# Aligning Supply of Care & Patient Needs

Basit Chaudhry MD, PhD
<a href="mailto:basitchaudhry@tuplehealth.com">basitchaudhry@tuplehealth.com</a>
The Predictive Modeling Summit Nov 2014

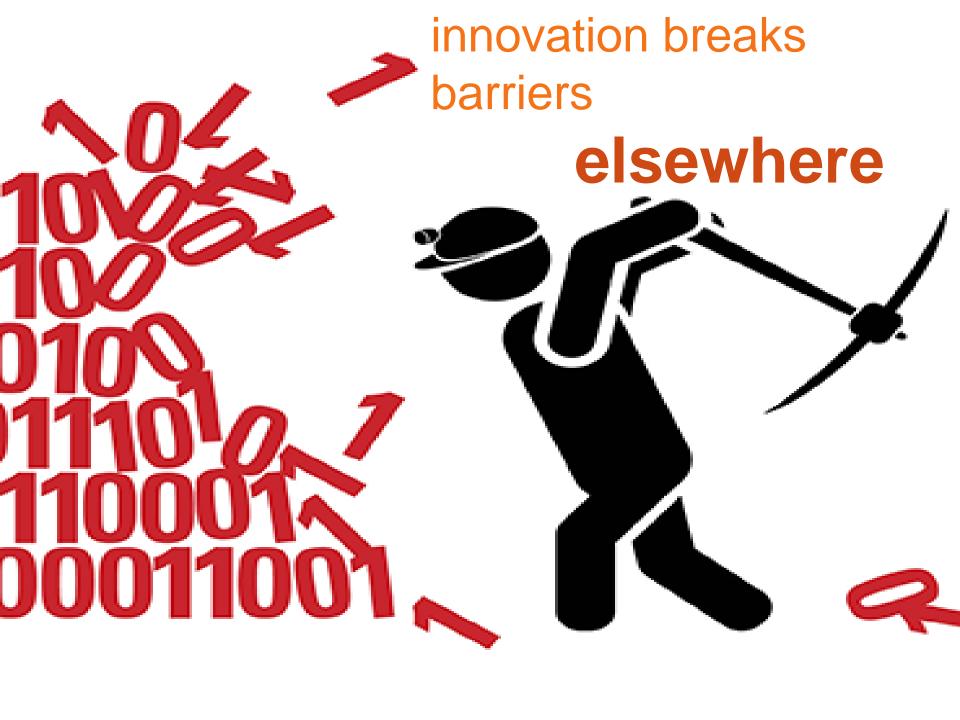
Tuple Health





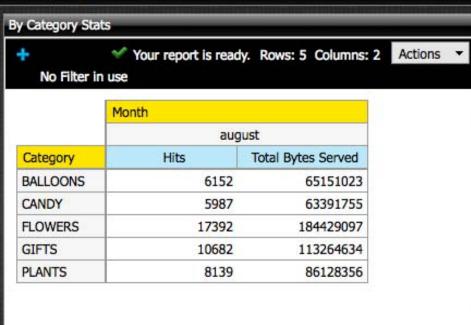


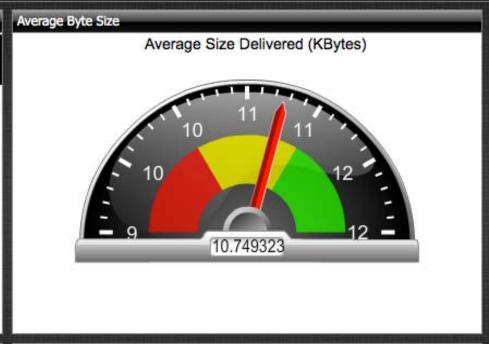
# but are we getting the value we need?





#### Serving Analysis







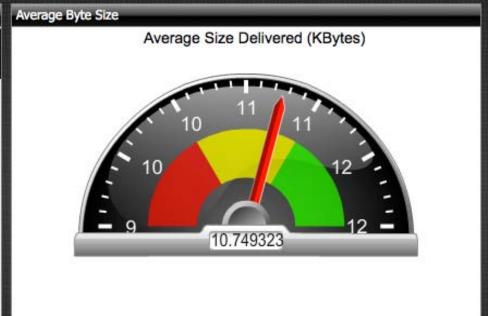


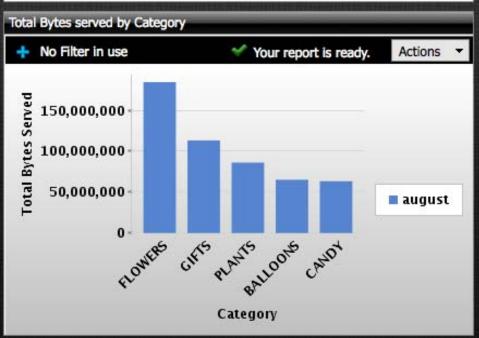
Displaying 1 - 3 of 3

Page 1

of 1







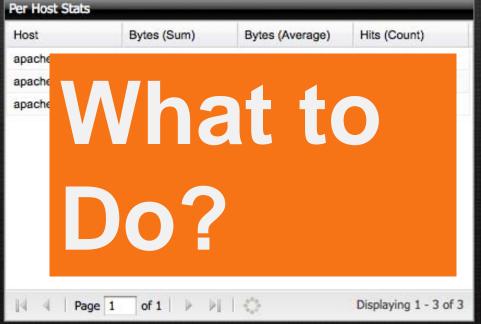


Exhibit 1. Mean Risk Scores, MA vs. FFS, 2004–2013 (2004 Model)

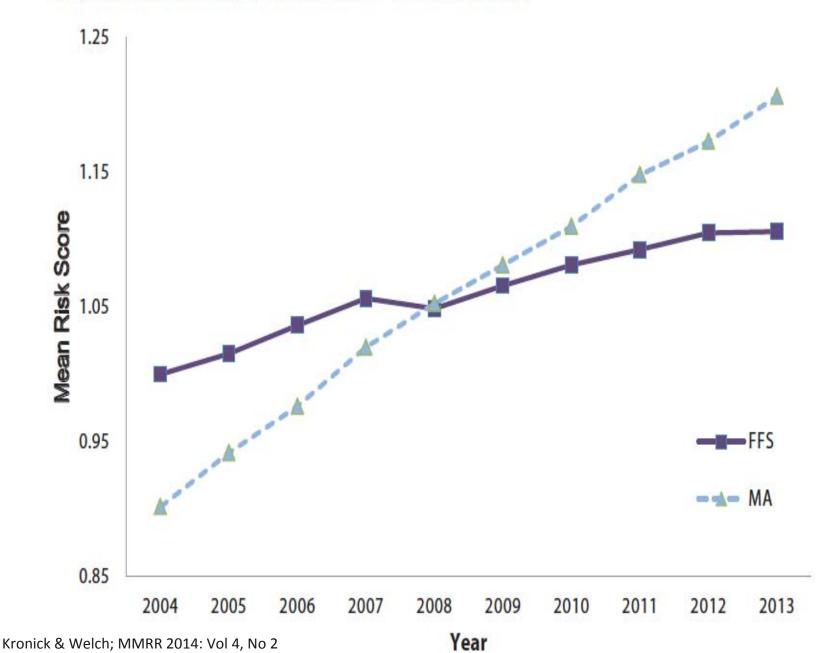
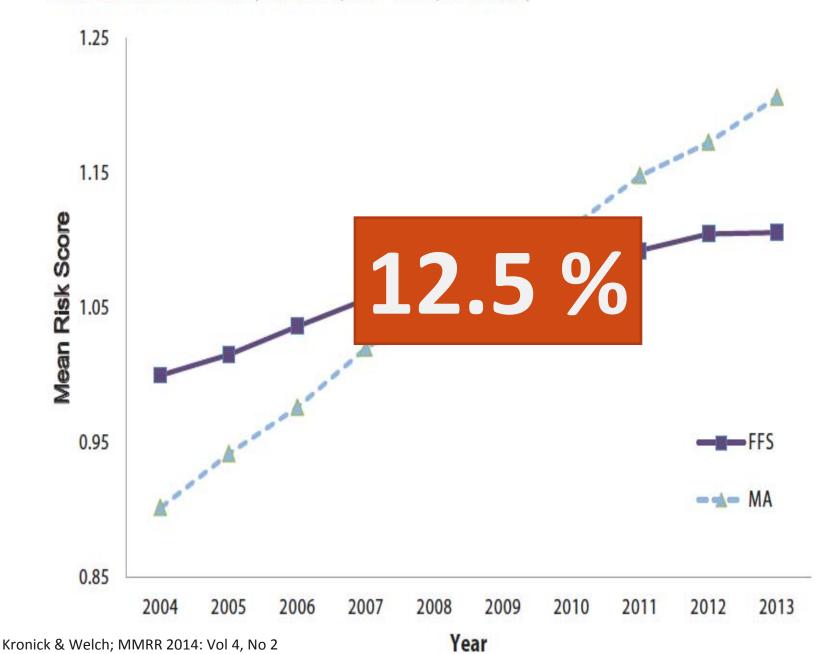


Exhibit 1. Mean Risk Scores, MA vs. FFS, 2004–2013 (2004 Model)





## Value Based Payment is an Optimization Problem

Premium Dollar



**Patient** Needs Across a Populatio

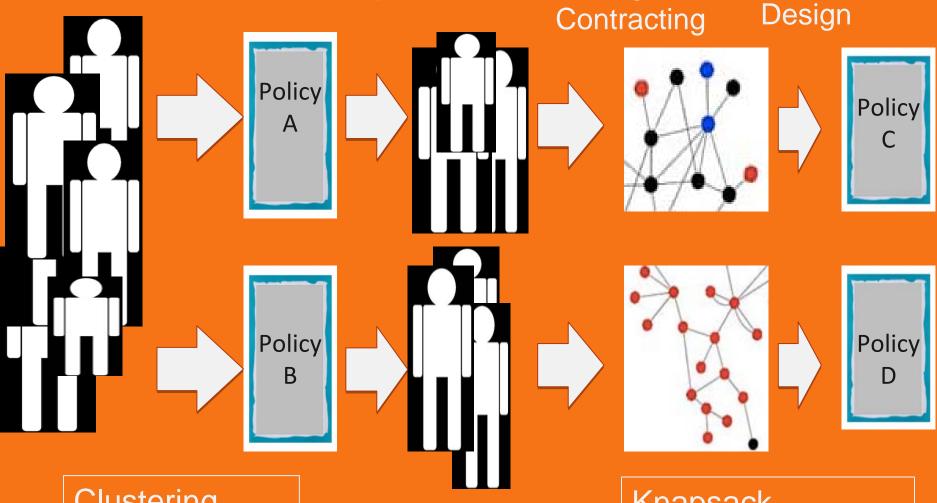


How do people choose a policy?

Who's at risk for leakage? And to which providers?

Targeted
Case
Management;
Contracting

New Product Design e.g. Value Based Design



Clustering
Algorithms &
Choice Models

Predictive Algorithms Knapsack algorithms & Robust

#### **Criteria for Measurement of Health Care Quality**

GIILEI	ia iui	Measurement or	Healtii	Gait	Quanty
Criteria	Renres	entative Items Measure	4 W	hat ic F	valuated

#### Structure

- · Licensure (facility and professional)
- Compliance with health and safety codes
- Medical staff appointment
- Board certification

Environment in which services are provided; whether there is adequate capability to provide the services offered

#### Is there more to Quality of Care?

- Diagnostic approaches
- Drugs prescribed
- Therapeutic procedures

### for specific diagnostic categories and

procedures

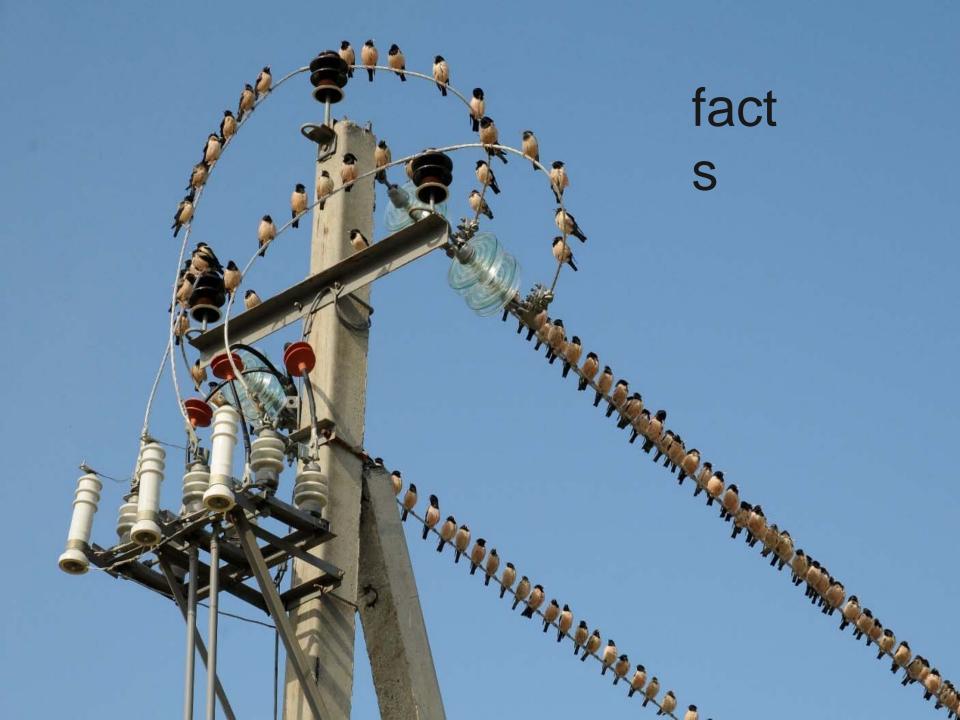
results of care

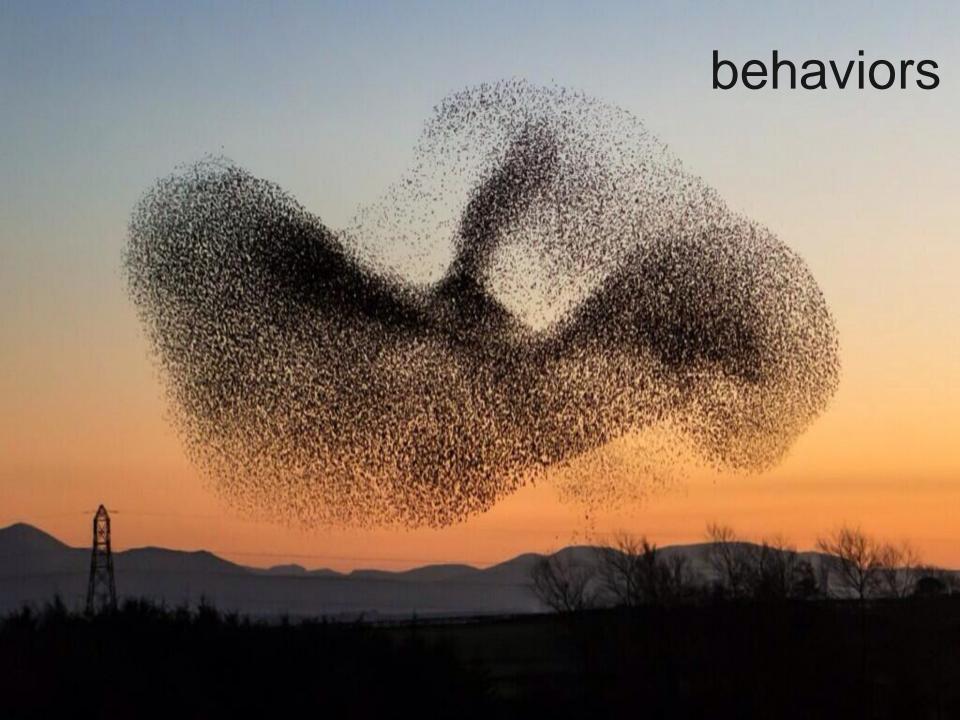
Midpoint and end results of the Combine other measures by examining the end

#### Outcome

clinical care process:Morbidity

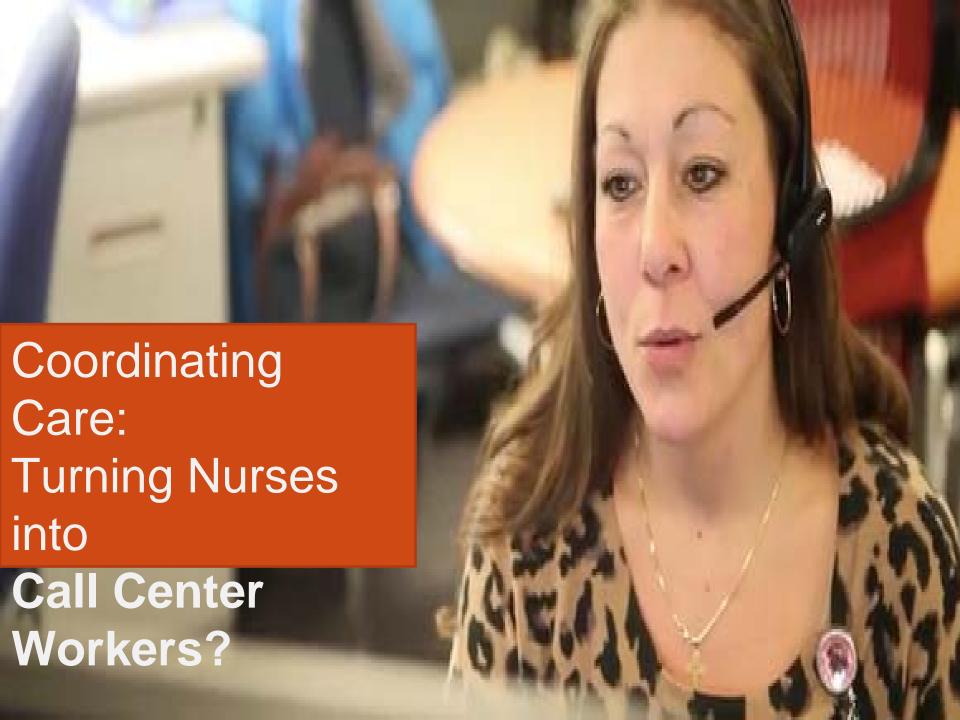
- Mortality
- Infection rates
- Complication rates

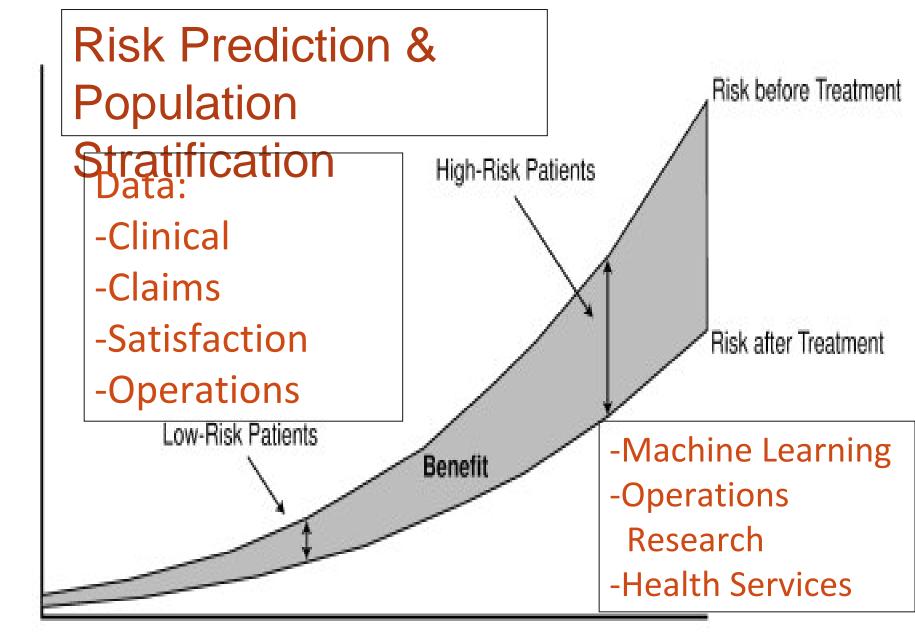




#### 50-75% of ED Visits - Unnecessary





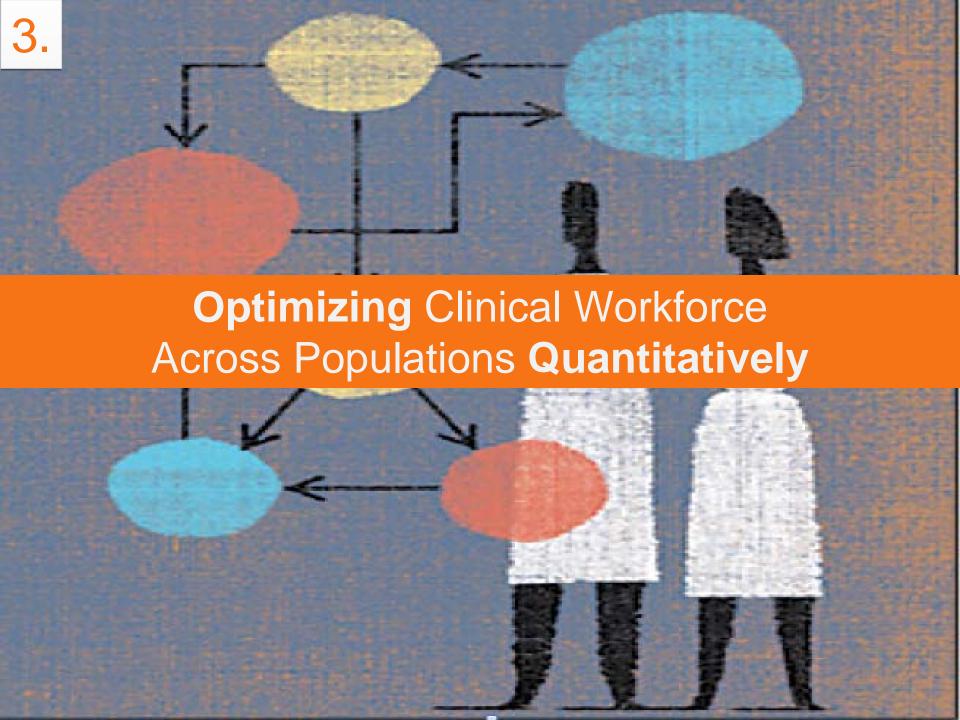


Level of Risk Factor



#### **Engineering New Care Manager Workflows**

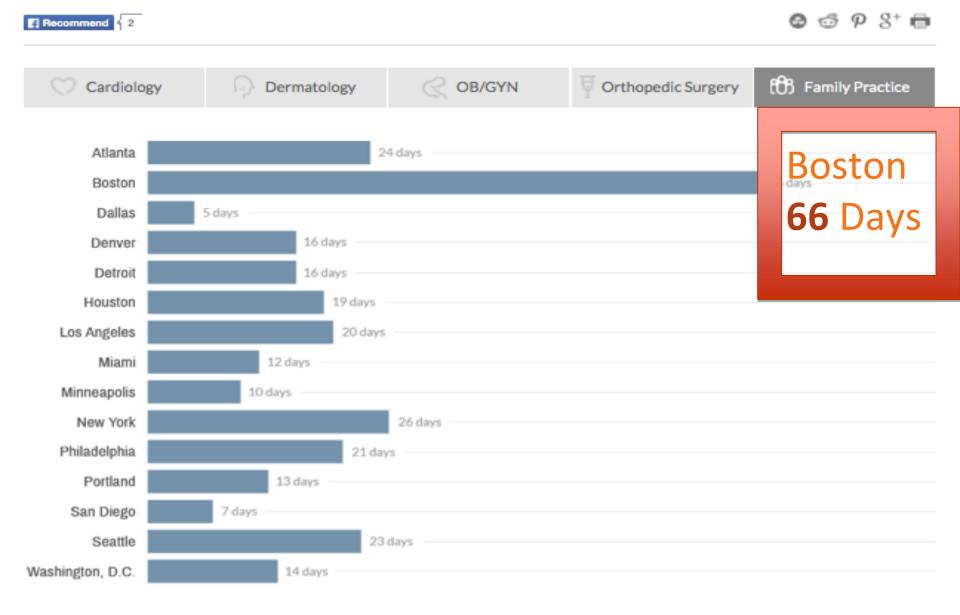






#### How long will you wait to see a doctor?

Here's the average wait time for a new patient to see a doctor for a non-emergency issue.



Source: Merritt Hawkins Interactive: Dominic Aratari / CNNMoney

#### population health in a food desert?







### **Population Health:** GIS Data/ Classification Algorithms/ Recommender Systems/ Optimization





#### Percentage at high risk of diabetes



#### Classification of poverty

BLACK: Lowest class. Vicious, semi-criminal.

DARK BILUE: Very poor, casual. Chronic want.

LIGHT BLUE: Poor, 18s, to 21s, a week for a moderate family

PURPLE: Mixed. Some comfortable others poor

PINK: Fairly comfortable. Good ordinary earnings.

PURPLE: Mixed. Some comfortable others poor

PINK: Fairly comfortable. Good ordinary earnings.

Learn

Get Insurance

Log in

Español

Individuals & Families

**Small Businesses** 

All Topics v

Search

SEARCH

#### The Health Insurance Marketplace is Open!

Enroll now in a plan that covers essential benefits, preexisting conditions, and more.

Plus, see if you qualify for lower costs.

## Developing New Kinds of Products is Possible

WANT TO LEARN MORE FIRST?

START HERE





#### Question?

Basit Chaudhry, MD, PhD
Tuple Health

basitchaudhry@tuplehealth.com