POPULATION HEALTH AND THE QUADRUPLE AIM

PDC SUMMIT 2018

BALLINGER



LEARNING OBJECTIVES

HOW DO WE AS THE DESIGN COMMUNITY CONTRIBUTE TO POPULATION HEALTH?

- DESCRIBE THE RELATIONSHIP BETWEEN POPULATION HEALTH AND THE IMPORTANCE OF PLACE

- EXPLAIN THE HEALTH DETERMINANTS OF POPULATION HEALTH AND HOW OUTCOMES ARE MEASURED AND AFFECTED BY THE DESIGN PROCESS

- SHOW HOW HUMANISTIC DESIGN CONTRIBUTES TO THE INSTITUTION'S IMAGE WITHIN THE COMMUNITY

- PROVIDE EXAMPLES OF A VARIETY OF SCALED PROJECTS TO CONTRIBUTE TO A HEALTHIER COMMUNITY

WHAT IS POPULATION HEALTH?

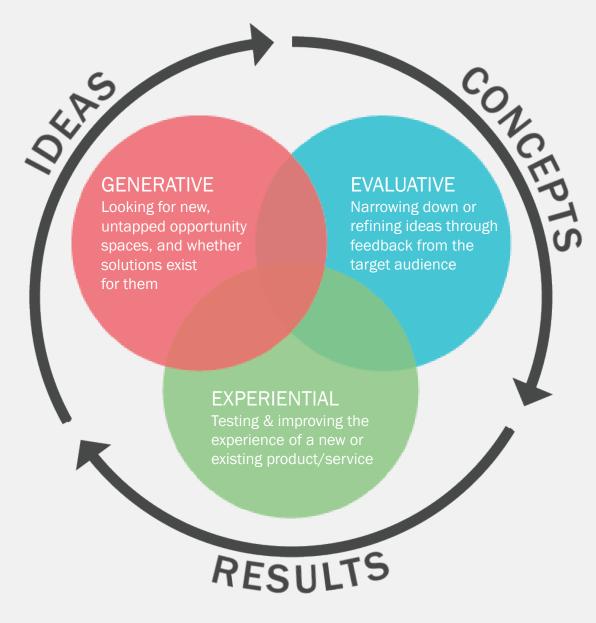
POPULATION HEALTH

The health outcomes of a group of individuals, including the distribution of such outcomes within the group (*Kindig* + *Stoddart*)

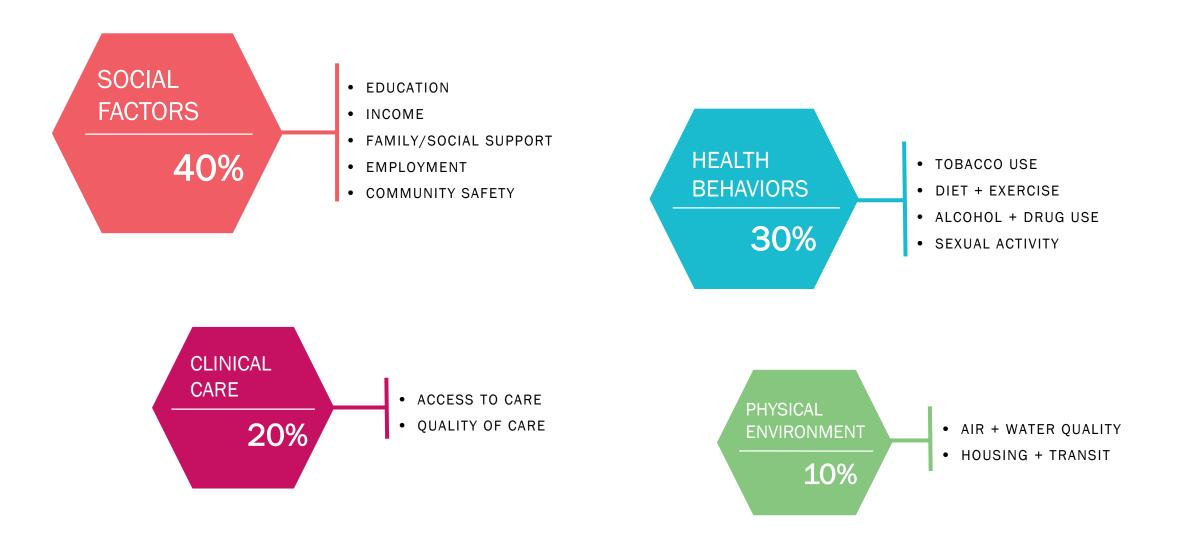
POPULATION HEALTH RESEARCH

The study of health outcomes, health determinants, and policies and interventions that link the two in efforts to improve population health and ameliorate health disparities (*Kindig* + *Stoddart*)

A shift from individualized care to collective care of the whole – with an emphasis on overall health & well-being.



HEALTH DETERMINANTS VERSUS OUTCOMES



SOURCE: COUNTY HEALTH RANKINGS + ROADMAPS, a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute COUNTY HEALTH RANKINGS 2018 http://www.countyhealthrankings.org/explore-health-rankings/what-and-why-we-rank/health-factors http://www.countyhealthrankings.org/sites/default/files/2018CountyHealthRankingsData-v1.xls

WHAT DETERMINES HEALTH

40% SOCIAL FACTORS

30% HEALTHY BEHAVIOR

WHAT WE SPEND ON HEALTHCARE



88% MEDICAL SERVICES



4% HEALTHY BEHAVIORS

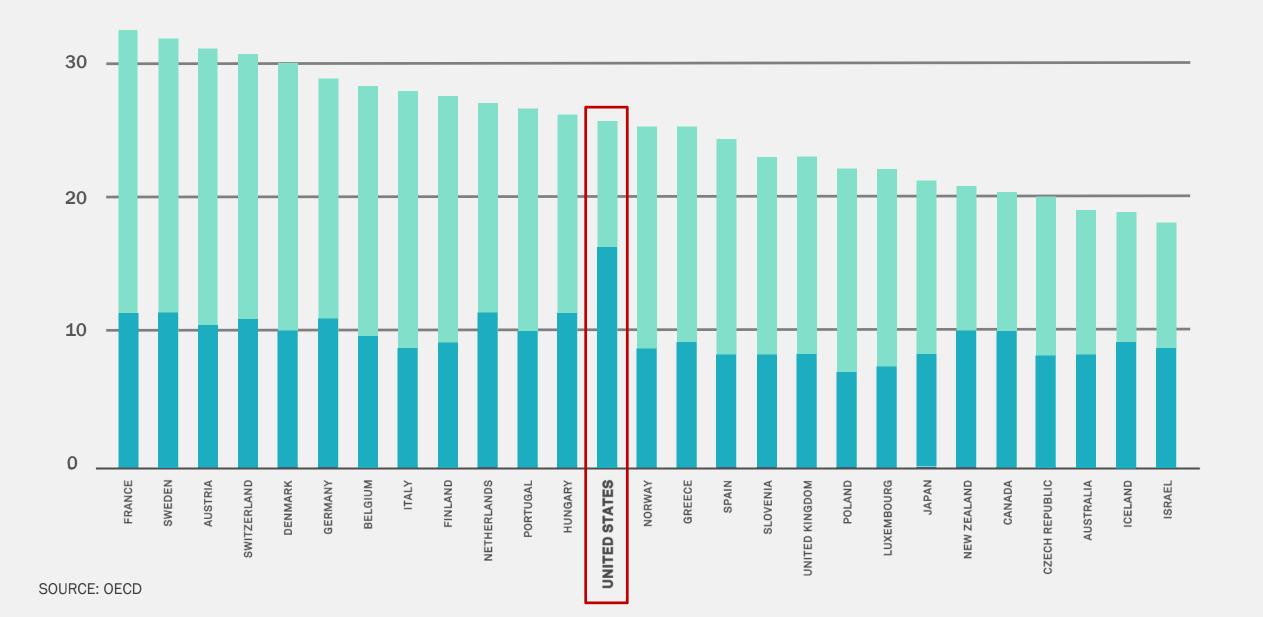


20% CLINICAL CARE

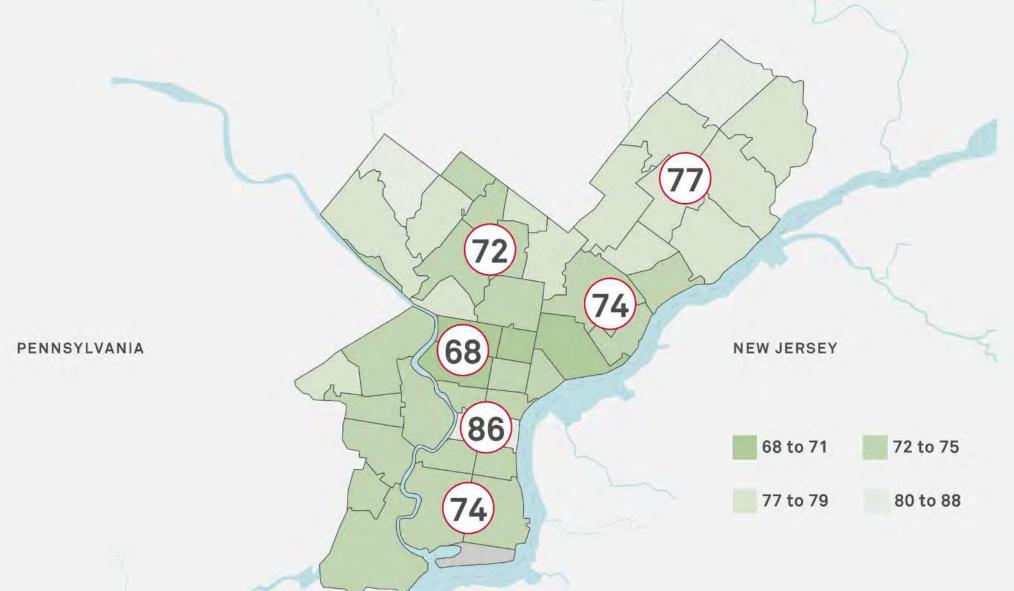


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U.S. ANOMALY IN HEALTH AND SOCIAL SPENDING PATTERNS

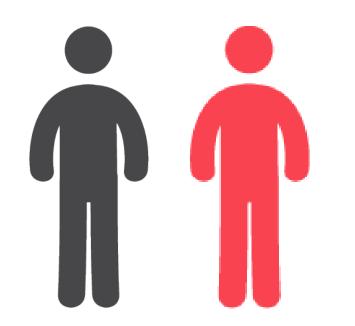


PHILADELPHIA LIFE EXPECTANCY BASED ON ZIP CODE



SOURCES: VIRGINIA COMMONWEALTH UNIVERSITY; U.S. CENSUS BUREAU; PHILADELPHIA POLICE DEPT.

BALLINGER



NEARLY ONE HALF OF ALL AMERICANS SUFFER FROM AT LEAST ONE CHRONIC DISEASE





SOURCE: Centers for Disease Control and Prevention

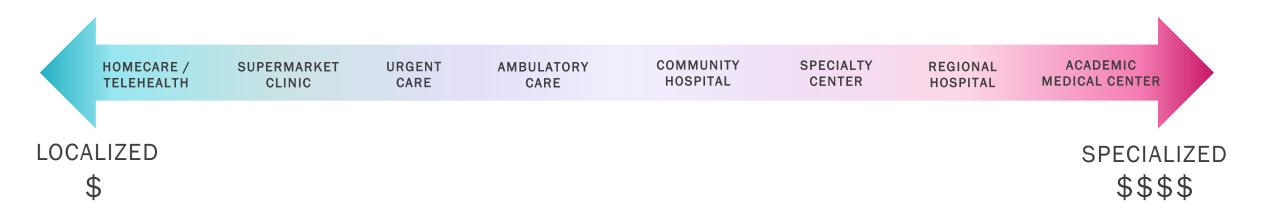
THE EVOLVING QUADRUPLE AIM



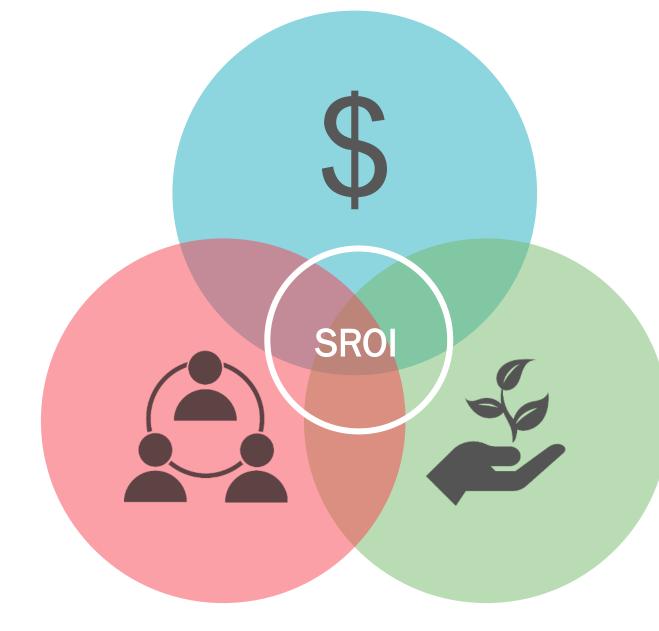
Delivering the Right Care, for the Right Price, at the Right Time – in the Right Place

THE IMPORTANCE OF PLACE

	TELEHEALTH	RETAIL CLINIC	URGENT CARE	AMBULATORY CARE	EMERGENCY ROOM
CONVENIENT HOURS	\checkmark	\checkmark	\checkmark		\checkmark
NO APPOINTMENT	\checkmark	\checkmark	\checkmark		\checkmark
CONVENIENT LOCATION	\checkmark	\checkmark	\checkmark	\checkmark	
LOWER COST	\checkmark	\checkmark		\checkmark	
PHYSICIAN ON SITE			\checkmark	\checkmark	\checkmark
SURGICAL SERVICES					\checkmark
MULTIPLE EXAM ROOMS			\checkmark	\checkmark	\checkmark
SHORT WAIT TIMES	\checkmark	\checkmark		\checkmark	



SOCIAL ROI



SOCIAL RETURN ON INVESTMENT (SROI)

is a method for measuring values that are not traditionally reflected in financial statements –Including Social, Economic, and Environmental Factors

MEASURING SUCCESS

PHYSICAL HEALTH

- GREATER LIFE EXPECTANCY
- LOWER RATES OF CHRONIC DISEASE
- ACCESS TO HEALTHCARE
- BETTER SELF-REPORTED HEALTH

SOCIAL WELL-BEING



- COMMUNITY ENGAGEMENT
- HIGHER LEVELS OF EMPLOYMENT
- LOWER RATES OF SMOKING
- LOWER RATES OF OBESITY

MENTAL HEALTH



- LOWER RATES OF DEPRESSION
- LOWER RATES OF SUBSTANCE ABUSE
- LOWER STRESS LEVELS
- GREATER ABILITY TO COPE

COST



- LOWER COST PER CAPITA
- LOWER INSURANCE PREMIUMS

FEATURED PROJECTS

PUENTES DE SALUD OUTPATIENT WALK-IN CLINIC

PENN MEDICINE LANCASTER GENERAL HEALTH URGENT CARE

TOWER HEALTH SYSTEM **READING HEALTHPLEX FOR ADVANCED SURGICAL + PATIENT CARE**

RUTGERS UNIVERSITY NEW JERSEY INSTITUTE FOR FOOD, NUTRITION + HEALTH



DESIGN + POPULATION HEALTH: KEY FACTORS





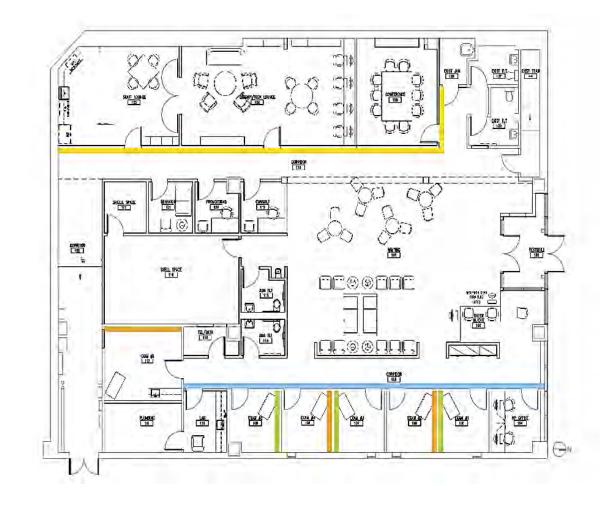




SOCIAL ROI

PUENTES DE SALUD





Services

MEDICAL AND DENTAL

- Clinical Care
- Women's Health
- Prental Education
- Diabetes Management

WELLNESS

- Promotora Program
- Medical-Legal Partnership
- Behavioral Health
- Charla Program
- Puentes Yoga
- Art & Culture

EDUCATION

- Children's Education
- Adolescent Group
- Adult Education
- Higher Education





EXAM R

















CHALLENGE:

 Desire to promote health & wellness of Latino immigrant population in Philadelphia

SOLUTION:

 Provide quality clinical care and innovative educational programs



CHALLENGE:

 Encourage physical activity as part of daily life

SOLUTION:

 Provide fitness classes to community



SOCIAL CONNECTEDNESS

CHALLENGE:

 Provide a safe environment for Latino immigrants

SOLUTION:

 Provide space to gather and innovative educational programs

PENN MEDICINE LANCASTER GENERAL HEALTH URGENT CARE











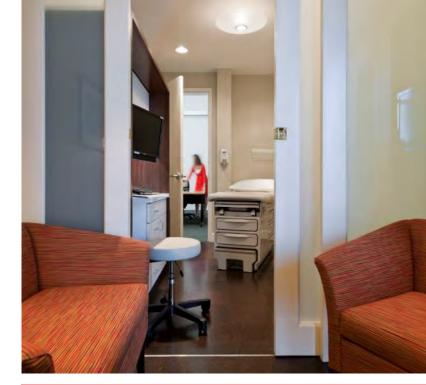












ACCES

ACCESS TO HEALTHCARE

CHALLENGE:

 Desire to increase access to quality healthcare

SOLUTION:

 Provide convenient location to community



CHALLENGE:

- Provide moments of respite and stress reduction

SOLUTION:

 Access to Nature for patients and staff SOCIAL CONNECTEDNESS

CHALLENGE:

 Provide moments of respite and stress reduction

SOLUTION:

 Provide comfortable spaces for family waiting & consulting

READING HEALTH SYSTEM READING HEALTHPLEX FOR ADVANCED SURGICAL + PATIENT CARE

→ Entrance → Patient Drop Of & Pick-Up Only ← Parking

46+ ACRE CAMPUS 3.0+ MILLION GSF CAMPUS 679 BEDS

1 Arrival/Entry

2 Surgical Waiting and Garden

3 Prep/Recovery + PACU

4 Surgery Suite

5 OR Staff Support

- 6 Psychiatric Treatment Unit
- 7 ED Expansion

9

- 8 Trauma Expansion
 - OR/Anesthesia Administration

1

2

GROUND LEVEL

-

15 15 15

10

10

- Prep/Recovery
 Short Procedure Suite
- 3 ED Administration
- 4 OR Staff Support
- 5 On Call

- 6 Protocol Offices
- 7 Pre-Admissions Testing
- 8 Public Conference Room
- 9 Trauma Administration
- 10 Healing Garden/Public Park















VISITOR AND FAMILY



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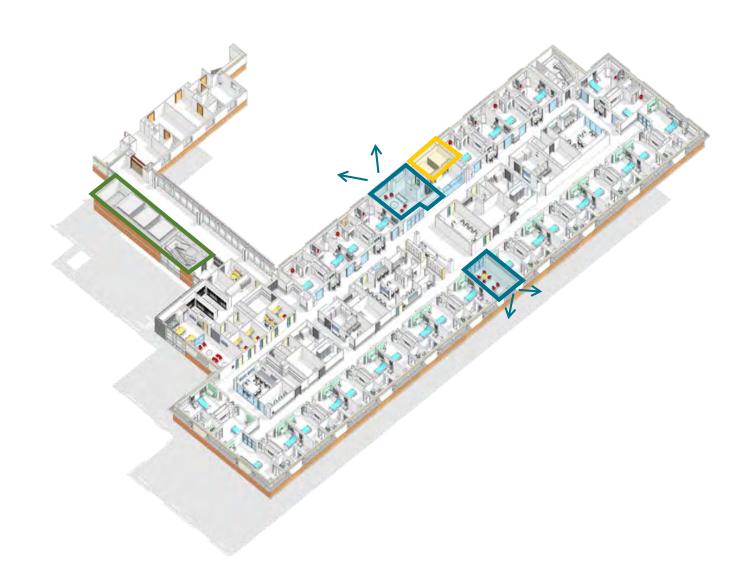








TYPICAL INPATIENT UNIT



FAMILY WAITING

- Located OUTSIDE of the unit for privacy
- Access to public toilets and small nourishment area
- Expansive view of gardens below

SERVICE ELEVATORS

• Open into off stage corridor to maximize patient privacy and noise for patient on the unit

PUBLIC ELEVATORS

• Centralized to reduce travel distances and minimize patient/public conflicts

FAMILY LOUNGE / CONSULT

• Small gathering space terminus for public spine INSIDE the unit with natural light























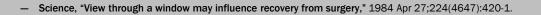




NATURAL VIEWS AND PATIENT OUTCOMES

"Views to the outside may be especially important to individuals who have unvarying schedules and spend a great deal of time in the same room, such as surgical patients. It is possible that a hospital window view could influence a patient's emotional state and might accordingly affect recovery."

Roger S. Ulrich











SOCIAL ROI

CHALLENGE:

 Desire to increase access to Nature per Evidence Based Design

SOLUTION:

Covering Operational Room
 Platform with a green park



CHALLENGE:

Encourage physical activity within the building

SOLUTION:

- Public stairs along East/West Corridor with public amenities





CHALLENGE:

 Provide moments of respite and stress reduction

SOLUTION:

 Access to Nature for patients and staff

RUTGERS UNIVERSITY NEW JERSEY INSTITUTE FOR FOOD, NUTRITION + HEALTH

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CORE PURPOSE

HEALTH

NUTRITION

FOOD

Unite faculty, staff, and students from across the university to work on serious, but preventable, health problems in our society.

OUR GOAL: MAKE NEW JERSEY THE "HEALTHY STATE" AND A MODEL FOR THE NATION

KEY FACTS:

- Began in 2008 w/ grant money.
- Has 100 members from 9 schools and 28 different departments

WELLNESS RESEARCH CENTERS:

- Center for Lipid Research
- Center for **Digestive Health**
- Center for Health and Human Performance
- Center for Childhood Nutrition Education & Research

THEMATIC PROGRAMS:

- Culinary Health and Wellness
- One Nutrition
- IFNH Ambassadors
- Food Systems & Agriculture
- New Jersey Healthy Kids Initiative

STUDENT SERVICES:

• Student Health Clinic & Healthy Eating Courtyard (Harvest IFNH) COLLABORATION ZONE - 3,700 SF HUMAN PERFORMANCE LAB – 4,100 SF

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INTERDISCIPLINARY WORK ENVIRONMENT – 6,700 SF NUTRITIONISTS SOCIOLOGISTS GENETICISTS PUBLIC POLICY EXPERTS URBAN PLANNERS EXERCISE PHYSIOLOGISTS

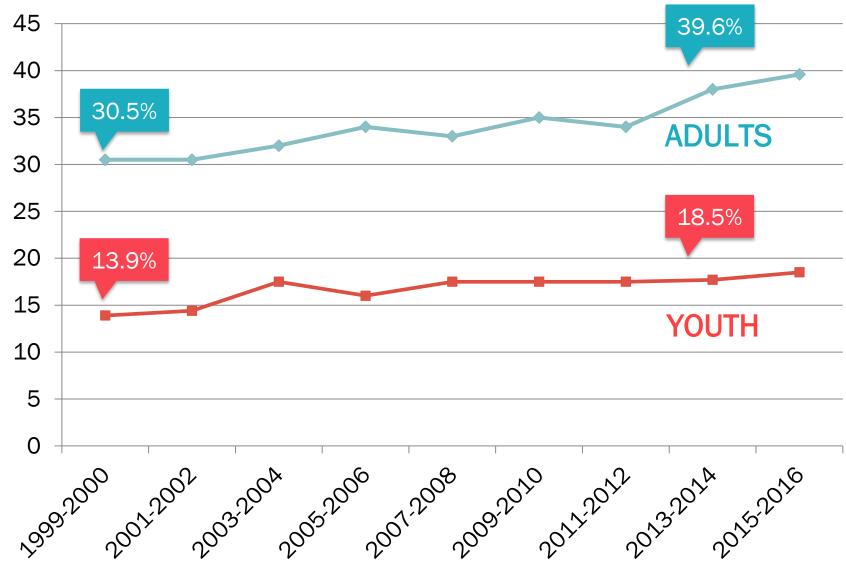
WET RESEARCH LAB 4,900 SF

STUDENT HEALTH CLINIC & NUTRITIONAL RESEARCH – 4,900 SF NUTRITIONAL RESEARCH PRE-SCHOOL – 4,600 SF w/ 5,000 SF PLAYGROUND

RESEARCH CORE LAB – 3,600 SF HEALTHY EATING VENUE – 6,000 SF

CONFERENCE - 6,000 SF

OBESITY IN AMERICA*



*Adults Aged 20+ and Youth Aged 2-19 Years. Source: Centers for Disease Control and Prevention Childhood Obesity Rates have tripled since the 1970's

National Obesity Rates:

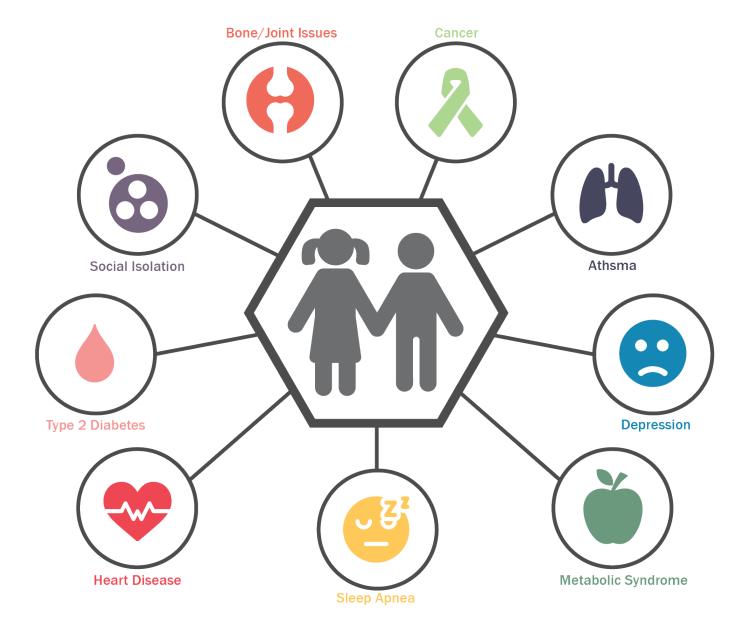
- 10% Pre-Schoolers (ages 2-5)
- 16% NJ Pre-Schoolers
- 20% Children (ages 6-11)
- 20% Adolescents (ages 12-19)

Doesn't Include Children that are Overweight

Just over 70% of All Americans are either Overweight or Obese.

- 38% TN Children (ages 10-17)
- 32% NJ Children (ages 10-17)
- 19% UT Children (ages 10-17)

CHILDHOOD OBESITY



 More likely to be Teased and have Self-Esteem Issues...

• More Likely to have Risk of Other Chronic Health Issues for Longer Period of Time...

• More Likely to be Obese as an Adult with All of the Associated Health Issues...

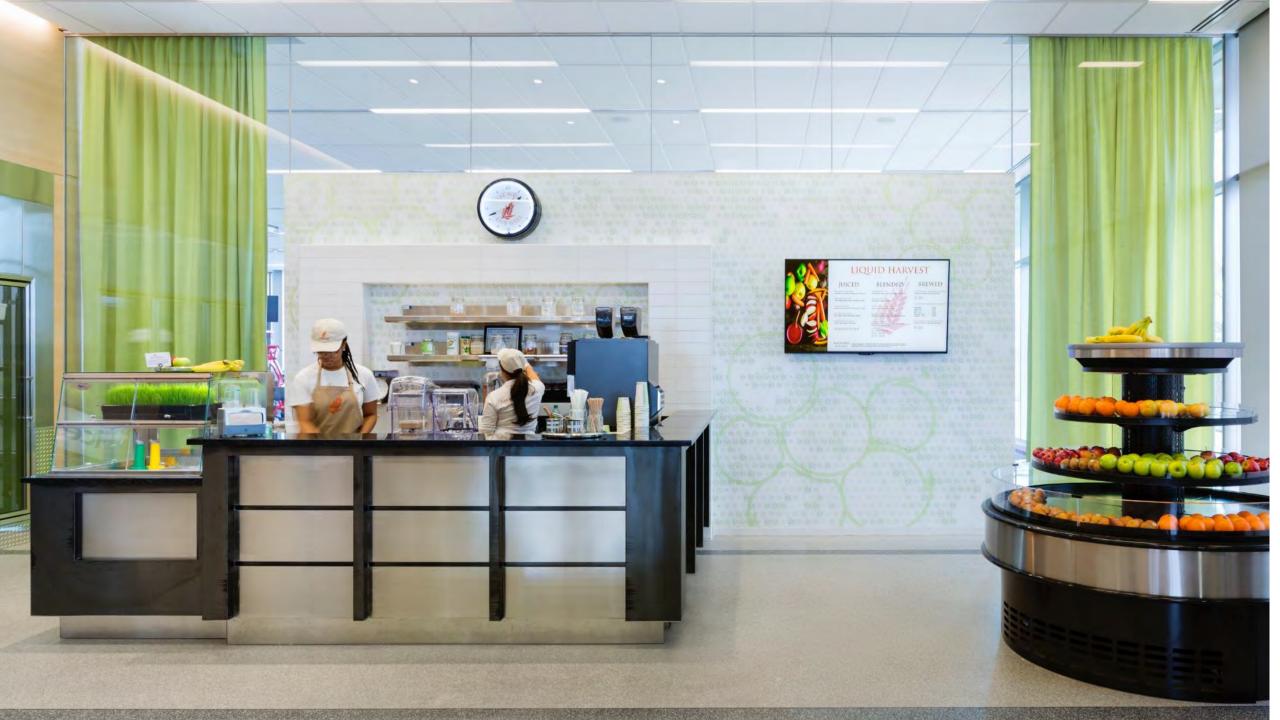






BALLINGER

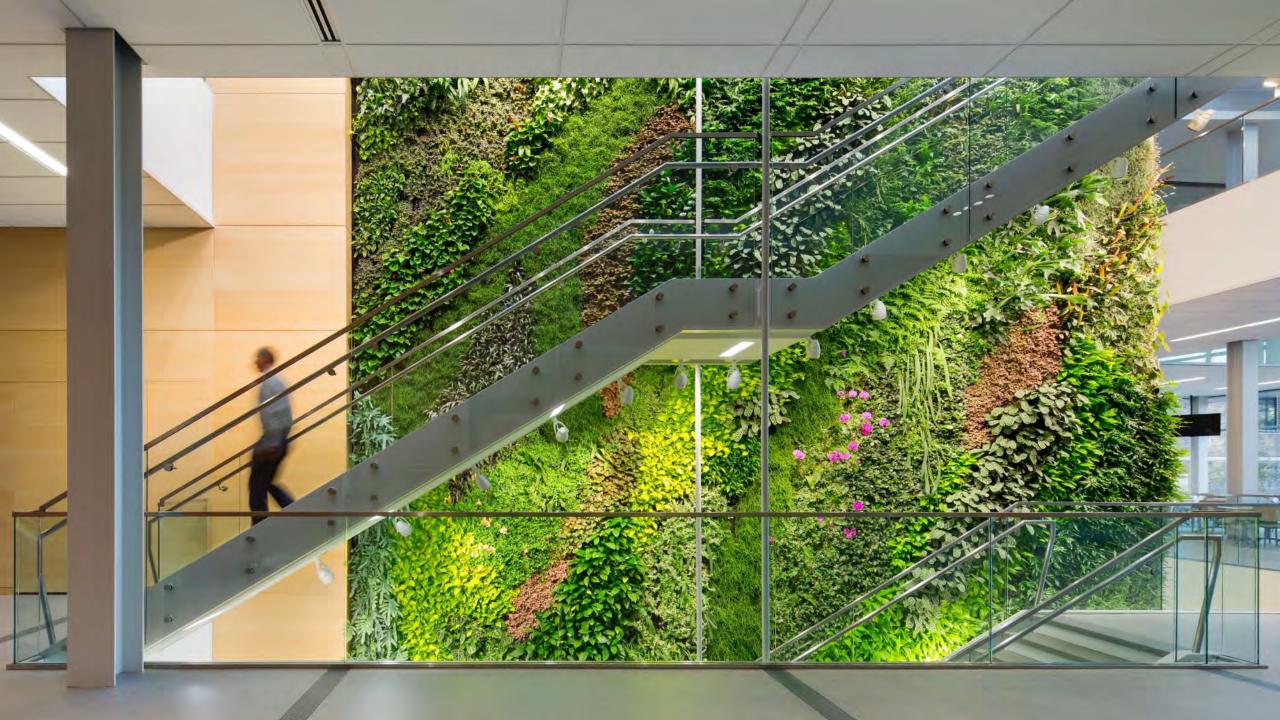




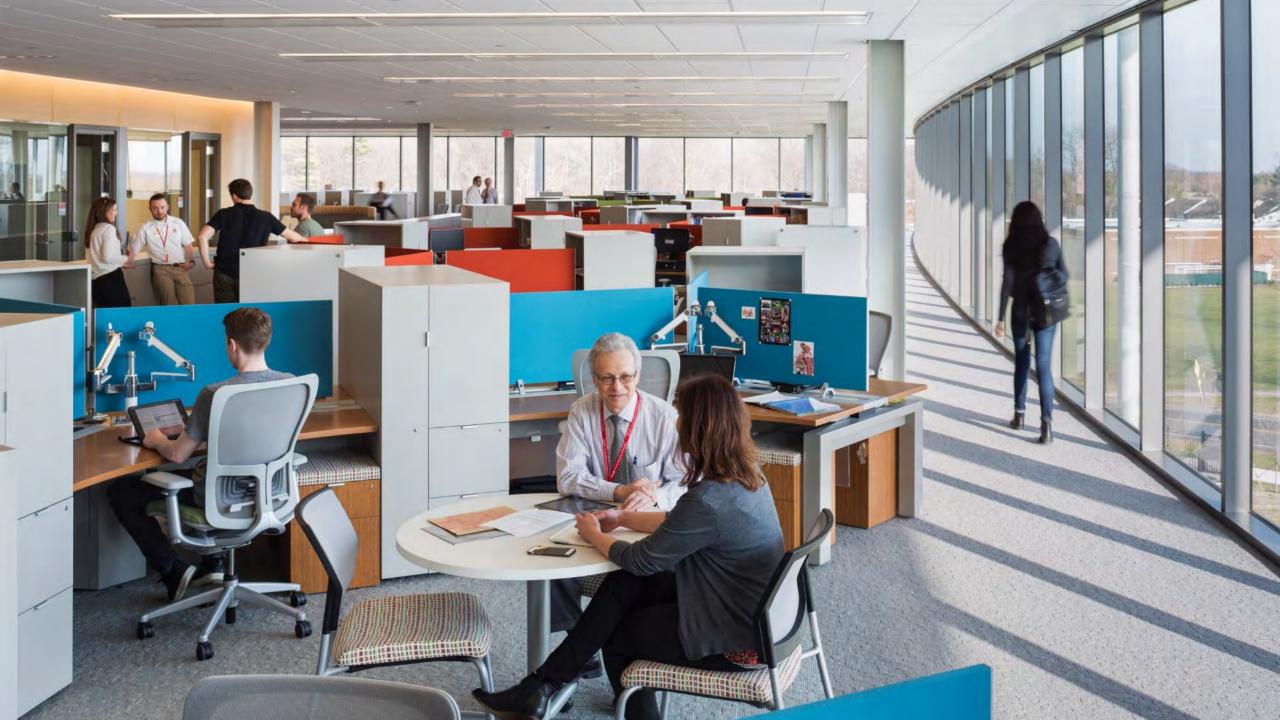




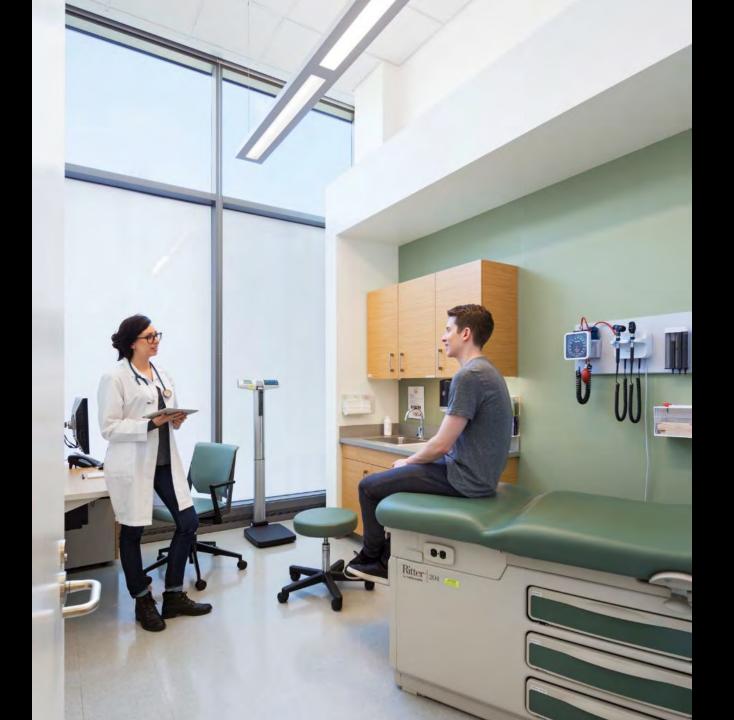




















CHALLENGE:

 Increase awareness of good nutrition.

SOLUTION:

- Provide educational programs to public.
- Provide healthy eating alternatives.





CHALLENGE:

- Promote physical activity.

SOLUTION:

- Encourage use of Feature stairs.
- Provide active play space.
- Provide Human Performance Gym.





SOCIAL CONNECTEDNESS

CHALLENGE:

 Encourage inter-disciplinary approach to health & wellbeing

SOLUTION:

Provide casual space to gather & socialize.









ACCESS TO HEALTHCARE

CHALLENGE:

- Desire to increase access to Healthcare within University

SOLUTION:

 Provide convenient access to clinical and pharmacy programs



CHALLENGE:

- Allow access to nature within the building

SOLUTION:

- Provide green wall at feature stair

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SOCIAL ROI

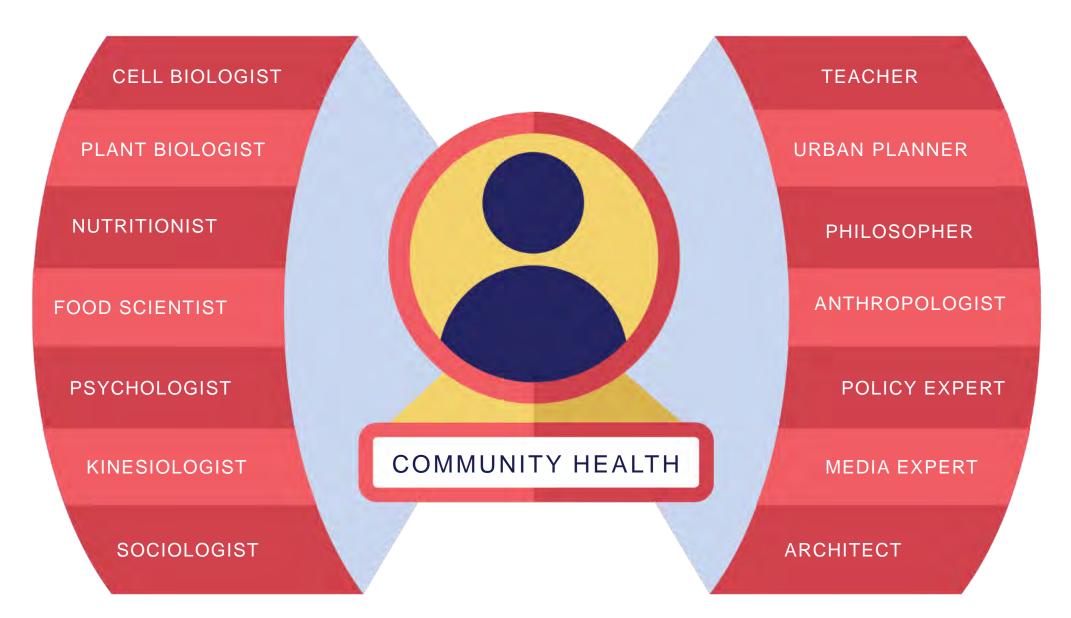
CHALLENGE:

Learn how to integrate health & wellbeing into the community

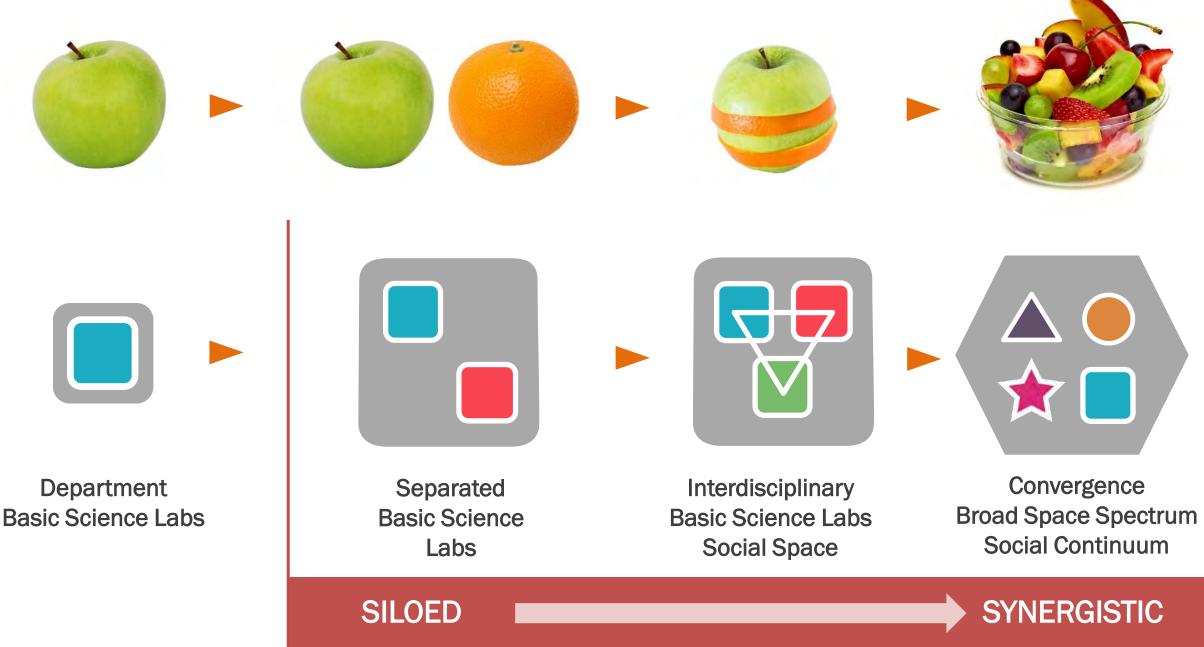
SOLUTION:

- Use Daycare as Testing Ground for Other Community Programs

HEALTHCARE – A COLLECTIVE EFFORT



EVOLUTION OF SCIENCE: TEAM + FACILITIES



COMMUNITY ENGAGEMENT

SUPPORTING OUR COMMUNITY, ENVIRONMENT + PROFESSION



FUTURE CITY







AMERICAN HEART ASSOCIATION



SPARK



COMMUNITY DESIGN COLLABORATIVE



PUENTES DE SALUD

AMERICAN INSTITUTE OF ARCHITECTS Hippocratic Oath

By working as one, with a common goal, health facilities professionals and architects can provide all those who walk through the doors of the nation's health care facilities with the perfect health care physical environment, updating the oath that Hippocrates set forth—"First, do no harm"—by adding **by providing patients with quality care as** seamlessly and as quickly as possible in pleasant surroundings.

Healthcare Facilities Management, "2010 International Summit & Exhibition on Health Facility Planning, Design and Construction," 02/01/2010, https://www.hfmmagazine.com/articles/957-2010-international-summit-amp-exhibition-on-health-facility-planning-design-and-construction.

ELEMENTS OF A COMMUNITY

