Johnson Foundation Clinical Scholar Fellow  
Director of Telepsychiatry

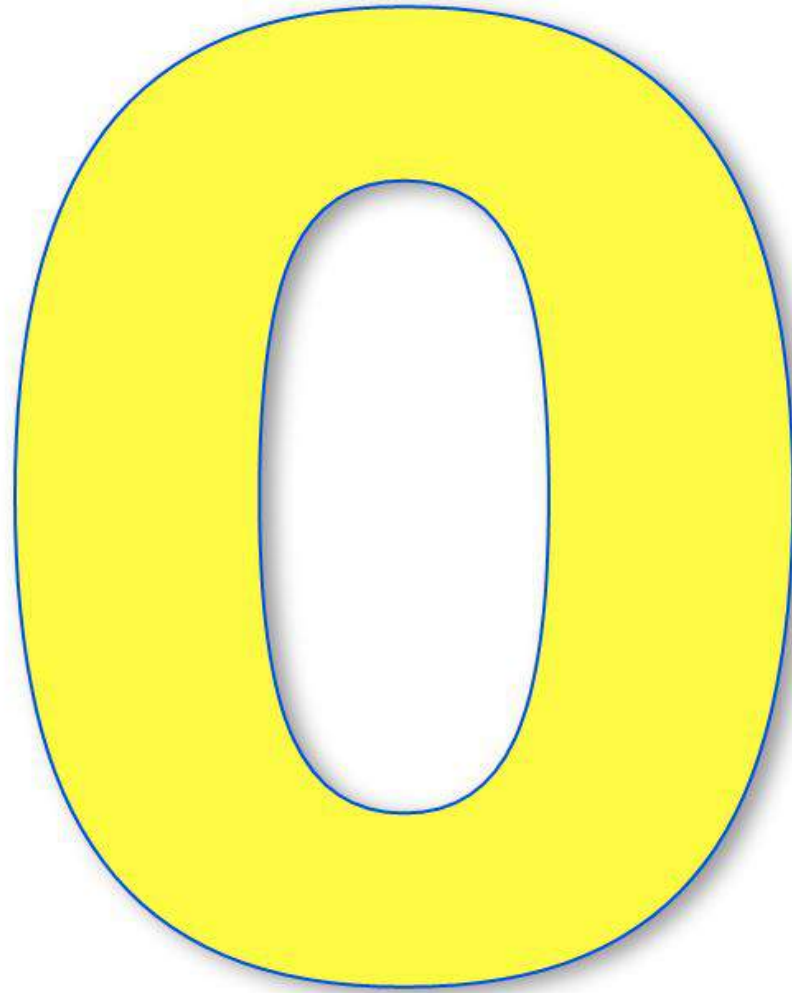


# Behavioral Health Prevalence

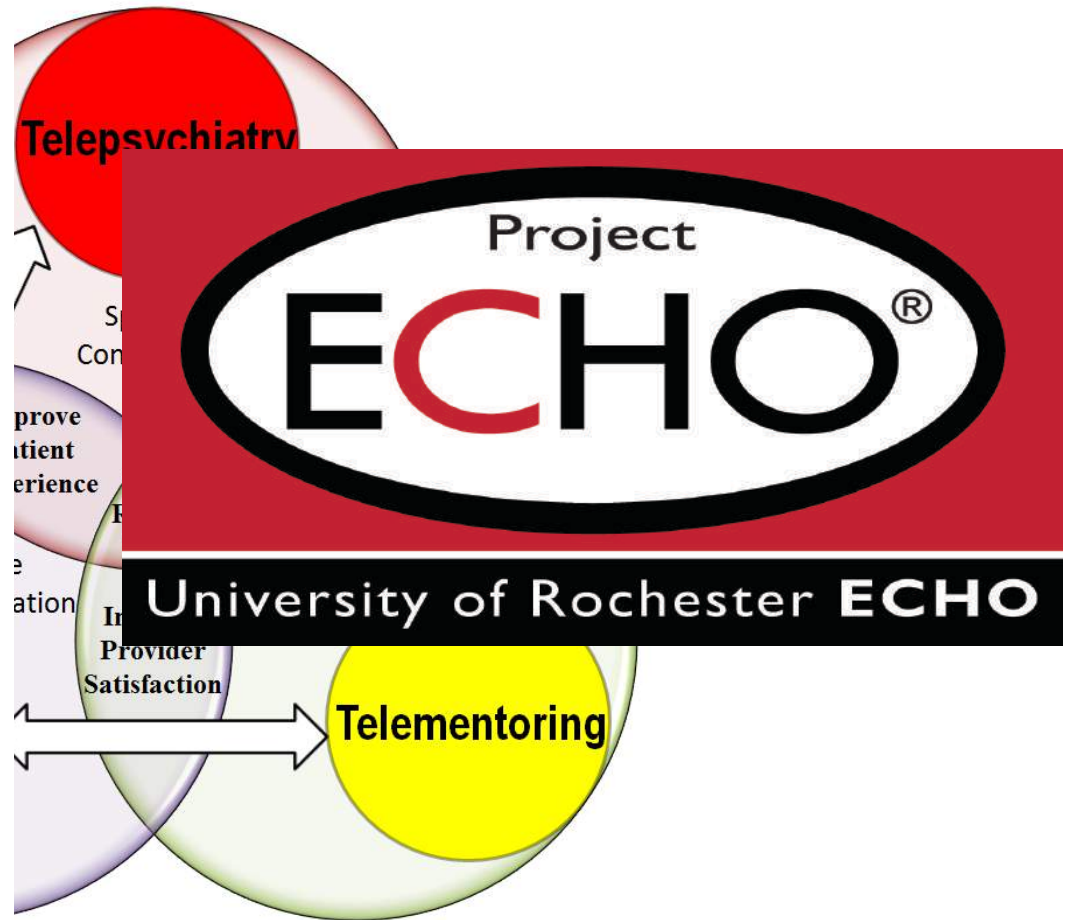
41%

5<sup>th</sup>





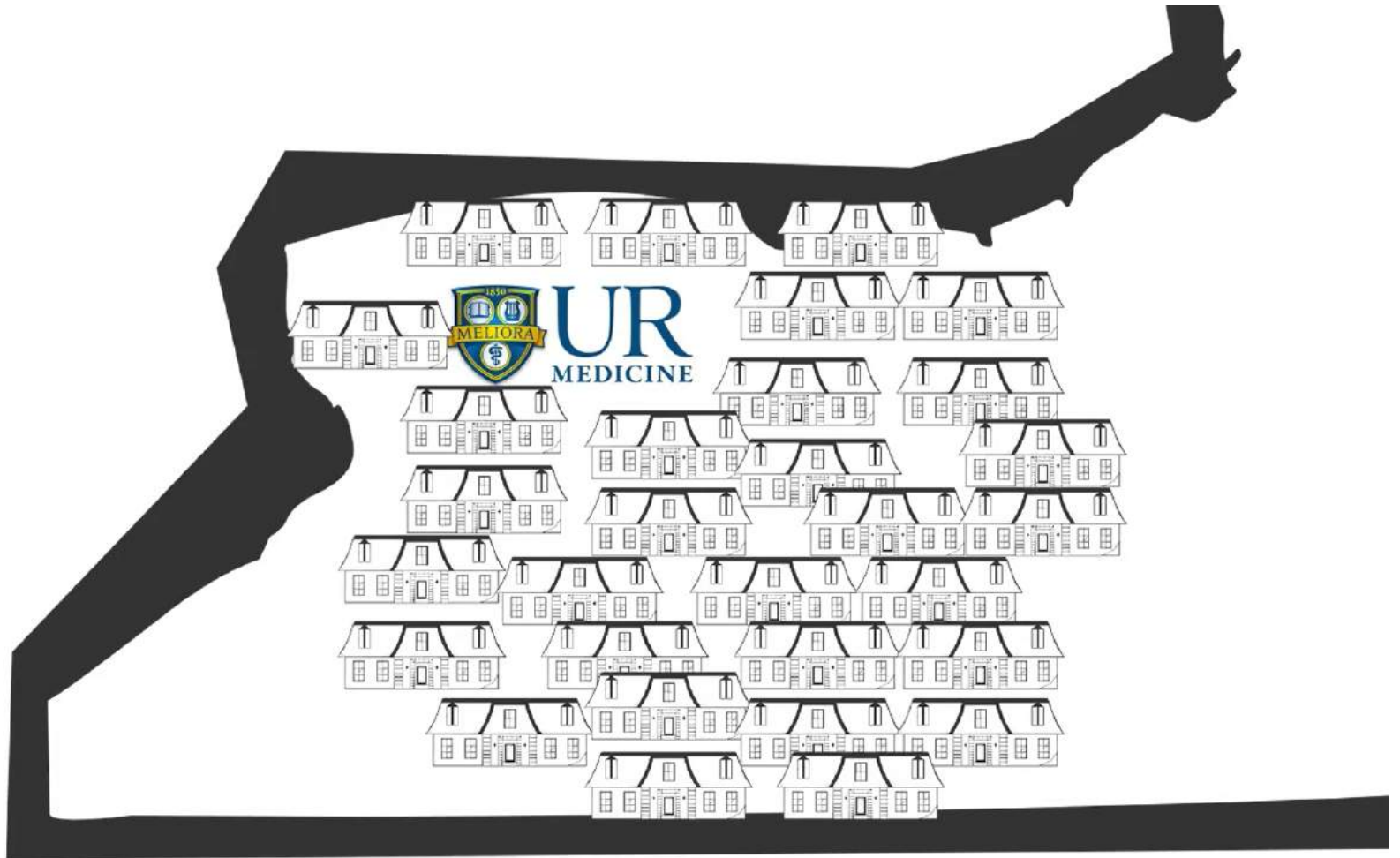
# UR's Behavioral Telehealth Model



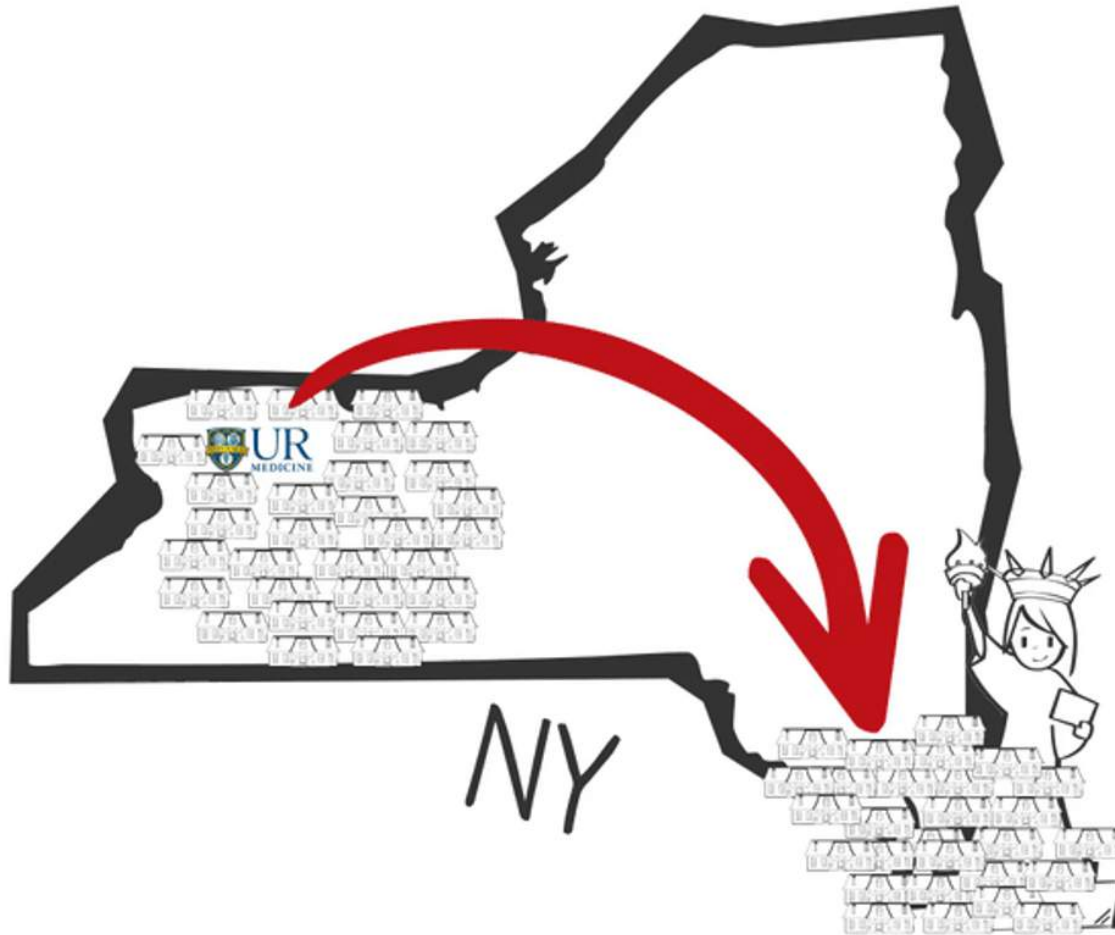
# Statewide Success



# Statewide Success



# Statewide Success



# Statewide Success



# Recognition of Our Work





# Telemedicine: healthcare from the comfort of home and the doctor's office

Teledentistry At The University Of

Rochester's, Eastman Institute  
For Oral Health

**Establishing a dental home for underserved young children**

Dorota T. Kopycka-Kedzierawski DDS, MPH

March 30<sup>th</sup>, 2019

# Dental caries burden in U.S. pediatric population

Dental caries is the most prevalent infectious disease among U.S. children

Poor and minority-group children are disproportionately affected by dental caries AND have limited access to oral health care.



# Early Childhood Caries (ECC)



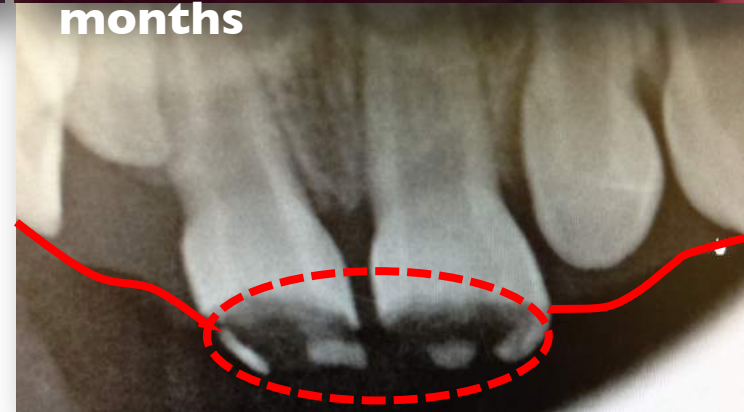
- Most common chronic childhood disease, **1.8 billion new cases per year** globally.
- Disproportionately afflicts up to **73% of underprivileged preschool children** in both developing and industrialized countries.
- **“Rapid”, “Aggressive”, “Painful”, “Recurrent”**

# What is the significance of Early Childhood Caries?



- **New carious lesions**
- **Delayed physical growth**
- **Loss of school days**
- **Emergency room visits**

(toothache counted for 6% ED visits during 2001-2010).



American Academy of Pediatric Dentistry Council on Clinical A. Policy on early childhood caries (ECC): unique challenges and treatment options. *Pediatric dentistry*. 2005;27(7 Suppl):34-5. PubMed PMID: 16541879.  
Lewis, et al. *Journal of American Dental Association*. 2015 (National Hospital Ambulatory Medical care service survey)

Courtesy of Dr. Jin Xiao

# Treatment of ECC or S-ECC

Total oral rehabilitation under general anesthesia



*Devon Koester, age 2 ½, getting anesthesia at the Center for Pediatric Dentistry in Seattle for an operation that included a root canal. (The New York Times. March 6, 2012)*

- **Extremely expensive disease to treat**
- Average cost: ~ **\$7000/case** (data from 2009-2011)
- EIOH OR Cases: ~ **1000** cases last year (2018)
- In the US, more than 1.5 billion dollars per year is spent on treatment.



# Severe Early Childhood Caries (S-ECC)- treatment in the OR



❖ Courtesy of Dr. Sean McLaren

# A cycle of S-ECC

**S-ECC onset**  
(peak 3 years of age)



**Oral rehabilitation (OR)**

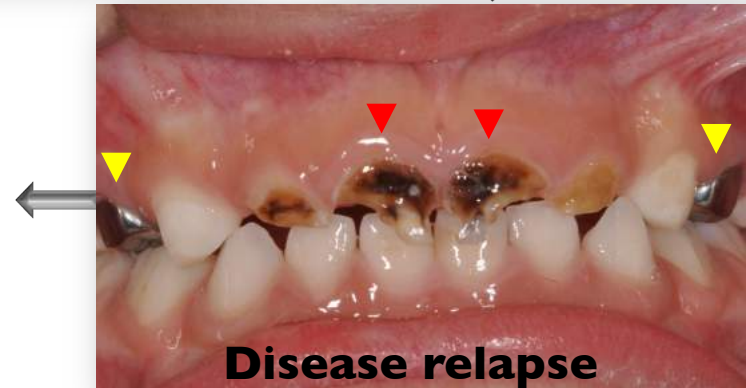


**“Silver smile”**



**Increased caries risk and caries experience in *adult dentition***

Graves CE, et al. 2004;  
Berkowitz RJ, et al. 2011

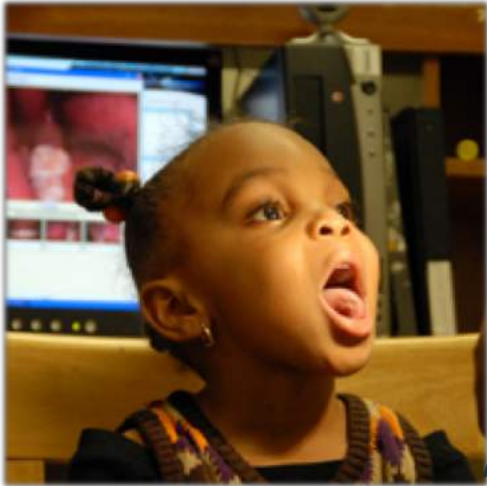


**Disease relapse**  
(~40% relapse 6 months post OR)



# Asynchronous model

2004-Store and forward modality as a Comparative Effectiveness Study:  
University of Rochester Medical Center Dept. of Pediatrics



Assessed teledentistry for use in large scale pediatric oral health surveys, compared to traditional oral visual/tactile examinations

~500 urban preschool children examined

via teledentistry utilized dental care *significantly more* than children examined traditional way.

# Intraoral camera (Doctor Camscope) screening



# Digital images of anterior teeth



# Digital images of upper posterior teeth

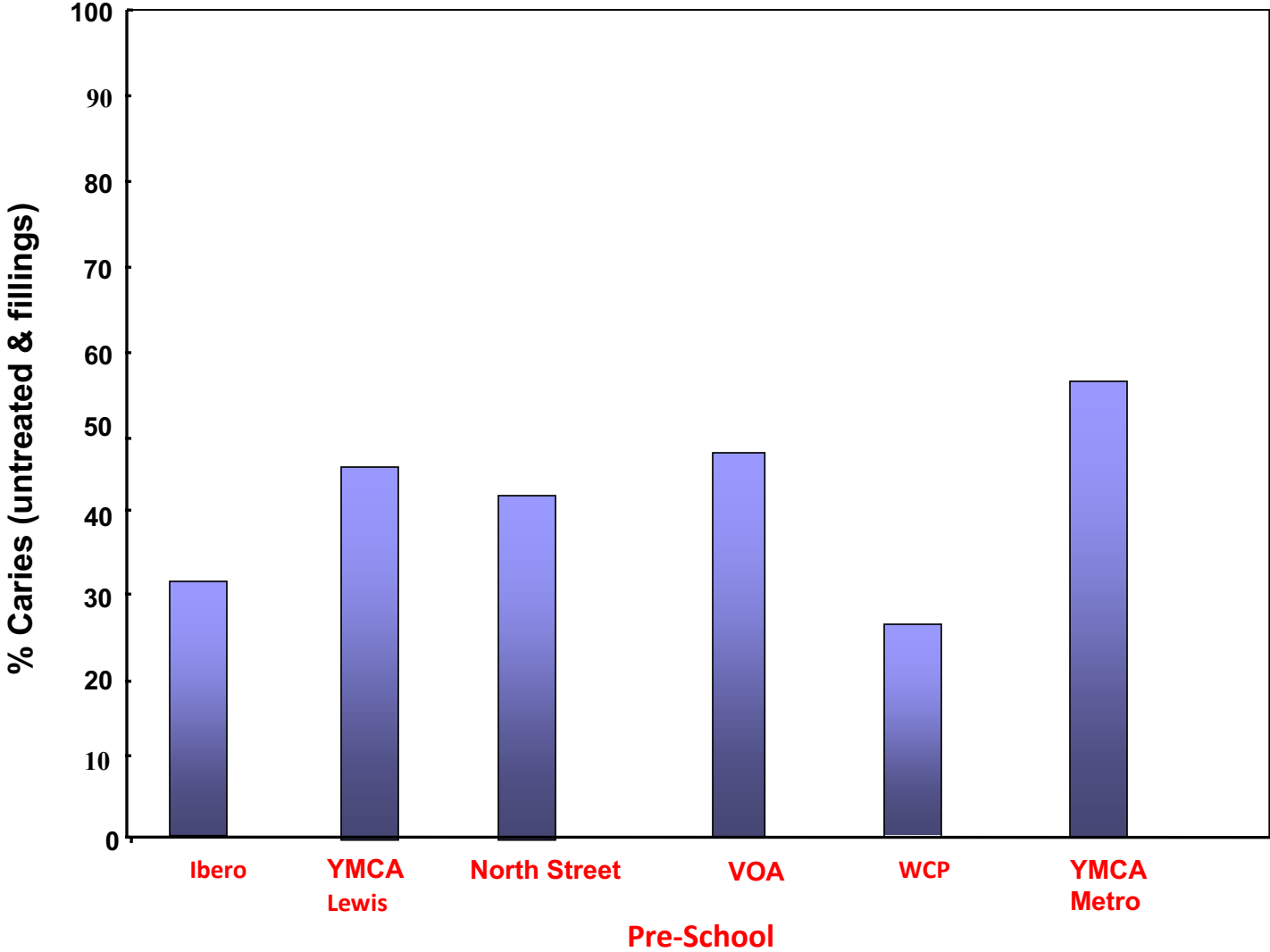




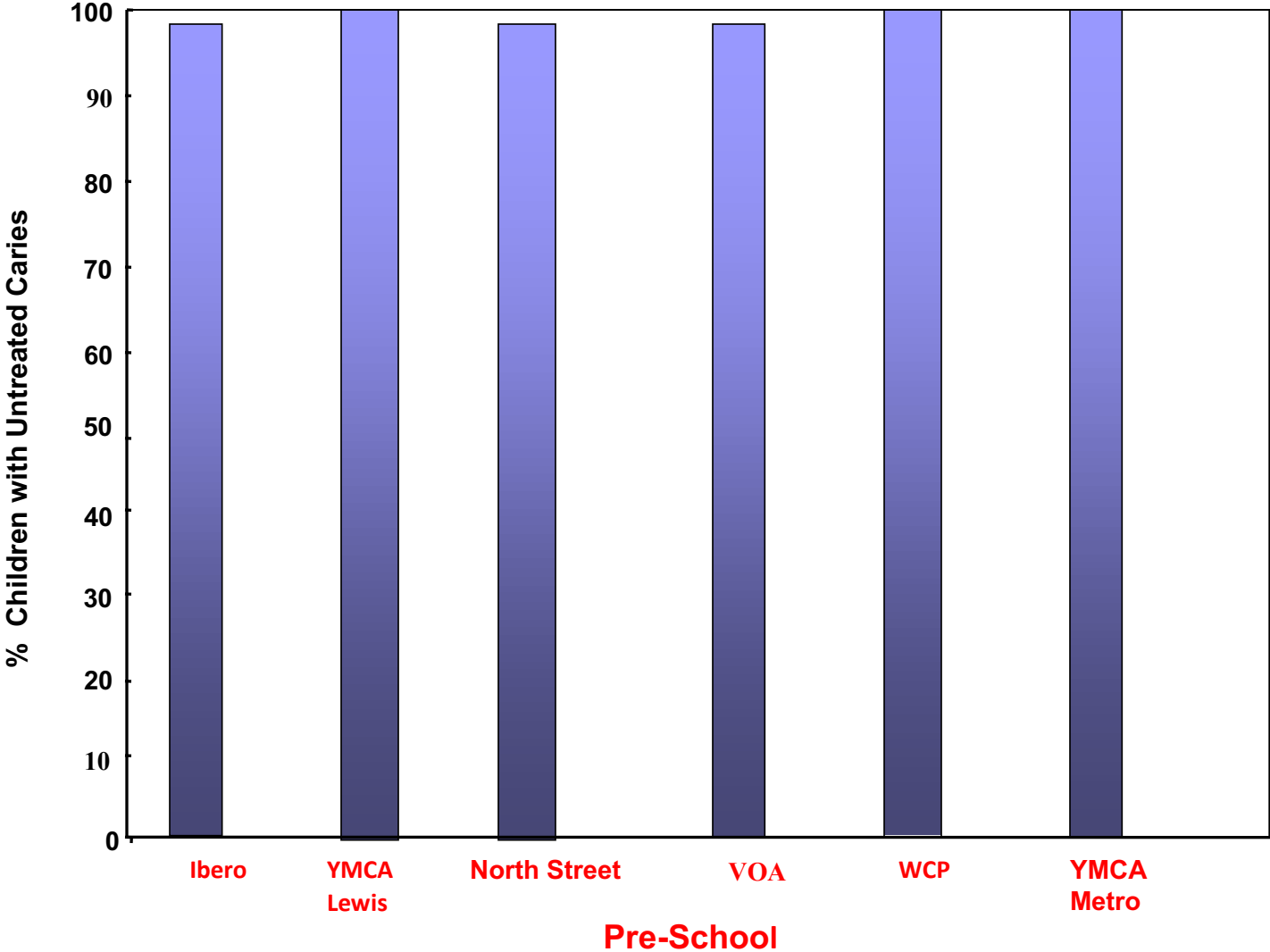
# Digital images of lower posterior teeth



# Prevalence (%) of Dental Caries in pre-school inner-city children



# Prevalence (%) of Untreated Dental Caries in pre-school inner-city children





# Synchronous Model

2010-Synchronous modality; collaboration with Finger Lakes Community Health, a Federally Qualified Health Center (serves rural children)

~900 pediatric patients screened via teledentistry  
~450 children received treatment in Operating Room

## Compliance Improved 78%

~93% compliance rate for OR treatment completed

~15% compliance rate before teledentistry

# Live at EIOH



# Live at EIOH and FLCH



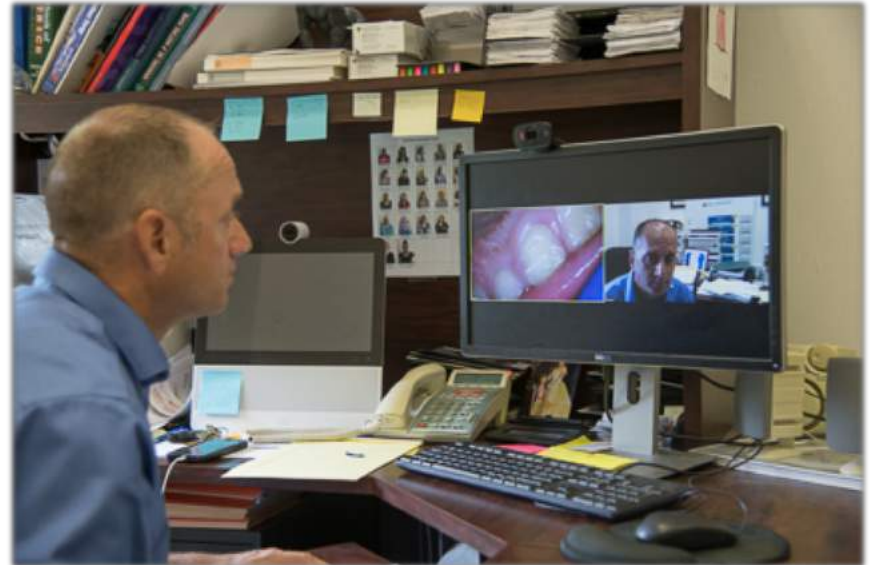
# Impact

Our models support the expanded role of teledentistry in

- reducing barriers to oral health care delivery
- enhancing and improving oral health outcomes
- reducing costs
- dental home for underserved children

## Next Steps

Teledentistry integration with local, regional and national telehealth programs to establish a balanced framework for teledentistry services within the overarching health care system.



# Teledentistry Conference

First Ever National Teledentistry Conference

June 7-8, 2019

Rochester, NY

Hosted by



**American  
TeleDentistry  
Association**

Thank you