



THE SPECIAL DIABETES PROGRAM FOR INDIANS

Rick Frey, PhD
Director, Preventive Medicine
Toiyabe Indian Health Project

National Indian Health Board
National Tribal Public Health Summit
Billings, MT
April 1, 2014

Toiyabe Service Area

11,435 sq. mi.

Mono County →

Bridgeport Indian Colony
Mono Lake Kutzadika'a Tribe
Utu Utu Gwaitu Paiute Tribe
Antelope Valley Indian Community of Coleville Paiutes



← Inyo County

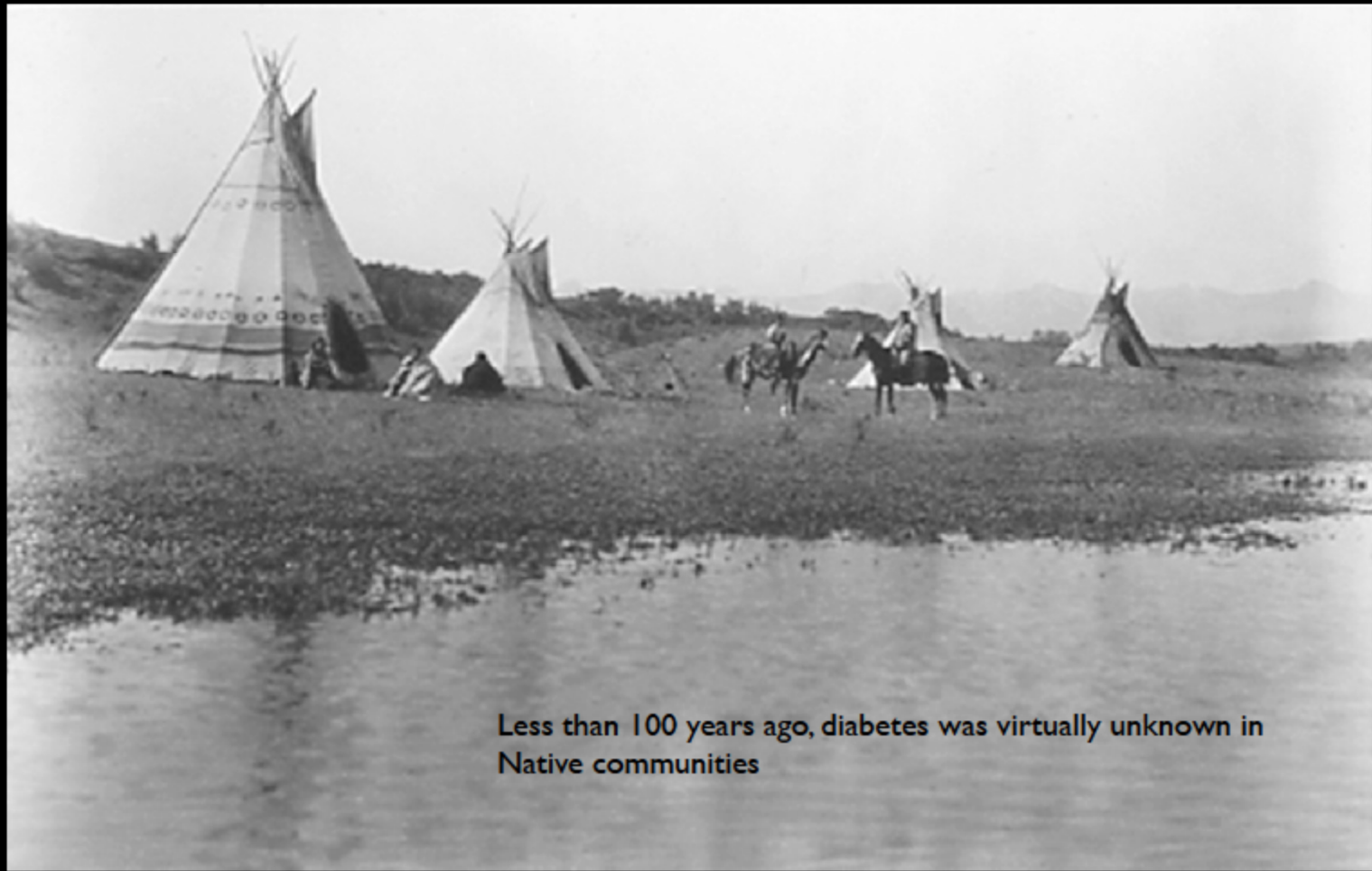
Bishop Paiute Tribe
Timbisha Shoshone Tribe
Fort Independence Indian Reservation
Lone Pine Paiute-Shoshone Reservation
Big Pine Paiute Shoshone Tribe of the Owens Valley









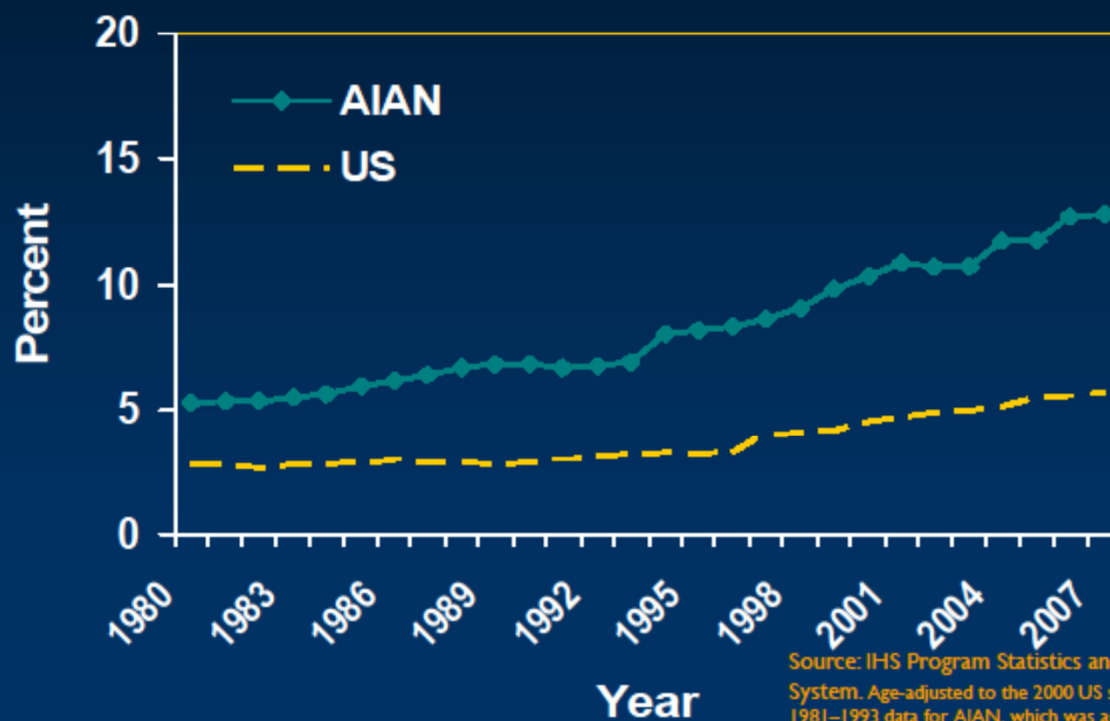


Less than 100 years ago, diabetes was virtually unknown in Native communities

Prevalence of Diagnosed Diabetes

AI/ANs compared to U.S. population

1980- 2007



Source: IHS Program Statistics and National Diabetes Surveillance System. Age-adjusted to the 2000 US standard population with the exception of 1981-1993 data for AI/AN, which was age-adjusted to the 1980 US standard population.

“Health”- care costs (2010) in the US:

\$2,594,000,000,000

That is 2.594 trillion American dollars!

What is driving such an incredible expenditure?

75% of our health-care costs are due to chronic disease treatment.

2 TRILLION dollars per year are needed to treat chronic disease.

Our “health-care system” is really a “disease-care system”.

Our medical providers are mopping up the floor around an overflowing sink. But no one is turning off the faucet!



SDPI TURNS DOWN THE FAUCET!

- ▣ **SDPI provides funds to staff professionals who:**
 - 1) prevent diabetes
 - 2) catch diabetes early and prevent complications
 - 3) help long-term diabetes patients manage their complications

- ▣ **SDPI provides funds for:**
 - 1) exercise opportunities
 - 2) healthy eating infrastructure
 - 3) medical management (labs, case management, etc.)

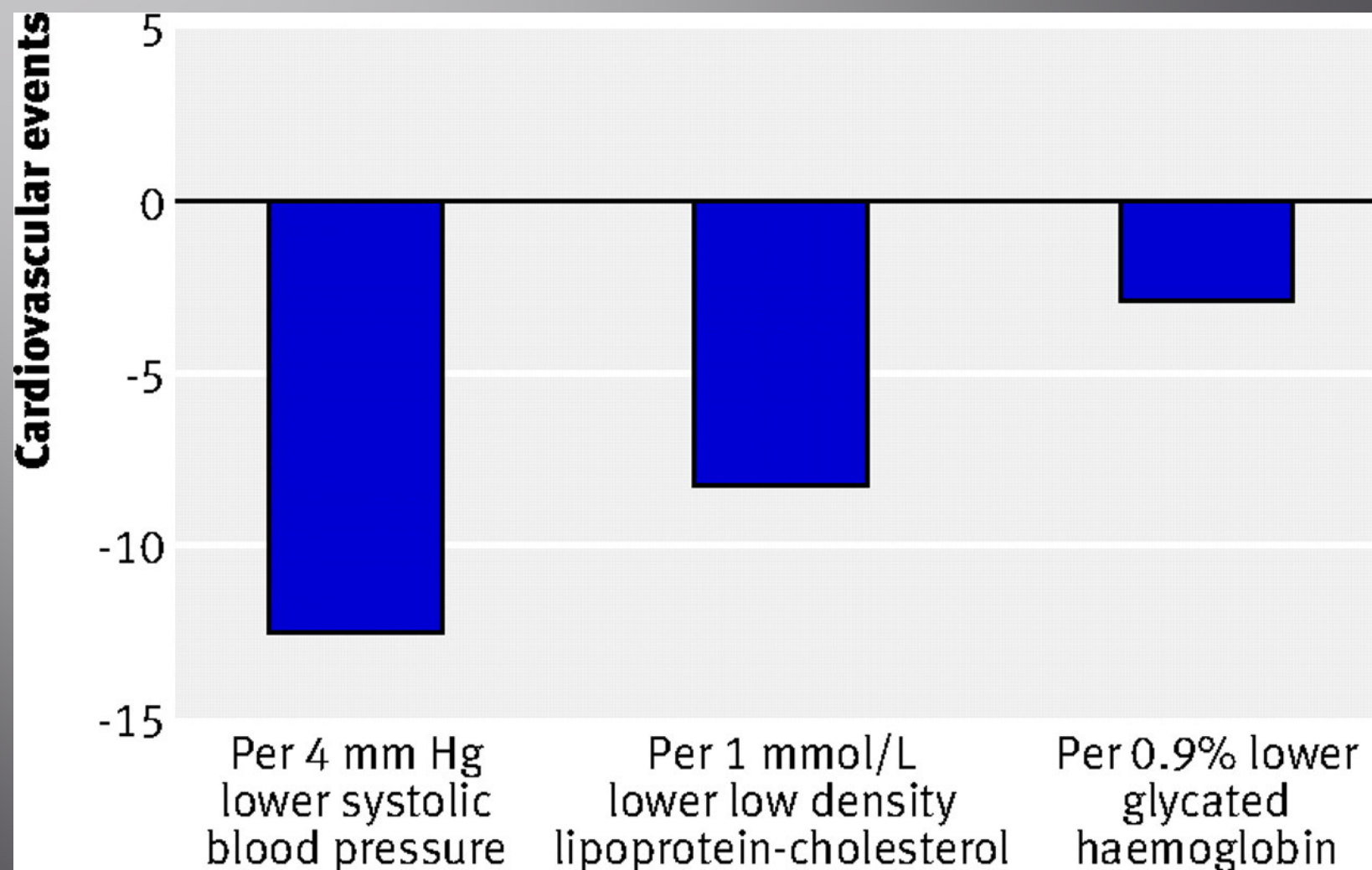
Diabetes Complications

- ▣ **Uncontrolled diabetes leads to premature death and disability because of its complications.**

- ▣ **Diabetes complications:**
 - **Heart attack**
 - **Stroke**
 - **Peripheral vascular disease**

- ▣ **These are called “Cardiovascular Events”**

Absolute number of events prevented by different interventions per 1000 patient years of treatment (data taken from Cholesterol Treatment Trialists' Collaboration and Blood Pressure Lowering Treatment Trialists' Collaboration).



Preiss D , Ray K K BMJ 2011;343:bmj.d4243

BMJ

Easier to Understand

▣ Every thousand patients per year who:

Reduce:	Events prevented:
▣ 1) blood pressure by 4 points	13
▣ 2) “lousy” cholesterol by 18 points	8
▣ 3) blood glucose by 1%	3
▣ TOTAL:	24

At Toiyabe

▣ Every year that our 300 diabetes patients:

▣ Reduce:	Events prevented:
▣ 1) blood pressure by 4 points	3.9
▣ 2) “lousy” cholesterol by 18 points	2.4
▣ 3) blood glucose by 1%	.9
▣ TOTAL:	7.2

Are We Doing That?

- ▣ **Are we reducing:**

- **Blood pressure**
- **Cholesterol, and**
- **Blood sugar?**

Clifton



February 2010

Weight 308

A1C 9.6

March 2011

Weight 230

A1C 4.9

“I feel like I have no limitations now. Disregard what anyone might think of you while you’re trying to lose weight and gain control. Do it for yourself.”



Gail



July 2009

Weight	205
BP	144/98
A1C	12.7
LDL	127

July 2010

Weight	180
BP	116/84
A1C	8.1
LDL	80

“I’m not going to allow diabetes to psych me out...I’m going to psych out diabetes!”

John



March 2011
Weight 236
A1C 10.5
LDL 139



September 2012
Weight 191
A1C 5.4
LDL 78

“I cut out sodas, reduced my portion sizes, and started using a pedometer to track my steps. If I can do it, anyone can!”



Ann

January 2009

Weight 191

A1C 9.4

LDL 145

July 2011

Weight 178

A1C 4.5

LDL 98

“The only hard part of exercising is the beginning...keep it slow and steady and most importantly, set some goals!”

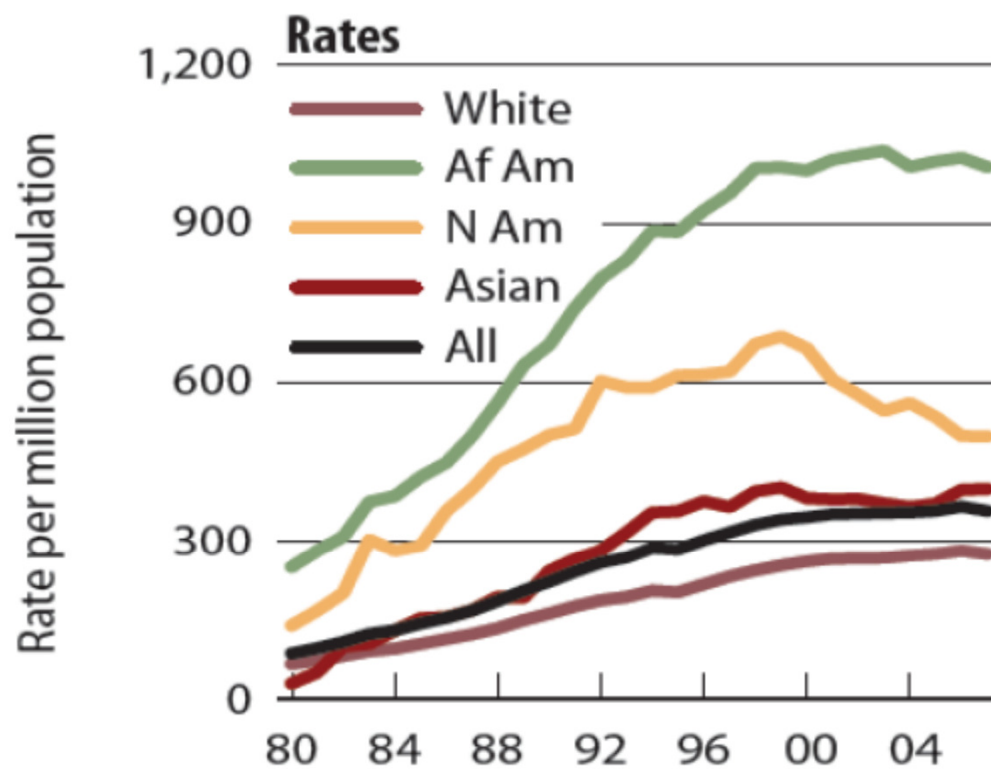
Is Preventing CV Events a Good Use of the Taxpayers' Dollars?

Cost of a Cardiovascular Event:	\$207,000 (direct)
Annual events prevented at Toiyabe:	7.2 events
Direct expenses prevented:	\$1,409,400
Cost of the SDPI programs:	\$631,042
Return on investment:	2.233

For every SDPI dollar spent at Toiyabe, \$2.23 is returned in prevented direct medical expenses.



Incidence rates of diabetes-related new ESRD by race, 1980 - 2007



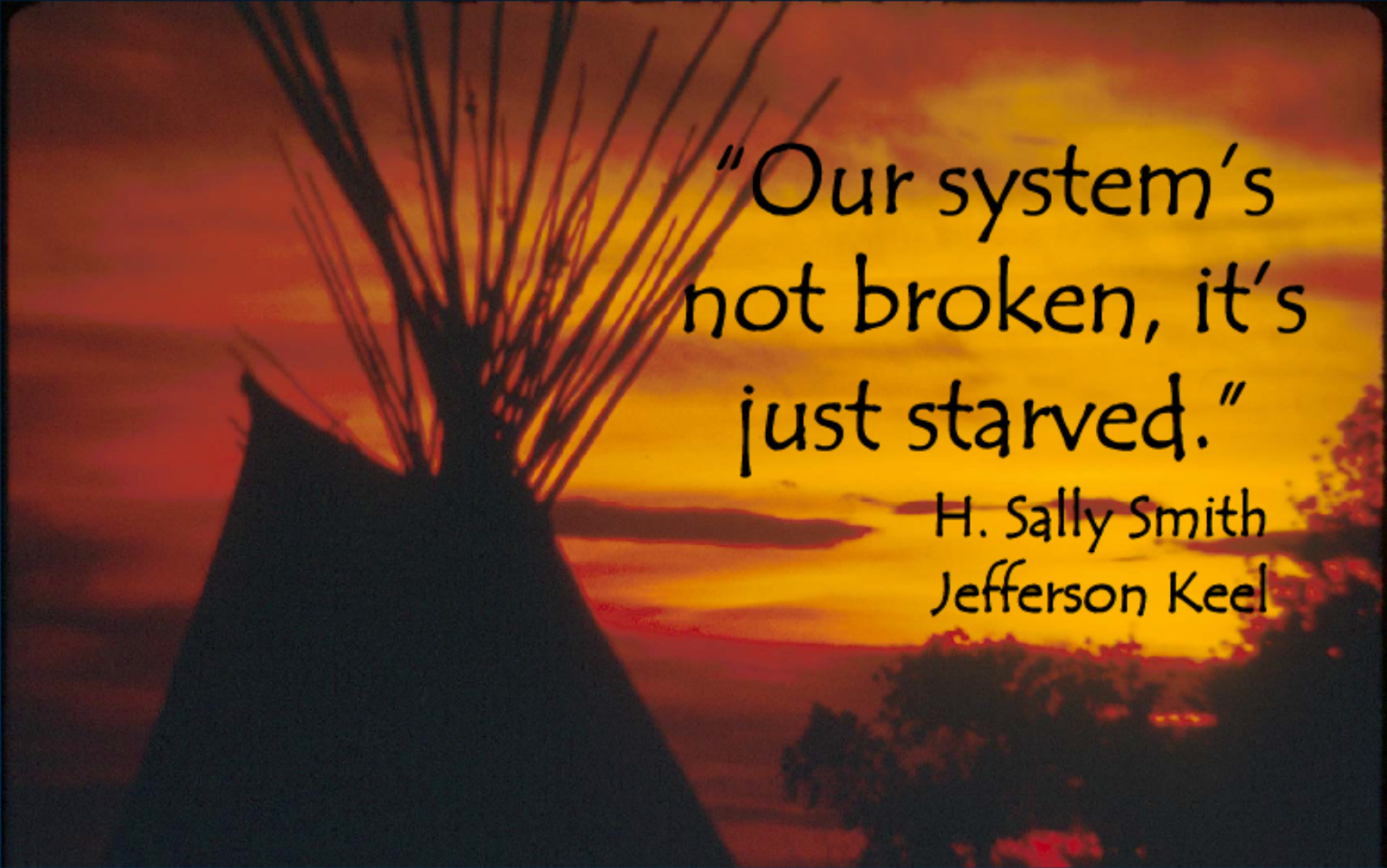
Source: 2009 USRDS Atlas

SDPI: Doing More With Less

Per Capita Personal Health Care Expenditures

Indian Health Service (2012)	\$2,741
-------------------------------------	----------------

California prison inmates (2008)	\$11,986
---	-----------------

A photograph of a teepee at sunset. The sky is a mix of orange, yellow, and red. The teepee is dark and silhouetted against the bright sky. The quote is written in a black, serif font over the right side of the image.

"Our system's
not broken, it's
just starved."

H. Sally Smith
Jefferson Keel