Oct. 22
Tuesday

Dr. Nimmi Ramanujam
Founder of Calla Imaging and Professor at Duke University
Pay Less, Expect More?

Nimmi Ramanujam, Ph.D.
Director, Global Women’s Health Technologies
Robert Carr Professor of Biomedical Engineering
Duke University, Durham, NC
The First Paradox - Access


The Second Paradox - Cost
The Third Paradox - Health

The graph shows the relationship between life expectancy in years and health spending per capita (USD PPP). The equation $R^2 = 0.51$ indicates the coefficient of determination, suggesting 51% of the variation in life expectancy can be explained by health spending.

Barriers to Health Care

1. Patients; Patient Needs
2. Primary Care; General Practitioners
3. Specialist Care; Secondary Input
4. Hospital Services; Patient Treatment
5. Support Services; Follow-Up Care

Structural
Educational
Cultural
Disruptive Innovation – A New Model for Health Care?

Plugging new technologies into old business models has caused health care costs to rise rather than fall

- Regulations
- Licensure and accreditation
- Cultural resistance
- Payment and reimbursement policies

Innovators Prescription, Clayton Christenssen
Disruptive Innovation for Cervical Cancer Prevention
Cervical cancer is caused by human papillomavirus (HPV), a common sexually transmitted infection.
The Immortal Life of Henrietta Lacks
Henriettas Cervical cancer Cells
George Papanicolau 1883-1962

Hans Hinselmann 1884-1959

Harald Zur Hausen
1936-Present

HPV Virus
A woman dies of cervical cancer every 2 minutes, globally.
Cervical Cancer Mortality
Current pathways of care are failing women.

1. **Screening**
   - At the health centre

2. **Diagnosis**
   - At the district hospital

3. **Treatment**
   - At the central hospital

**Why Women Die?**
Clinical Colpscope
50-150 lbs
$5,000-$15,000
Introducing the Pocket Colposcope

The new instrument with the potential to revolutionize cervical cancer screening in low-resource settings.

0.5 lbs
$500

Photo Credit: 3rd Stone Design
Mobile Health Clinic - Peru
The Speculum
The Calla Lily
Duke Social Innovators in Training
Everyone is innovating and tinkering....
Those who know best the lived experience of global social issues often lack access to the skills, specialized knowledge and power to solve them.
While those who have access to cutting edge education in technology for social innovation are not at the level of the problem.
Igniting girls and women in the least resourced communities to innovate at the level they problem knowledge.

Design Thinking Framework

Enabling STEM Knowledge

Social Innovation

Ignitecreateimpact.com
Light Poverty Globally
Social Innovation Program centered on Sustainable Development Goals (SDGs)

SDG 7 (Clean Energy)
University Trainers, Duke University
Shani, WISER Student Club Leader
WISER Team wins Regional Competition
Reach of Ignite

- 6 years serving communities
- Over 100 university trainers
- Over 1000 girls & women impacted
Ignite Fellows Create their Own Disruptive Innovations

Gabriela Asturias, B.S.  
Founder, Fundegua  
Fundegua.org

Jen Dietzel, B.S.  
Founder, Flash  
dukegroups.com/organization/dukeflash

Libby Dotson, B.S.  
Lead Curator, Invisible Organ Art Exhibit  
TheCallacampaign.com

Andrea Kim, B.S.  
Director  
Invisible Organ Documentary  
IgniteCalla.com
Why you should be a Disruptive Innovator!!

INNOVATION

DOING THE SAME THINGS A BIT BETTER

DOING NEW THINGS

DISRUPTION

MAKING THINGS THAT MAKE THE OLD THINGS OBSOLETE