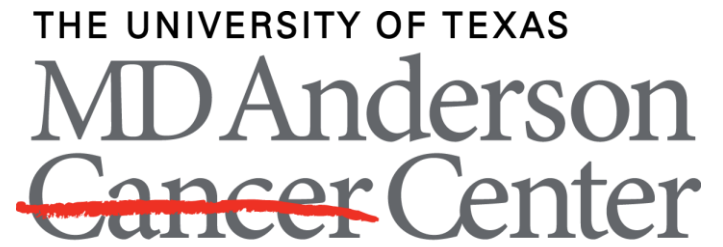


Joxel Garcia, MD, MBA

Executive Director, Cancer Prevention and Control Platform

Member, Moon Shots Program Leadership Team

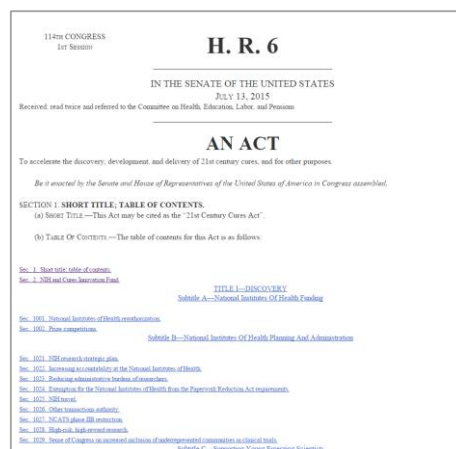


Making Cancer History®

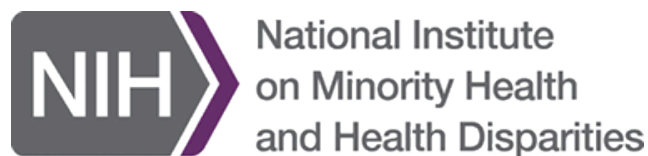
21st Century Cures Act accelerates the discovery, development, and delivery of innovative cures, treatment, and preventive measures

\$6.3 billion

- **\$4.8 billion** to National Institutes of Health (over 10 years)
 - Precision Medicine Initiative
 - Brain Research Through Advancing Innovative Neurotechnologies Initiative
 - National Cancer Moonshot
- **\$500 million** to FDA (over 10 years)
- **\$1 billion** for grants to states to support opioid abuse prevention (over 2 years)



21st Century Cures Act includes key specifics for efforts in minority health and health disparities



- Encourages National Institute on Minority Health and Health Disparities to include within its strategic plan ways to increase representation of underrepresented populations in clinical trials



- Codifies the Minority Fellowship Program for the Secretary to increase the number of professionals who provide mental or substance use disorder services to underserved, minority populations, and to improve the quality of mental and substance use disorder prevention and treatment for ethnic minorities

21st Century Cures Act includes several key opportunities to impact underserved communities

- Encourages underserved communities to **participate in clinical trials**
- Provides more opportunities to **train providers**
- Augments **mental health** and **community health services**
- Provides support for **volunteers in community centers**

21st Century Cures Act includes several key opportunities within the National Cancer Moonshot

- Bio-Markers
- Access to new drugs
- Knowledge transfer to communities
- Training
- Education
- Clinical trials



A National Call to Action



Joe Biden, White House Rose Garden, Oct. 21, 2015

“And I believe we need a **Moon Shot in this country to cure cancer**. It’s personal. But I know we can do this ... because there are so many breakthroughs ... we can make them real with an absolute national **commitment to end cancer as we know it today**.

Democrats and Republicans ... share our passion – our passion to **silence this deadly disease**. If I could be anything, I would want it to be the President that ended cancer, because it’s possible.”

MD Anderson Moon Shots Program

Goal-oriented multi-disciplinary effort harnessing available knowledge and new disruptive technologies to dramatically reduce cancer mortality through prevention, early detection and curative treatments

First Six Moon Shots

- Leukemia – MDS/AML
- Leukemia – CLL
- Prostate cancer
- Melanoma
- Lung cancer
- Breast and Ovarian cancer

Six New Moon Shots

- Glioblastoma
- Pancreatic cancer
- HPV-associated cancers
- Colorectal cancer
- B-cell Lymphoma
- Multiple Myeloma

Moon Shots Platforms

Professional teams and robust infrastructure focused on the conversion of actionable knowledge into clinical endpoints

- Cancer Prevention and Control
- APOLLO and Big Data
 - Cancer Genomics Laboratory (CGL)
 - Proteomics
 - Immunotherapy
- Institute for Applied Cancer Science
- Oncology Research for Biologics and Immunotherapy Translation (ORBIT)
- Applied Cellular Therapy
- Center for Co-Clinical Trials

The Platform leads transformational prevention and early detection initiatives in partnership with the Moon Shots Program

Evidence-Based Interventions



Policy



Public &
Professional
Education



Community-
Based Clinical
Services

Population-Level Focus



Institutional



Local/Regional/
State



National /
International

Vision: To be the leader in cancer prevention, control, and early detection, targeting decreased burden of cancer in the US and world by translating science into policy and disseminating knowledge and services

Mission: To accelerate the development, dissemination, and amplification of evidence-based strategies, community services, policy interventions, and knowledge targeting measurable reductions in cancer incidence and mortality at a population level

Strategic approach capitalizes on select partners and pathways

The Cancer Prevention & Control Platform currently leads programs and activities with reach and impact covering:

- 17 U.S. States:
 - Alabama, Arizona, Colorado, Georgia, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Mississippi, New Mexico, Ohio, Oklahoma, South Carolina, Texas, Washington
- 16 Countries:
 - Bolivia, Brazil, Chile, China, Colombia, El Salvador, Guatemala, India, Mexico, Mozambique, Paraguay, Peru, Portugal, Tanzania, Uruguay, Zambia

The Cancer Prevention & Control Platform actively leads programs and activities with reach and impact covering:

- 100+ strategic and program partners

The Platform focuses on the partnerships and pathways that translate important discoveries into measurable outcomes

Governmental Organizations:



Affiliates:



Community Organizations:



Corporations:



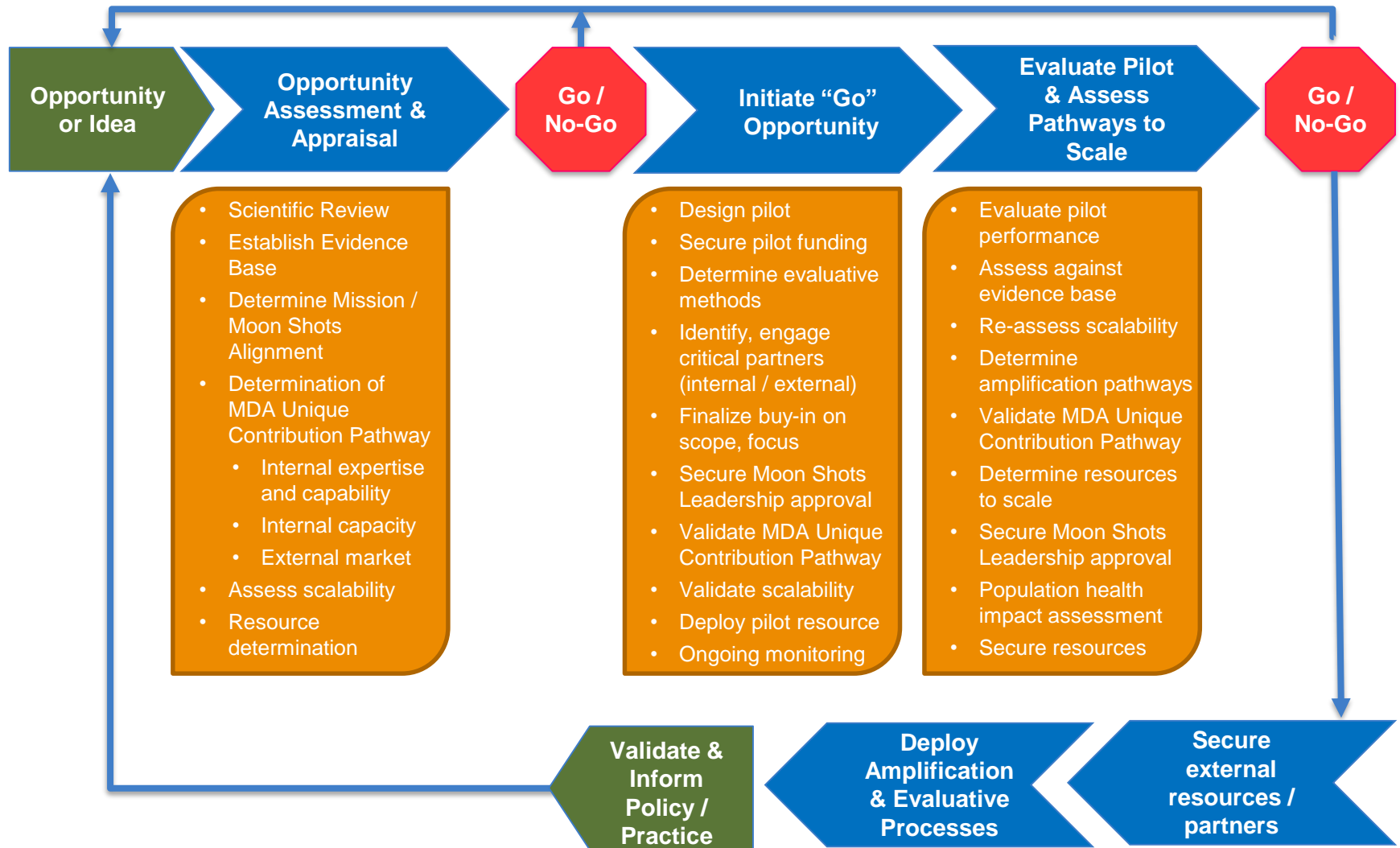
Foundations:



International Collaborations:



The Platform's portfolio management process vets opportunities for development, dissemination, and amplification



Visionary Objectives

Lung Cancer Moon Shot

- 5-year Goal: Pass Tobacco 21 legislation in 20 or more states

HPV-Related Cancers Moon Shot

- 5-year Goal: Achieve 80% coverage of HPV vaccination for target populations, nationally

Melanoma Moon Shot

- 5-year Goal 1: Ensure 80% of schools in the US teach sun safety or skin cancer prevention as a part of instruction
- 5-year Goal 2: Encourage adoption of legislation at the federal level or in >75% of US states, restricting use of tanning beds by minors (under 18)

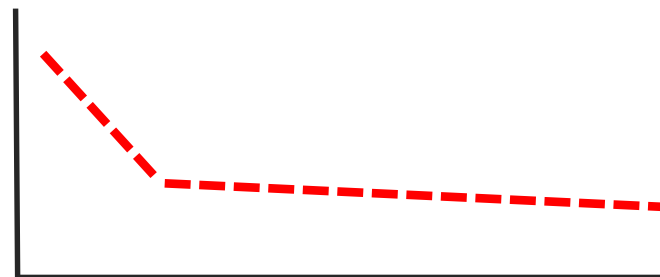
Lung cancer is the world's most preventable disease because we know what causes it most often: tobacco use

Risk of Tobacco Use in the US

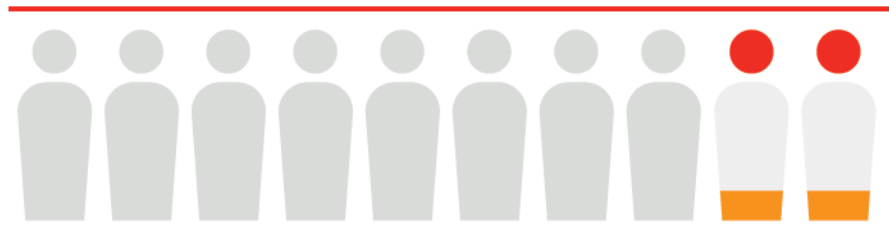
90% of lung cancer cases

30% of all cancer-related deaths

480,000 deaths this year

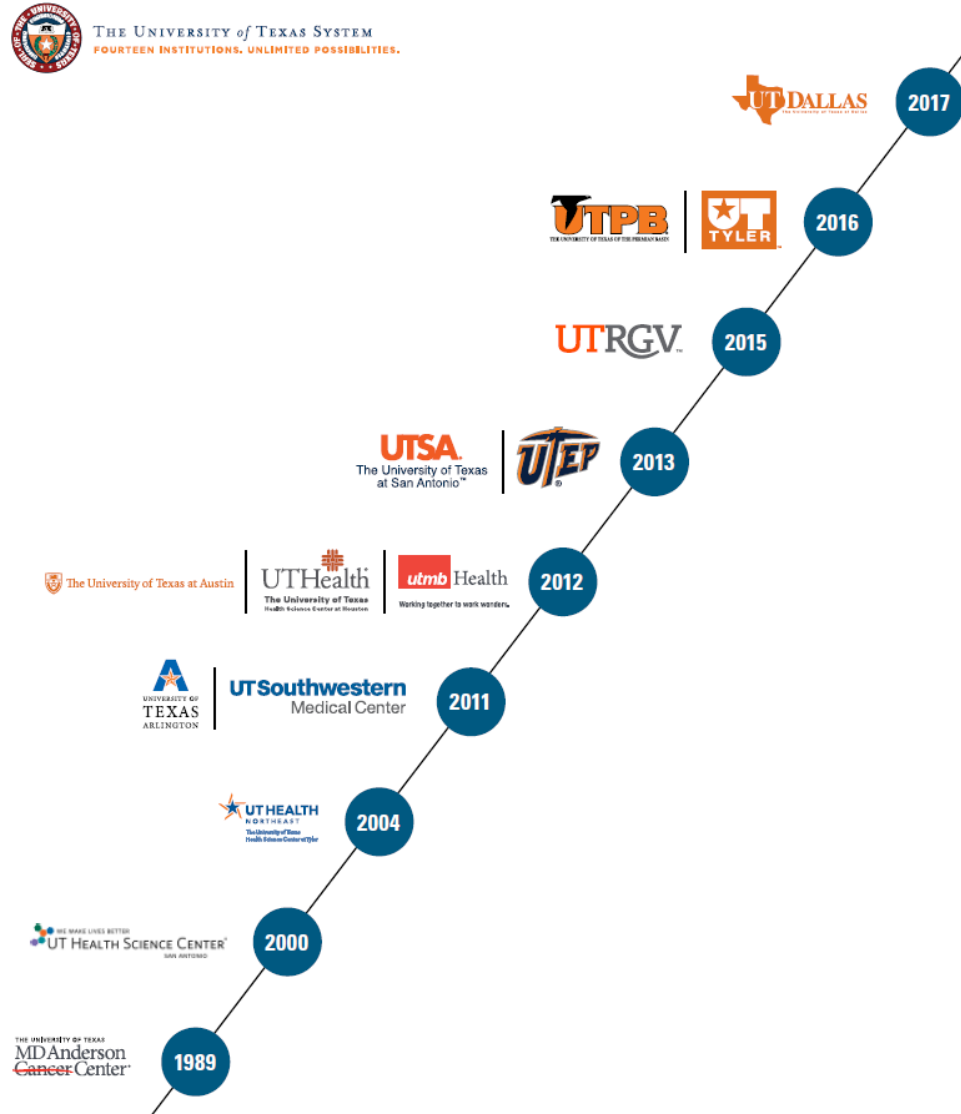


*Declines in tobacco use
have stalled or slowed*

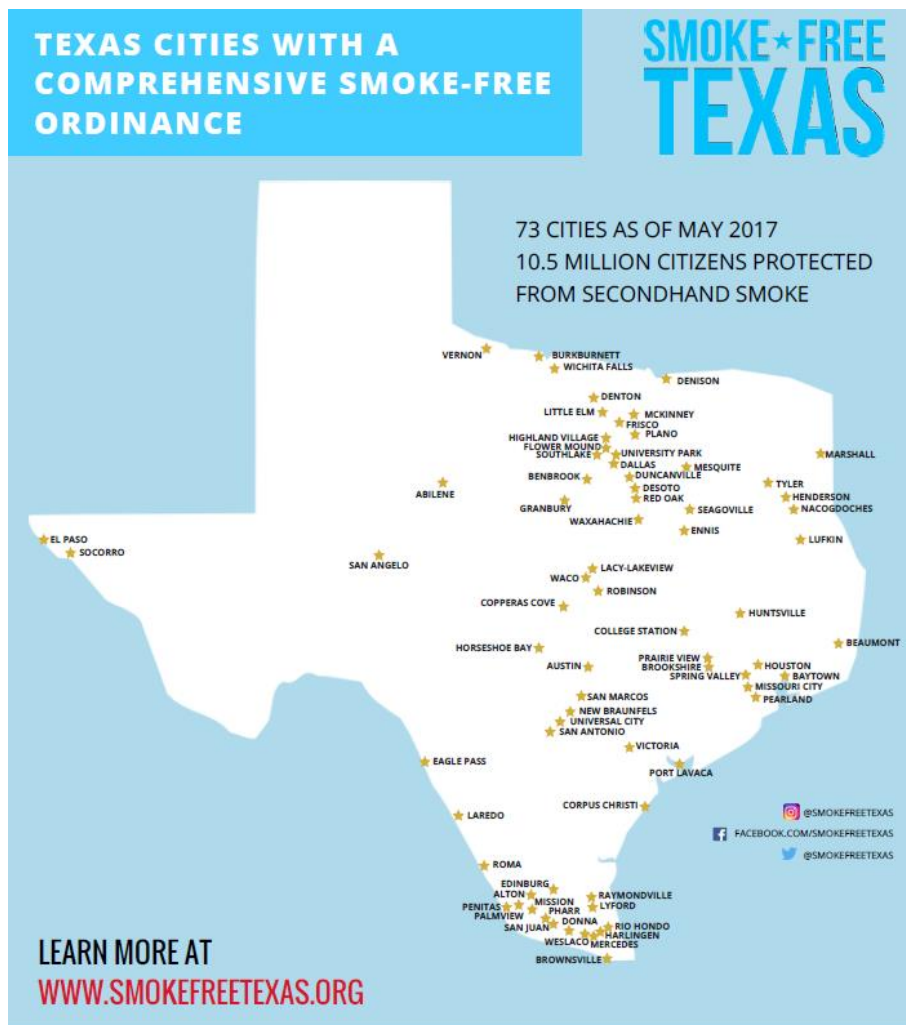


Almost **2** in **10** people continue to smoke

On June 1, 2017 all UT System institutions will have a tobacco-free policy in place



The Platform is also engaged in additional tobacco control efforts in Texas and beyond



The compelling public health case for HPV vaccination in the US

- Human papillomavirus (HPV) is the most common sexually transmitted infection in the United States
- HPV types 16 and 18 account for approximately 70% of cervical cancers worldwide
- In 2015, a national survey found that 63% of girls aged 13–17 years had received at least 1 dose of the HPV vaccine, and 42% had received all 3 doses in the series
- HPV vaccine uptake is lower among boys; 50% aged 13–17 years received at least 1 dose, but only 28% received all 3 doses
- Based on data from 2008 to 2012, about 38,793 HPV-associated cancers occur in the United States each year: about 23,000 among women, and about 15,793 among men
- For women ages 14 to 19 years, the rate dropped 64%. For women aged 20 to 24 years, the rate dropped 34%
- In Texas, annual HPV-related disease costs for men and women approach \$170 million.
- In the United States, the overall annual direct medical cost burden of preventing and treating HPV-related disease is estimated to be \$8.0 billion

Nearly 80% of people will be exposed to the human papillomavirus (HPV), which is strongly linked to several types of cancer

The **HPV vaccine** is cancer prevention

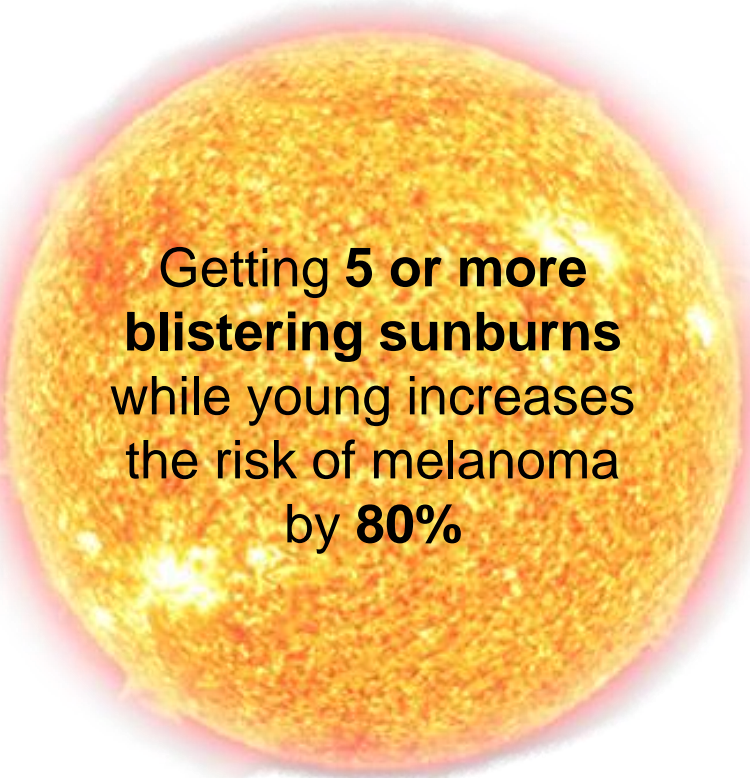
Every year in the U.S., 27,000 people get cancer caused by HPV.



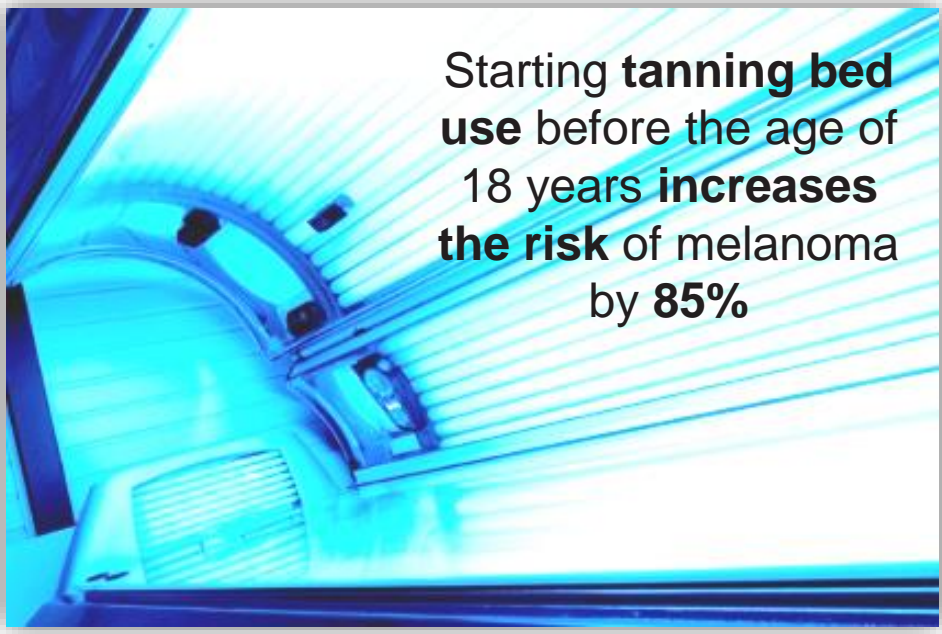
That's 1 person every 20 minutes of every day, all year long.

Most of these cancers can be prevented by the **HPV vaccine**

Melanoma, the deadliest form of skin cancer, is a growing problem, and anyone, regardless of skin color, can develop melanoma



Getting **5 or more blistering sunburns** while young increases the risk of melanoma by **80%**



Starting **tanning bed use** before the age of 18 years **increases the risk** of melanoma by **85%**

The Platform is assisting with the dissemination of a sun safety curriculum for preschoolers in partnership with the CATCH program

It is important for children to **develop sun safety habits early** to reduce skin cancer risk



Sunbeatables™ curriculum:

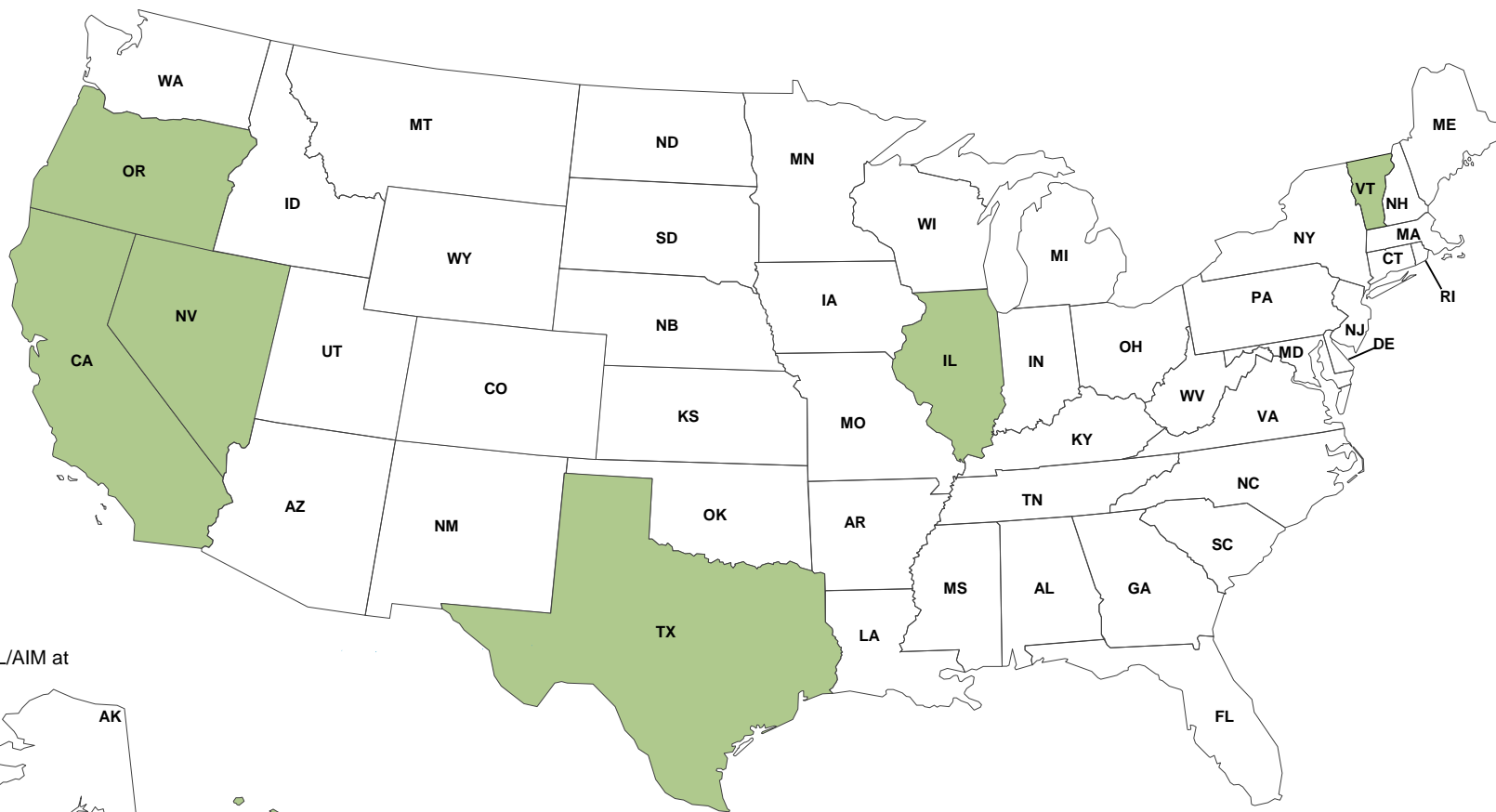
- Theme: **Sun protection is a superpower**
- Curriculum activities include a puppet show, science experiments, art, sun safety songs, and more
- K-1 Expansion efforts underway

Goal: national and international dissemination



Tanning bed prohibition legislation is a policy priority for the Platform and MD Anderson executive leadership

In 2013, Texas was 1 of 6 states that had tanning bed prohibition legislation (under age 18)

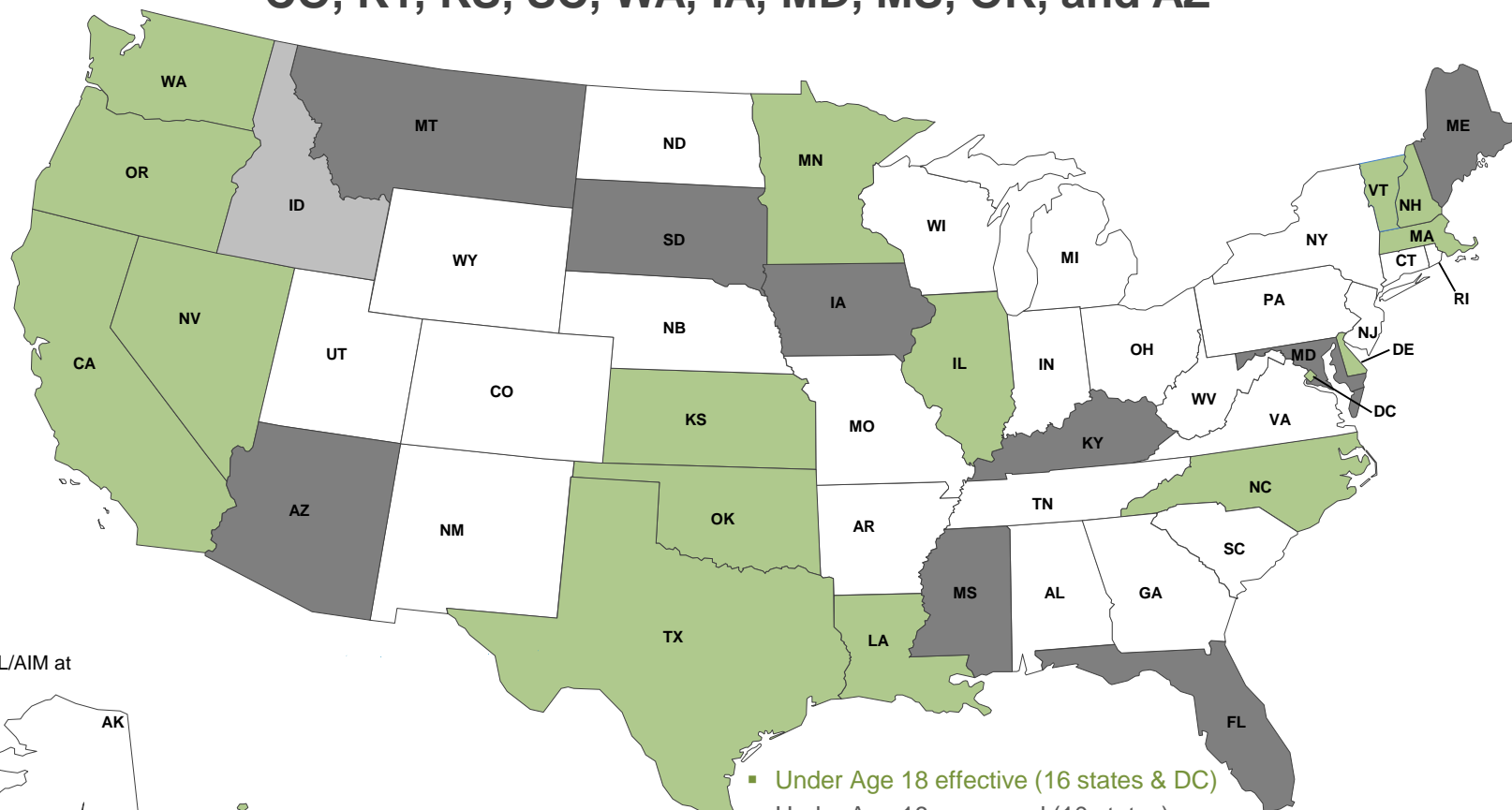


Source: NCSL/AIM at Melanoma



Tanning bed prohibition legislation has now been adopted in 16 states and the District of Columbia

MD Anderson has shared lessons learned
and directly assisted efforts in:
CO, KY, KS, SC, WA, IA, MD, MS, OK, and AZ



Source: NCSL/AIM at Melanoma



Emerging Strategies & Core Platform Components

- **MD Anderson Cancer Network, a strategic pathway to national leadership in cancer control**
 - Replicate Platforms within partner health systems
 - Introduction of a quality improvement in cancer control “service line” to the Cancer Network model
 - Demonstration of model for TNBC & HGSOc as well as HPV vaccination
- **Global Community-Based Initiatives**
 - Project ECHO (Extension for Community Healthcare Outcomes) Super-Hub
 - National Strategy to Address Burden of Cervical Cancer in Mozambique
 - Partnership w/ Pink Ribbon Red Ribbon, funded by U.S. President’s Emergency Plan for AIDS Relief (PEPFAR)
 - World Health Organization (WHO) Collaborating Centre for Cancer Control
 - Maverick Collective, Venture Philanthropy Partnership in Cancer Control (Caribbean)
- **EndTobacco™ Dissemination Initiatives**
 - University of Texas System
 - Tobacco Treatment Program
- **National Community-Based Initiatives**
 - Healthy Communities & Toolkit for amplification
 - Scale-up of youth education pathways

The Platform is developing demonstration projects to amplify integrated patient and family outreach for BRCA 1/2 abnormalities

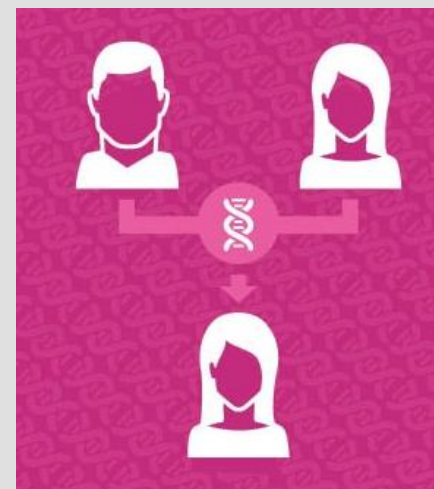
Certain mutations in the **BR**east **C**ancer susceptibility gene can greatly increase the risk of developing breast/ovarian cancer

Only 10 –20% of women with breast/ovarian cancer receive BRCA testing appropriately



BRCA Testing Project aims to increase the testing of patients and their at-risk family members to **80%** in 3 years or less

Environments for demonstration projects with potential to scale: cancer centers, health systems, public systems, and community environments



Healthy Communities Mission and Goals

In order to reduce cancer incidence, it is critical to put knowledge about cancer prevention and control into action in people's daily lives

Mission: Mobilize communities to promote health and stop cancer before it starts

Goals:

- Raise community awareness about healthy behaviors
- Create and advance community-based strategies to inform local, national and international policies that improve cancer prevention and control
- Increase cancer risk reduction behaviors in five areas:



Preventive Care
(i.e. vaccines, screening,
early detection)



Physical Activity



Diet



UVR Exposure



Tobacco Use

Healthy Communities Implementation: A Collaborative Approach

- **Engage** the local community (individuals, schools, workplaces, government agencies, health care providers, and policy-makers)
- **Execute** evidence-based interventions
- **Evaluate** the interventions
- **Expand** and replicate

Center for Community-Engaged Translational Research

Mission: To bring communities and researchers together to create long-term solutions to prevent cancer and improve health

CCETR supports nearly 50 investigators across 20 departments at MD Anderson:

- ✓ **Providing technical assistance** to submit and implement community-engaged research proposals (nearly 50 grant submissions/active projects totaling over \$100 million in 2015)
- ✓ **Providing data and consultation** for recruiting underrepresented populations to clinical trials
- ✓ **Facilitating collaborations** and research partnerships with over **30 local and national organizations:**

- Federally qualified health centers
- Health organizations
- Minority health coalitions
- Faith-based institutions
- Community-based organizations



Project ECHO: Moving Knowledge, not Patients



* This program is under development and some of the locations might change in the future

** This program is currently under early discussions with Sister Institutions in Latin America

Project ECHO Format: Telementoring not Telemedicine

- Weekly/monthly videoconferences (45 min cases, 15 min didactic)
- Community providers present cases (patient histories, lab results, treatment plans, challenges)
- Feedback and guidance provided by the specialists
- Community providers and specialists work together to provide quality care

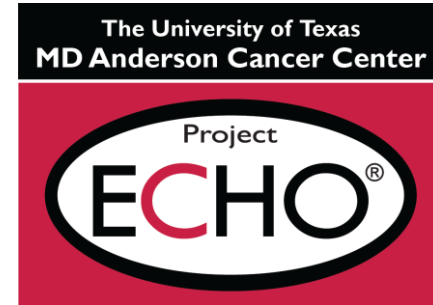


Project ECHO: Superhub Role

National Cancer Moon Shots Program

Project ECHO University of New Mexico goal to reach one billion lives by 2025

Recognizing a critical need to address disparities in cancer care, The University of Texas MD Anderson Cancer Center has been designated as an ECHO superhub for oncology by the ECHO Institute. MD Anderson is one of just nine ECHO superhub sites in the world and the first focused on oncology.



Questions?

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