

THE JOURNEY OF A CLINICIAN/RESEARCHER

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Clinician/Practice Improvement Analyst

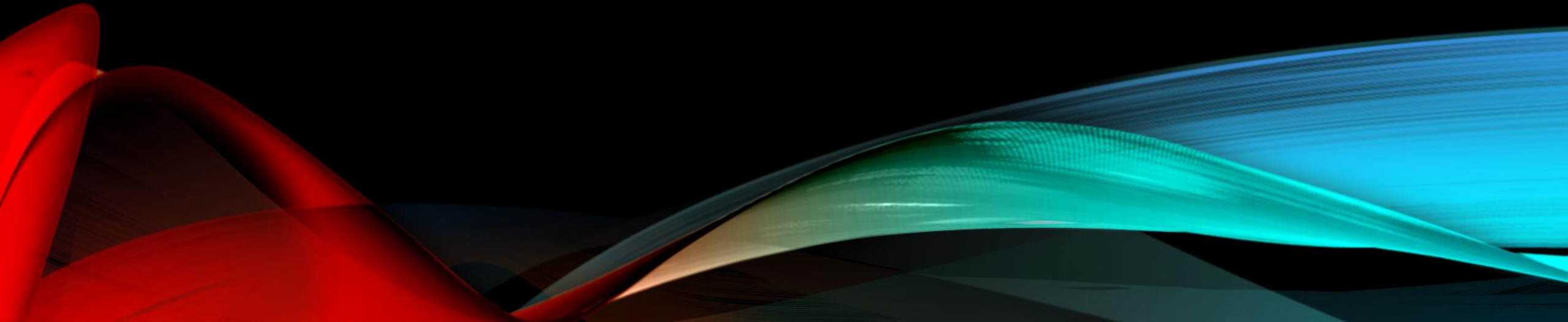
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DISCLOSURES

Chief Physician Strategist for KPN Health



WHY WOULD ANYONE WANT TO BE A CLINICIAN/PRACTICE IMPROVEMENT ANALYST?

To become better physicians

To provide better care for our patients

To improve the health of our communities

To can make contributions/feedback at the state
and federal level

To Prevent Professional Loneliness/burnout



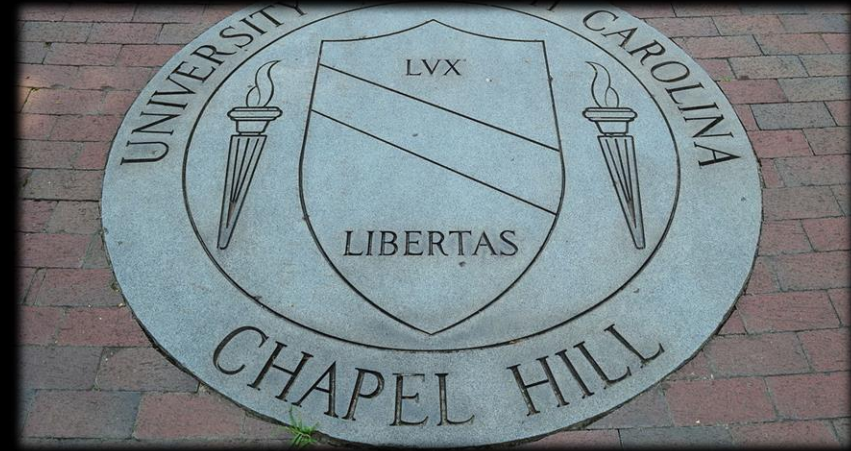
GRANITE FALLS, NORTH CAROLINA

- Population: 3,600
- Foothills of the Appalachian Mountains
- North American Free Trade Agreement (1994)
- 17 % Unemployment-1990s/5.8% Unemployment-2021
- Free Breakfast and Lunch School Program-75% eligibility



GRANITE FALLS, NORTH CAROLINA

- 5 Independent Hospital in 1985
- 1 Independent Hospital, 1 closed hospital in 2021
- Duke LifePoint, UNC Chapel Hill, Atrium Health in 2021
- Community Care Physician Network (CCPN) (CIN)
- Aledade Accountable Care Organization (ACO)



GRANITE FALLS, NORTH CAROLINA



Independent Solo Practice (1985-present)-all aspects of primary care including inpatient hospital care

100% of Physicians were in Independent Practices in 1985

98% of Physicians in Salaried Positions with Hospitals in 2021

HISTORICAL PERSPECTIVES

An Odyssey of Primary Care Research, Historical
Perspectives by Ed Bujold, MD, AAFP

NAPCRG website: Getting Started in Primary Care
Research



WE STAND ON THE
SHOULDERS OF THOSE WHO
HAVE COME BEFORE US

DR CURTIS HAMES

The Evans County Public Health Study

In partnership with NIH and UNC School of
Epidemiology

Seminal Work on the Etiology of Stroke and CV
Disease

December 1971 Archives of Internal Medicine

First Recipient of NAPCRG's Maurice Wood for
Lifetime Achievement Award



BECOMING A BETTER PHYSICIAN/CLINICIAN

- Our office-based practices are laboratories
- Every week we make observations about patients that can become researchable ideas

DO THE MATH

My EMR Pays Off
E&M Codes and Gross Revenues
2 Years Before and After EMR Implementation
25 % Increase in Gross Revenue

BECOMING A BETTER PHYSICIAN/CLINICIAN

CT CARDIAC SCORE STUDY

One third of patients present with their first symptom of heart disease with a myocardial infarction

One third of those same patients drop over dead

This is a preventable illness of the first order

BECOMING A BETTER PHYSICIAN/CLINICIAN

- CT Cardiac Score
- No dye, No IV, Cost-\$100 in an outpatient radiology facility, not covered by insurance
- Patient selection: Elevated Framingham Cardiac Risk Score
- Retrospective Review in my Office



Scores $< 1,000$ -Primary Prevention

Scores $> 1,000$ -further study depending on symptoms

BECOMING A BETTER PHYSICIAN/CLINICIAN

70 patients

7 patients had scores over 1,000

Cardiology referral

All 7 patients had an intervention

Angioplasty and stenting or
coronary artery bypass

UNRECOGNIZED SYMPTOMS OF CORONARY ARTERY DISEASE-ANGINAL EQUIVALENTS

Extreme Fatigue

Unusual Exertional SOB

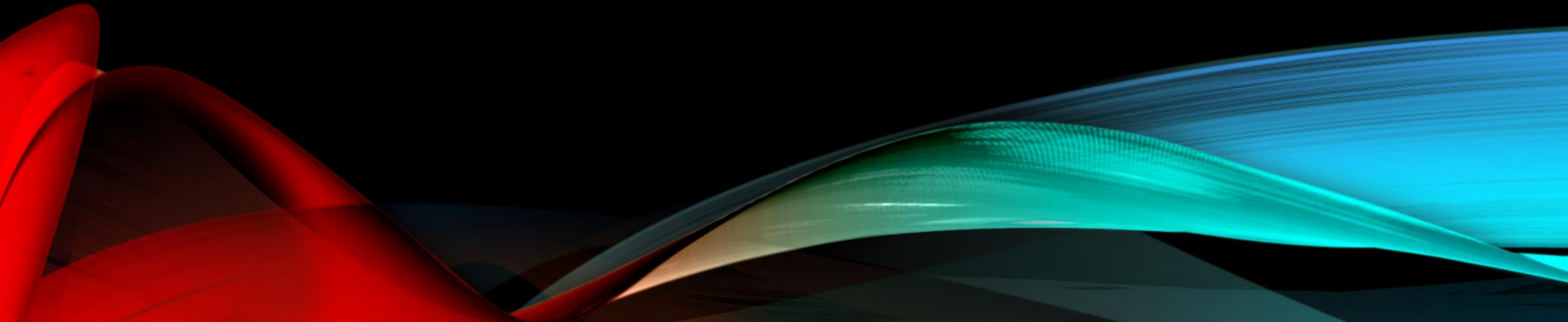
Unexplained Sweating

Upper Gastrointestinal Symptoms

Dizziness and Near Syncope

CT CARDIAC SCORE AND PRIMARY PREVENTION OF CORONARY ARTERY DISEASE

Presented at the 2019 NAPCRG Meeting



BECOMING A BETTER CLINICIAN/RESEARCHER

United States Preventative Services Task Force gave the CT Cardiac Score test a Grade 1 recommendation suggesting there was insufficient evidence to recommend for or against ordering this test

OMAR DZAYE, MD, PHD, MPH

Razavi AC, et al. JACC: Cardiovascular Imaging. Sudden
Cardiac Death Risk Stratification



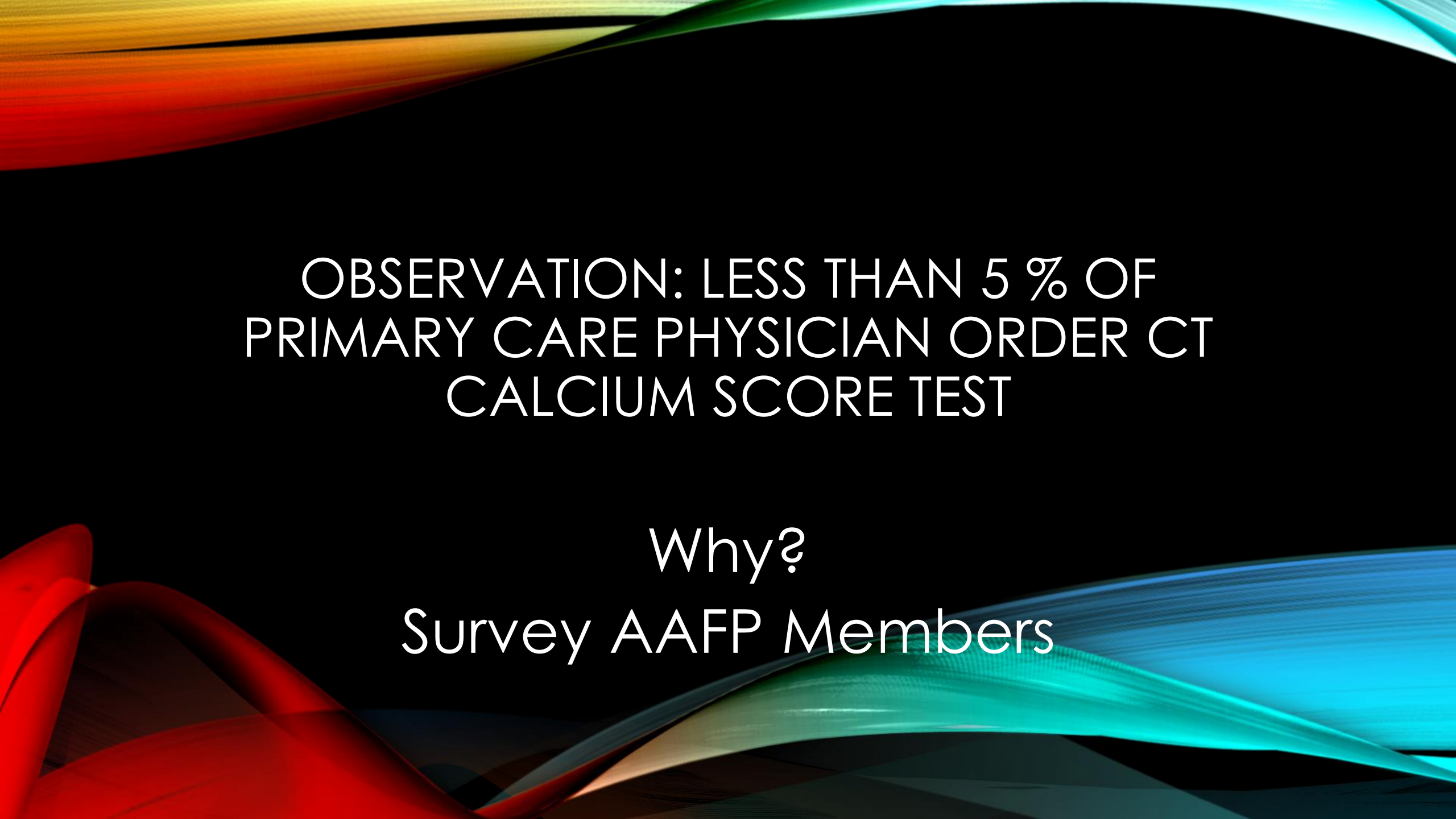
SUDDEN CARDIAC DEATH RISK

CT Cardiac Risk Scores > 100 confers increased risk of sudden death independent of Framingham Risk Assessment

SUDDEN CARDIAC DEATH RISK

66,636 patients from CAC Consortium

Score of 100-399, 400-999, >1,000 had a 2.8-4.9 risk of sudden death compared to scores of 0



OBSERVATION: LESS THAN 5 % OF
PRIMARY CARE PHYSICIAN ORDER CT
CALCIUM SCORE TEST

Why?
Survey AAFP Members

OTHER PROJECTS

1. AZMATCS: Azithromycin Asthma Trial in Community Settings, April 2006-August 2008.
2. Identification of Patients' sleep Problems, Alcohol Consumption, and Chronic Disease in Primary Care Settings, October 2007-September 2008.
3. Distributed Ambulatory Research in Therapeutics Network (DARTnet) Major Depression Study, July 2009-June 2010.
4. Review of Systems, August 2008-August 2010.
5. Americans in Motion - Healthy Interventions, December 2006-November 2010.
6. Care Coordination Enabled by Health IT, October 2013-May 2014.
7. Demonstration of Health Literacy Universal Precautions Toolkit, September 2010-August 2014.
8. Chronic Kidney Disease-Improving Evidence-based Primary Care, September 2011-August 2016



THE COVID PANDEMIC MARCH 2020

Blueridge Healthcare's CEO and CMO

COVID-19 VIRTUAL HOSPITAL (CVH)



Idea: April 8, 2020

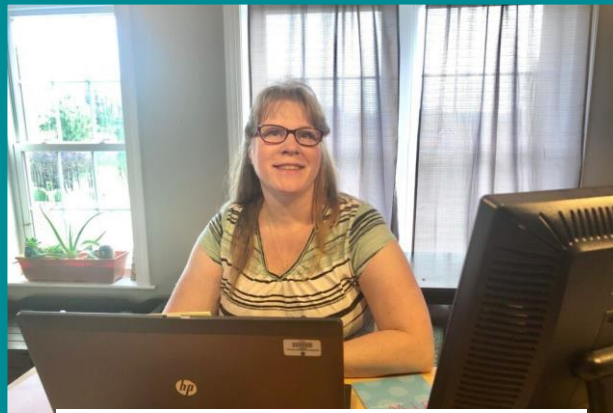
Go Live: April 22, 2020



VIRTUAL HOSPITAL NURSES (TRANSITIONAL CARE MANAGEMENT NURSES)



Lisa Landers, RN



Traci Greenwood, RN



Donna Cox, RN



Otela Flanders, RN



Kaylan Rogers, RN



Carolinan HealthCare System
Blue Ridge



Dr. Patricia Amoako

Hospitalist



Dr. Bill Enslow

Emergency

Inpatient vs.
Outpatient

Infectious
Disease



Dr. Rahul Sampath

Primary
Care

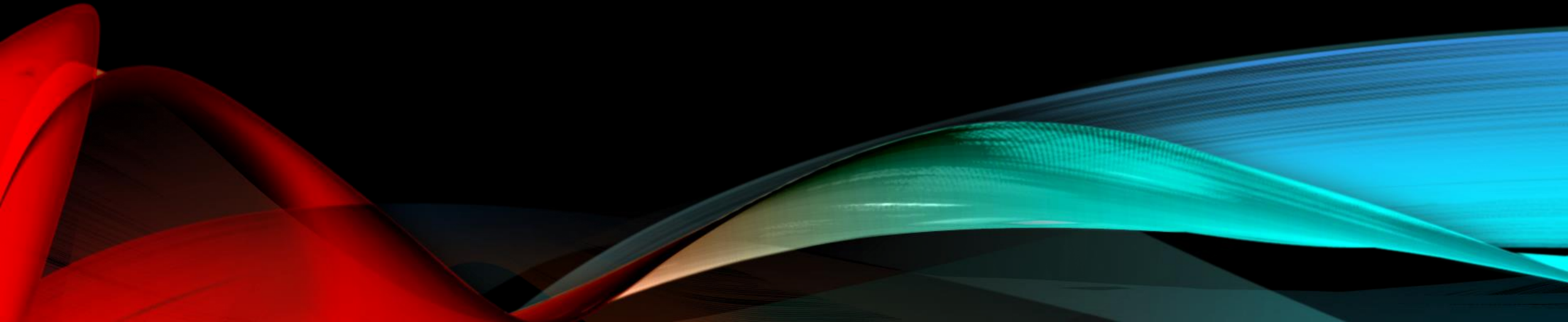
THE MOMENT WE KNEW CVH WAS WORKING

December 23rd, 2020

	BURKE COUNTY	COUNTY A	COUNTY B
COVID Hospitalizations	24	61	104

MARCH 2020-MARCH 2021

3,200 Admission to the Virtual Hospital
2 deaths



FINANCIAL IMPLICATIONS

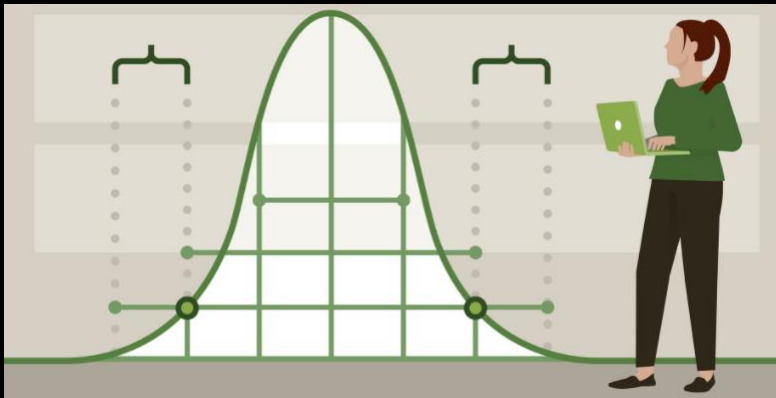
- Inpatient costs of taking care of a covid patient per day-\$3,000
- Virtual Hospital cost of taking care of a covid patient per day-\$50



WHAT'S NEXT FOR CHSBR COVID VIRTUAL HOSPITAL?

Analyze the Data
(we have a lot of data!)

What worked?
What didn't?



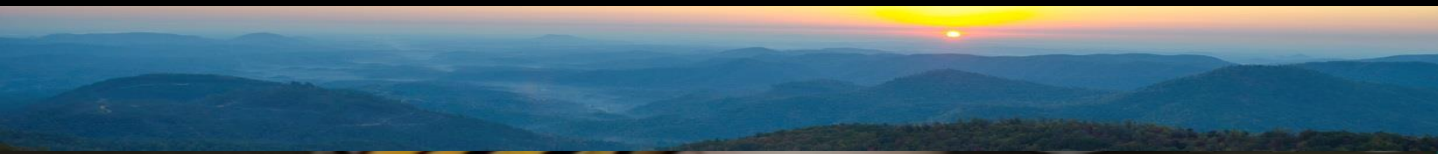
Dr. Jack Westfall, MD, MPH

Robert Graham Center for Policy Studies
in Family Medicine & Primary Care

National Research Network

American Academy of Family Physicians
(AAFP)

North American Primary Care Research
Group (NAPCRG)



Carolina's HealthCare System
Blue Ridge

CVH RESEARCH TEAM



Dr. Ellen Collett
GME, Internal
Medicine



**Dr. Golnush
Sharafsaleh**
GME, Geriatrics

Regina Rhodes, RN
Director, Quality & Care Management



Dr. Ed Bujold
Family Medicine

DISRUPTIVE TECHNOLOGIES

Definition: An Innovation that significantly alters the way consumers, industries and businesses operate

A term popularized by Clayton Christensen in The Innovator's Dilemma, published in 1997

WHAT IS PRIMARY CARE RESEARCH?

Biomedical Research

Behavioral Health Research

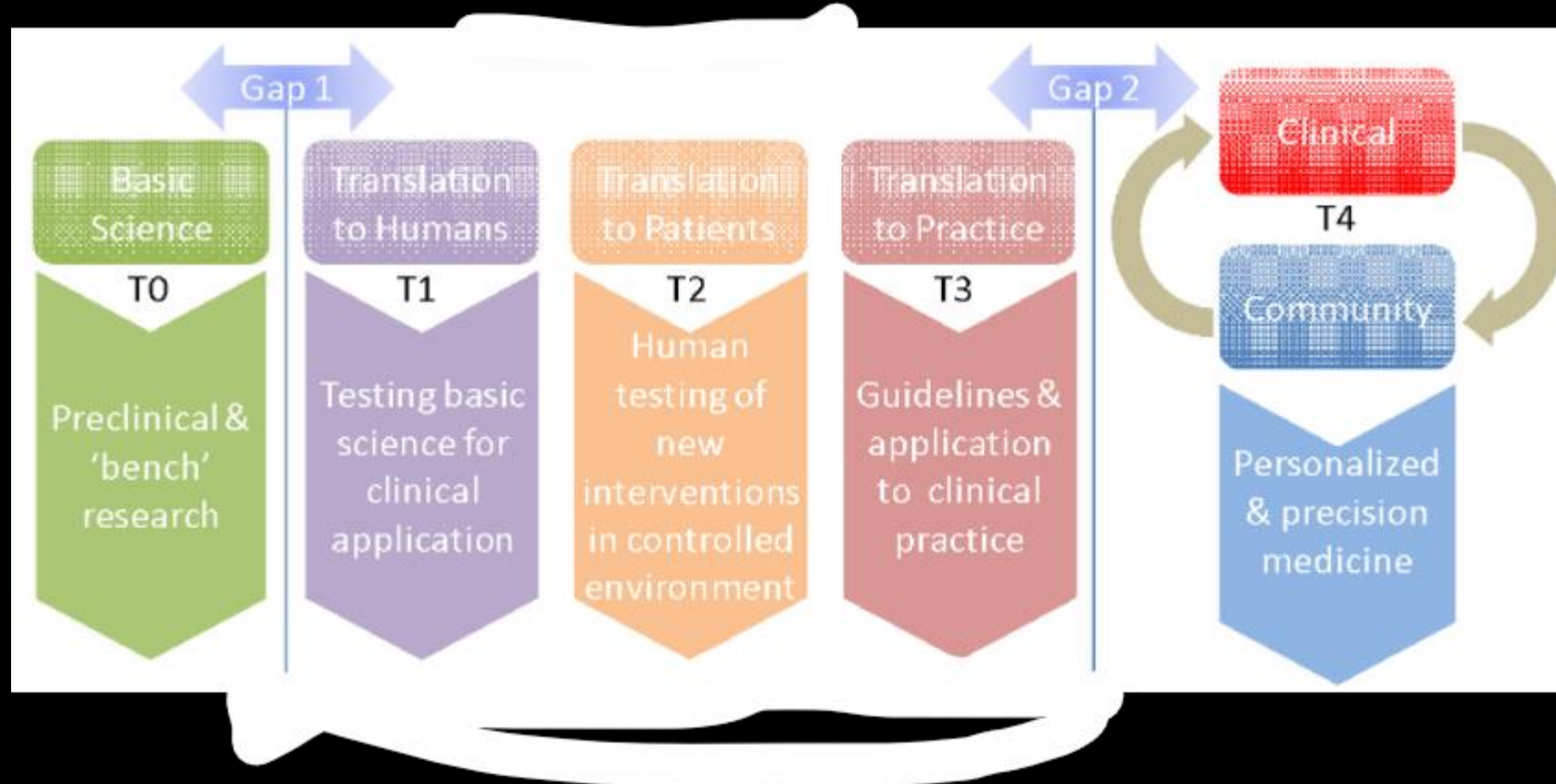
Social/Anthropologic Research

Public Health Research

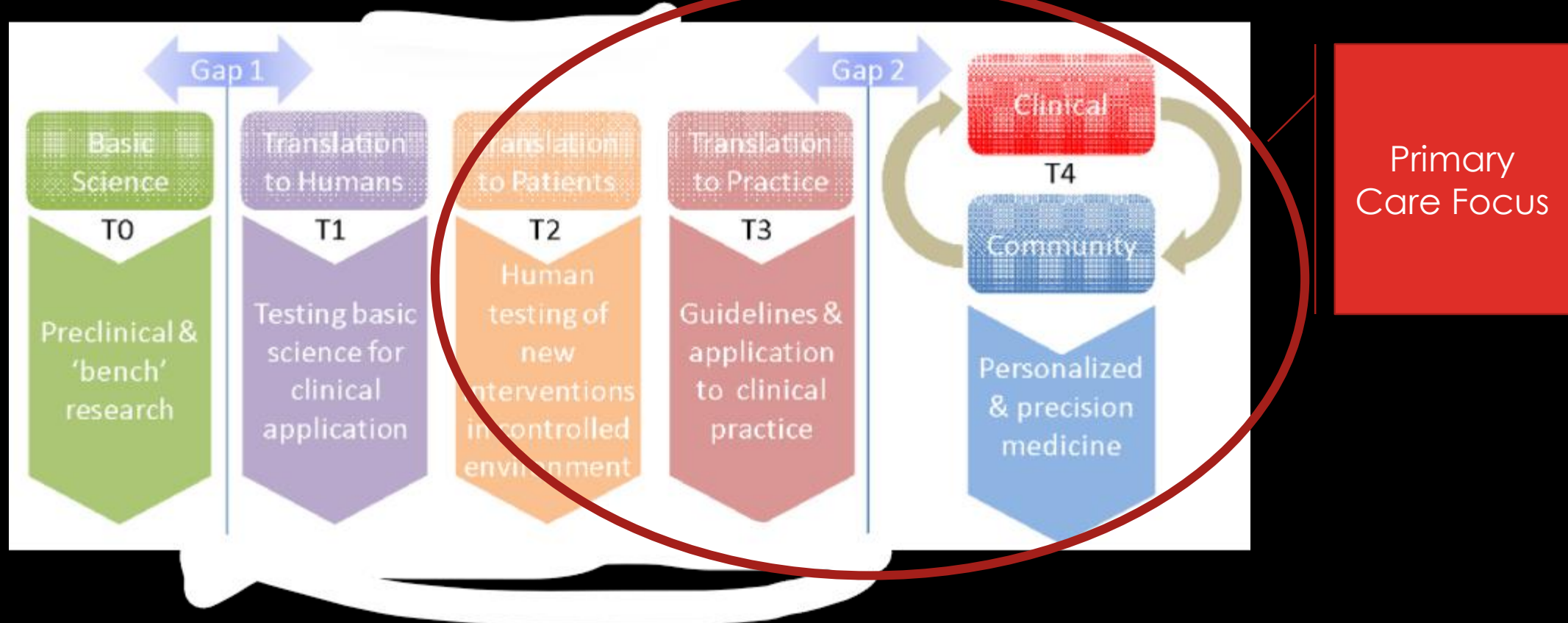
Practice Improvement Research



TRANSLATIONAL RESEARCH BUILDS FROM T0-T4



TRANSLATIONAL RESEARCH BUILDS FROM T0-T4



Clinical and Translational Research Spectrum

Basic Scientific Discovery (T0) ‹T1› Translation to Humans Clinical Insights ‹T2› Translation to Patients Implications for Practice ‹T3› Translation to Practice Implications for Population Health ‹T4› Translation to Population Health Improved Global Health

Examples include:

- Human Physiology
- First in Humans (FIH) (healthy volunteers)
- Proof of Concept (POC)
- Phase 1 Clinical Trials

Examples include:

- Phase 2 Clinical Trials
- Phase 3 Clinical Trials

Examples include:

- Phase 4 Clinical Trials
- Health Services Research
 - Dissemination
 - Communication
 - Implementation
- Clinical Outcomes Research

Examples include:

- Population-level Outcome Studies
- Social Determinants of Health

This is translational science

This is translational research

- Community-Based Participatory Research (CBPR)
- Cost Effectiveness/Comparative Effectiveness
- Health Disparities
- Public Policy

- Observational Studies
- Personalized Medicine
- Guideline Development
- Systematic Reviews/Meta-Analyses

TEAM BUILDING



The North American Primary Care Research Group (NAPCRG)



The AAFP National Research Network



Practice Based Research

PART OF MY TEAM THROUGH THE YEARS

Curtis Hames, Dave Hahn, Wilson Pace, Jennifer Carroll, Tom Vansaghi, Elizabeth Stanton, Andy Pasternak, Jack Westfall, The PACE people, Chet Fox, Bill Phillips, Christina Hester, Elizabeth Callen, Natalia Loskutova, Jim Mold, Jacquie Halladay, John Hickman, LJ Fagnon, Larry Green, Ann Greiner, Kim Kimminau, Helen Tapp, Jessica Sands, Don Nease, Jennifer DeVoe, Julie Sutter, my NRN colleagues, Doug Henley

WHAT IS NAPCRG

NAPCRG is the world's largest organization devoted to research in family medicine, primary care and related fields, including epidemiology, behavioral sciences, and health services research.

Over 1,000 Members-Academic Physicians, Phd Scientist, Practicing Clinicians, Residents and Students

Twenty Three Member Countries



WHAT I BELIEVE IN

The Primacy of the Generalist

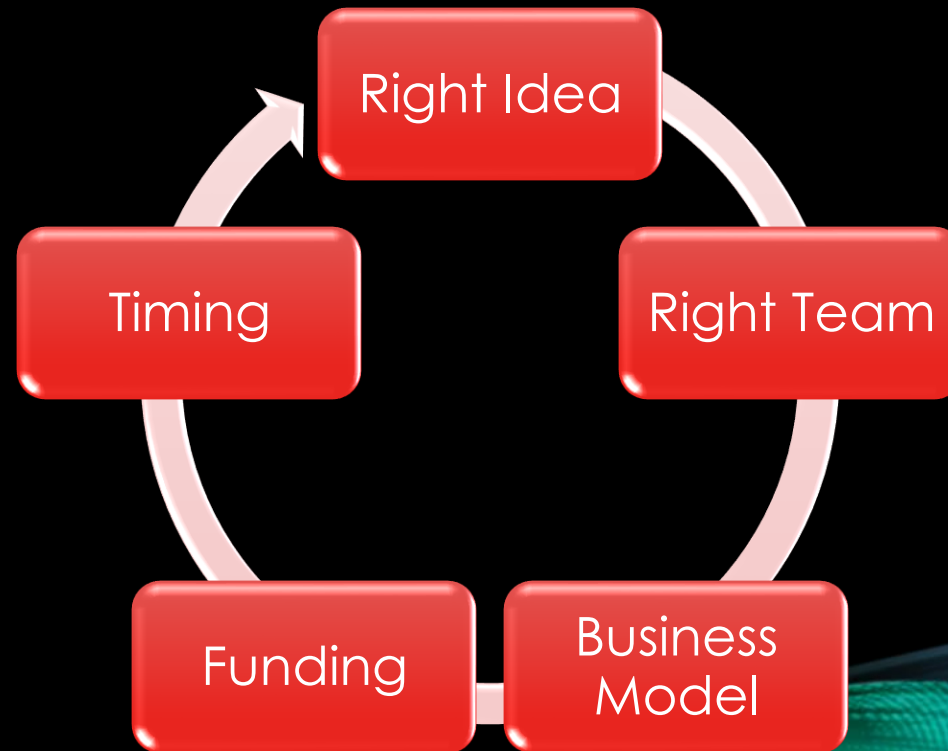
The Transformative Power of Caring

The Magnetic Force of Curiosity



INNOVATIVE MEDICAL STARTUP COMPANY

Keys to a successful startup company



WHY BECOME A CLINICIAN/RESEARCHER/PRACTICE IMPROVEMENT INVESTIGATOR? HOW DO YOU GET THE MESSAGE OUT?

Wilson Pace and Tom Vansaghi

\$30,000 grant from NAPCRG

Collaboration with Evans Laboratory in Toronto, Canada



SUMMARY



Annual PBRN Conference-June 2nd-3rd, 2022

2-3 June

18-22 Nov.

Annual NAPCRG Meeting-November 18th-22nd, 2022