Timeline of HIV/AIDS Research and Treatment in Utah

First clinical report of AIDS

San Francisco AIDS Foundation becomes the first US AIDS service organization

Hemophiliac Ryan White diagnosed with AIDS and banned from school

1984-5

FDA approves the first Cleve Jones sews the commercially available test for HIV in blood

first panel in the AIDS founds quilt (now >50,000) ACT UP

91987

Larry Kramer FDA approves AZT as the first drug to treat HIV



Utah Senator Orrin Hatch co-sponsors, and congress passes, The Ryan White Comprehensive AIDS Resources Emergency (CARE) Act, the largest-ever federal disease-related program, to

August 18, 1990 provide funds for medical services for people with AIDS

1990 • 1991

1981

♦1970-1981 HIV spreading unnoticed in Africa,

Haiti, US, Europe



1981-1982

1982

Holy Cross Hospital (SLC) MD, see first AIDS cases

1983

Françoise Barré-Sinoussi and Luc Montagnier and Kristen Ries, (Pasteur Institute) identify a new human retrovirus, ultimately named HIV-1

1985

Richard Cochran founds Actor APU, precursor to the **Utah AIDS Foundation**

Foundation

•1985

Rock <u>Hudson</u> dies of AIDS

1985

mid-1980s

1987

Utah AIDS cases climb quickly, and Dr. Kristen



Ries becomes Utah's 'AIDS Doctor", treating >90% of people with AIDS during the epidemic's rst 20 years

•1987

First prevention of mother-to child HIV transmission

1994

1989

Drs. Evans, Pavia, Reimer and RN Eutropius White open the U of dies of **Utah HIV** clinic and

begin clinical

Ryan AIDS

Ervin "Magic" Johnson announces he is HIV positive



U of Utah and Myriad Genetics researchers discover that HIV uses the cellular ESCRT pathway to escape cells and spread infection Cell 107:55, Cell 114:701

2001-3



U of Utah researchers and colleagues describe the three-dimensional structures of the HIV CA protein Science 273:231, Cell 87:1285, Science 278:849

1996-7

Saguinavir and other new drugs target HIV protease, enabling highly active antiretroviral therapy (ART)

1995

Community Health Centers, inc.

Oncology nurse Suzanne Kaempfer and SL Community Health Center receive Ryan White funds for Utah

1991



President George W. Bush initiates

the President's Emergency Plan

for AIDS Relief (PEPFAR), saving

~20 million African lives

1999-2000

U of Utah researchers and colleagues define the architecture of the HIV-1 capsid Science 283:80 Nature 407:409

1997

Latent viral reservoir identified in people living with HIV on antiretroviral therapy 1995-6

U of Utah clinical trials of



protease inhibitors provide Utahns with early access to ART AIDS 17:987

U of Utah receives major NIH grants now totaling ~\$70M to establish the **CHEETAH National Center** for HIV Structural Biology

2007-present

1994

Dr. Ries and Maggie Snyder,



PA move to manage the U of Utah HIV clinic

> U of Utah researchers model HIV latency in primary T cells Blood 113:58

2009

1992

Dave Sharpton, founder of Utah's **PWA** Coalition Chapter, dies at 32

U of Utah researchers and colleagues define the architecture of the anti-HIV factor TRIM5α PNAS 108:534

2011

1991-4 U of Utah clinical trials for marinol, D4T, DDI

Ann Pharmacother 27:827 Ann Intern Med 126:355 Ann Intern Med 120:360

FDA approves first drug (Truvada) to protect adults without HIV through pre-exposure prophylaxis (PrEP)

2012

2003



2007

U of Utah researchers identify the cellular partners of HIV Viral Protein R (Vpr) J Virol 4:57



U of Utah researchers develop and test potent D-peptide inhibitors of HIV entry PNAS 104:16828

2008-9

Physicians announce that the "Berlin Patient" is the first person cured of HIV

2010

U of Utah researchers determine the structure of the anti-HIV factor tetherin PNAS 107:17,951

Obergefell v.

the rights of

same-sex US

2011

Demonstration that effective treatment also prevents viral transmission (i.e., TREATMENT = PREVENTION)



U of Utah researchers and colleagues report that tyrosine kinase inhibition is an attractive HIV-1 cure strategy and initiate clinical trials Current HIV/AIDS Reports 16:414

2019-present



The movie "Quiet Heroes," featuring Kristen Ries, MD, and Maggie Snyder, PA, debuts to a standing ovation at the Sundance Film Festival and later wins an Emmy

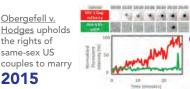
January 14, 2018

exchange program to stem HIV infections

a needle

Utah establishes

2016



U of Utah researchers uncover stages of HIV budding PLoS One 16:e96950

2014

2020

U of Utah researchers and colleagues reconstitute **HIV** replication and integration in Science, in press

2019-20

Gilead Sciences, with support from U of Utah researchers, develops a highly potent and long-lasting HIV-1 capsid inhibitor Nature Medicine 25:1377 Nature online July 1, 2020



2018-present U of Utah Pre-exposure

Prophylaxis (PrEP) Community Clinic founded by Adam Spivak, MD and Susana Keeshin, MD, a collaboration between the U of Utah, Utah AIDS Foundation, and Utah Department of Health



March 19, 2016

2015

Salt Lake City Mayor Jackie Biskupski proclaims Kristen Ries and Maggie Snyder Day



2015

Utah legislature protects LGBTQ people from discrimination in housing and employment