



ADOLESCENT SUICIDE PREVENTION:

THE RESEARCH AND DEVELOPMENT PATH TOWARD THE APACHE YOUTH ENTREPRENEURSHIP PROGRAM



*ACF
The Way Forward II
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INDIAN HEALTH

Presentation Overview

Background

- White Mountain Apache / JHU Center for American Indian Health History
 - Youth Suicide Prevention Research that led to the Apache Youth Entrepreneurship Program
 - Study 1: Understanding Rates, Patterns of Youth Suicide
 - Study 2: Understanding Precipitants (what were they thinking and feeling?) of Youth who Attempted Suicide
 - Study 3: Understanding Protective Factors for Suicide and Binge Substance Use
- 

Apache Youth Entrepreneurship Program: A Positive Approach to Preventing Youth Suicide

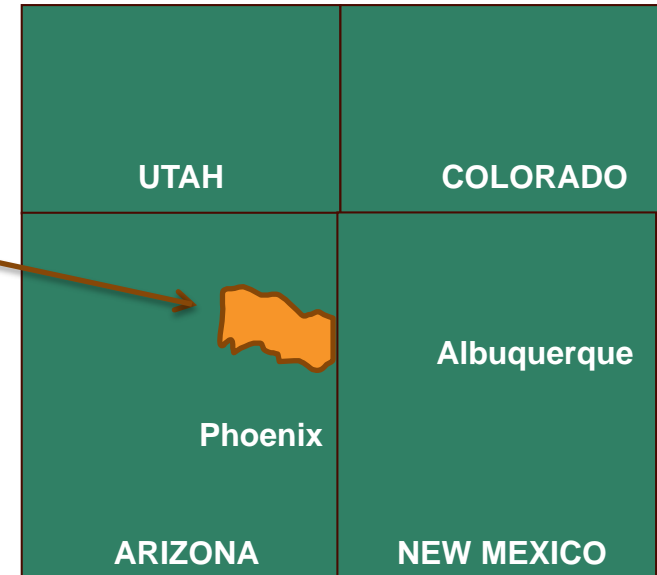
- Intervention Design
- Outcome Measures – Choices and Rationale
- Pilot Data



Background

White Mountain Apache Tribe

- 17,000+ enrolled tribal members
- Fort Apache Res. (1.6 million acres)
- Geographically isolated
- Spectrum of traditional and mainstream cultures
- Governed by Apache Tribal Council
- Over 30-year relationship with JHU & Center for American Indian Health (JHCAIH)
- Infectious Disease, Behavioral and Mental Health, & Training programs



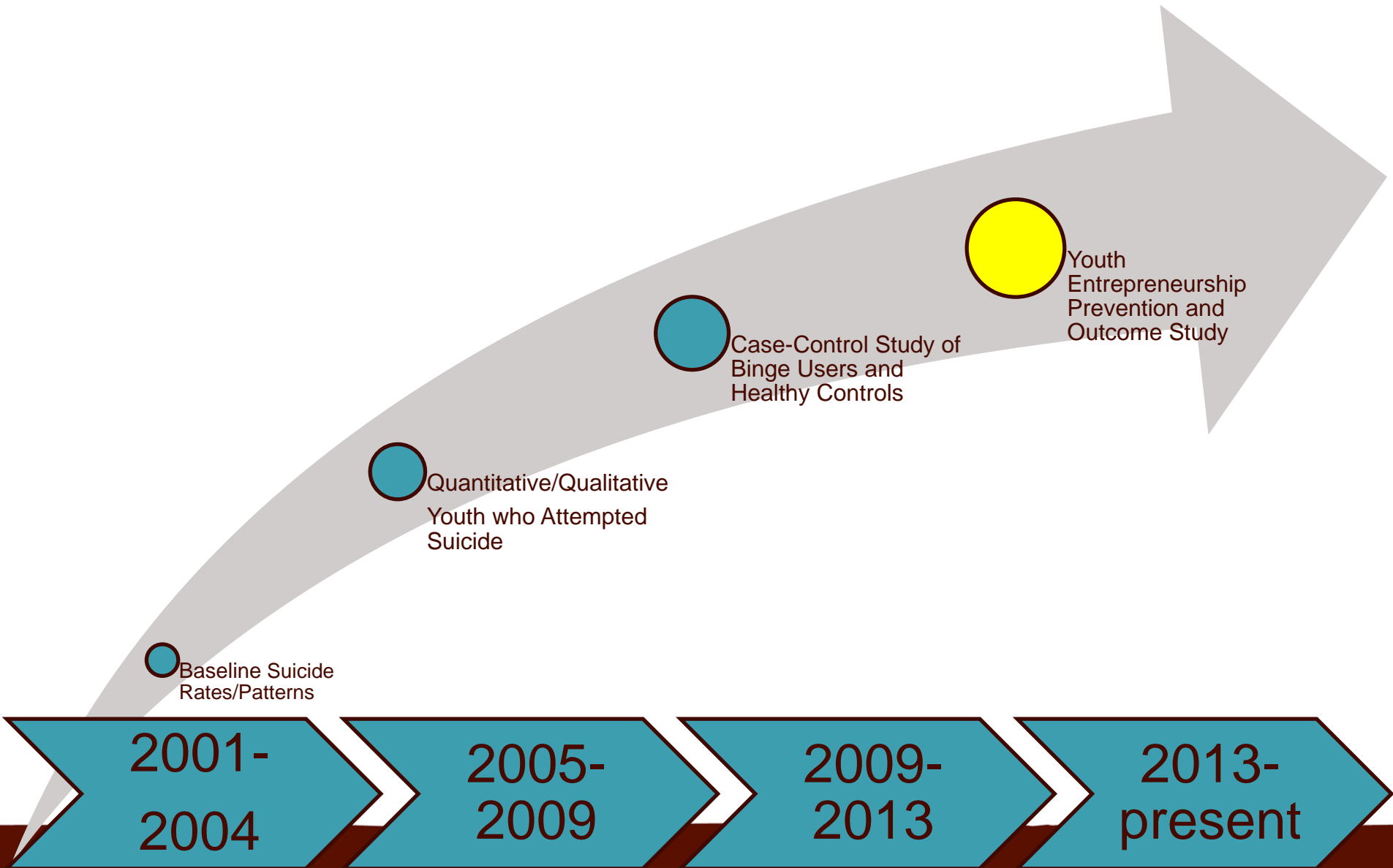


Apache Youth Suicide

- Very low suicide rates prior to 1950
- Episodic spikes in youth suicide rates beginning in early 1980s
- 1993: WMAT – call for help to JHU
- Informal prevention programs through 1990s



TIMELINE – Toward Youth Suicide Prevention



TIMELINE – Toward Youth Suicide Prevention

We are
losing
our
children



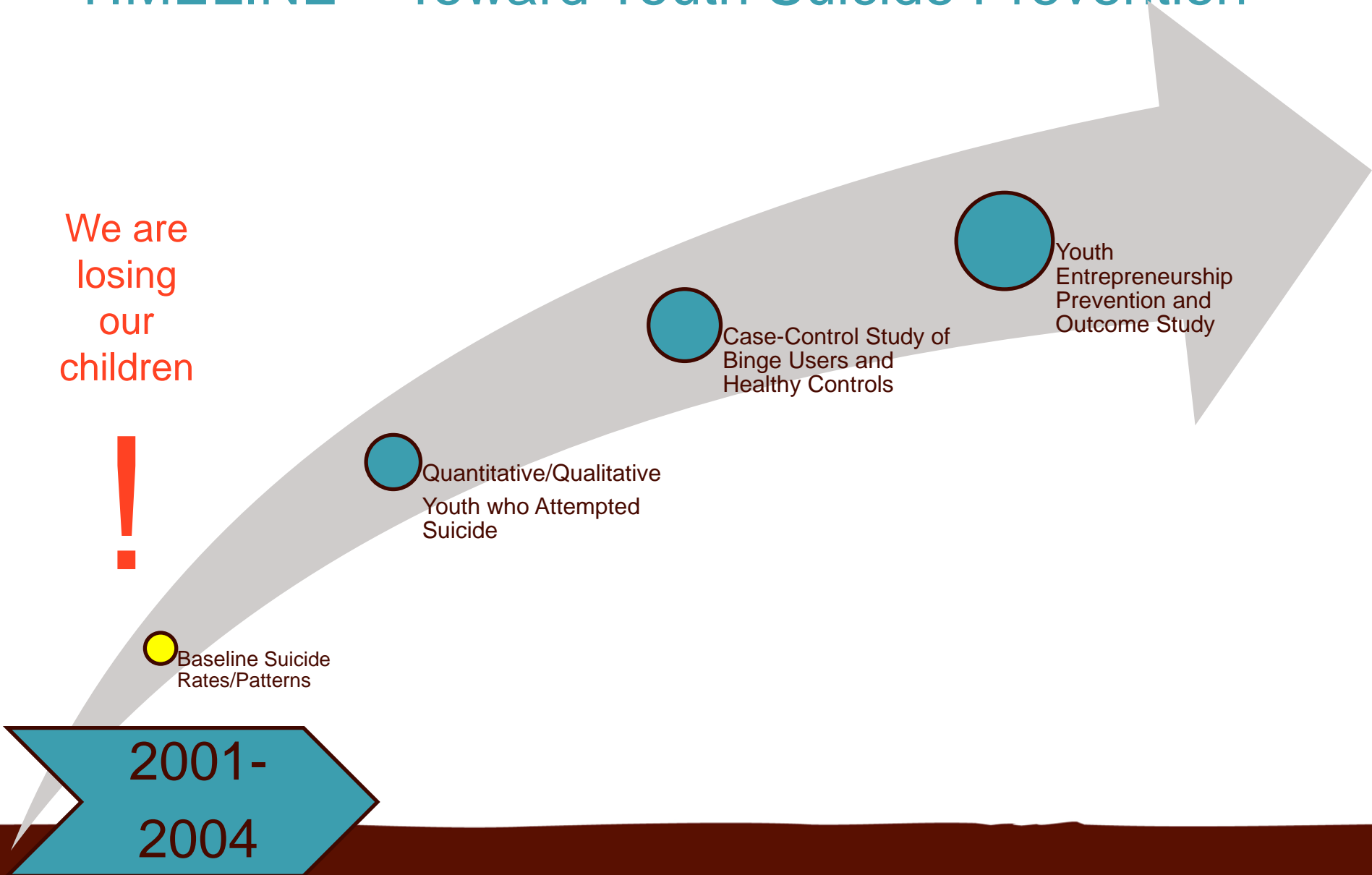
Baseline Suicide Rates/Patterns

Quantitative/Qualitative Youth who Attempted Suicide

Case-Control Study of Binge Users and Healthy Controls

Youth Entrepreneurship Prevention and Outcome Study

2001-
2004





Tribal Response to Crisis

- 2001: Tribe mandates suicide surveillance and registry system
- First Tribal Registry
 - Paper and pencil reporting system
 - Limited follow-up & financial resources



- Formalized Partnership with JHCAIH since 2004 to Address Suicide
 - Registry management
 - Technical assistance for analysis and data reporting
 - Train/Employ Apache Community Mental Health Workers/Case Managers
“Celebrating Life Team”
 - Design and evaluate public health approaches

Surveillance Measurement and Follow-Up Tools



White Mountain Apache Tribe "Celebrating Life" (Suicide Prevention) Registry Intake Form

Date of Report: _____

Name (Last name, First name): _____

Gender (circle one): Male Female

Date of Birth: ___ / ___ / ___ Age: _____ (please estimate if you do not know)

Tribal affiliation (check one):

White Mountain Apache

San Carlos Apache

Navajo

Other Tribe: _____

Unknown

N/A

Marital status (check one):

Single

Married

Co-Habiting (Unmarried and living together)

Unknown

Separated

Divorced

Widowed

Educational status (check one):

Currently enrolled in school (specify grade/level): _____

Graduated high school

Graduated from college

Other: _____

Dropped out (specify month/date): ___ / ___ / ___

Attended some college

Graduated from graduate school

Community of residence (check one):

Canyon Day

Carrizo

Cedar Creek

Cibecue

East Fork

Forestdale

Hon-Dah

McNary

Seven Mile

Turkey Creek

Whiteriver

Unknown

Other: _____

White Mountain Apache Celebrating Life Case Manager Form - REVISED

INSTRUCTIONS: COMPLETE THIS FORM BASED ON ALL THE INFORMATION AVAILABLE TO YOU (INCLUDING WHAT PERSON TELLS YOU, YELLOW FORM, POLICE REPORT, ER LOG, ETC)

Date of visit: ___ / ___ / ___

Initials of case manager: ___

Name (Last name, First name): _____

Gender (circle one): Male Female

Registry ID Number: WMAR _____

Date of Birth: ___ / ___ / ___ (mm/dd/yyyy)

Age (estimate if need be): _____

Tribal affiliation (check all that apply):

White Mountain Apache

Unknown

San Carlos Apache

Other Tribe: _____

Navajo

N/A

Living status (check all that apply):

With mother

With children (how many? _____)

With father

No one; live alone

With spouse

With non-relative(s) (eg, friend)

With boyfriend / girlfriend

Other: _____

With brother(s) / sister(s)

Why was the report made? For each of the different sources of information below, fill in the number from the list to the right that corresponds to the best response:

SOURCES OF INFORMATION:

According to what the person said: _____

According to what Yellow Registry Form said: _____

According to what Police Department/report said: _____

RESPONSE OPTIONS:

Suicide attempt

1. Actual attempt
2. Interrupted attempt (*stopped by others before making attempt*)
3. Aborted attempt (*stopped self before making actual attempt*)

Suicide ideation (thoughts)

4. With plan and preparatory action (*ex. wrote note, gave away belongings, got materials*)
5. With plan, but no preparation (*ex. know how they want to do it, but haven't made preparations, gotten material, etc.*)

Study 1: Understanding Rates, Patterns and Precipitants

GOALS

- Understand rates and patterns of White Mountain Apache Suicide
- Gain deeper understanding of what precipitates youth suicide through in-depth interviews with youth who've attempted suicide

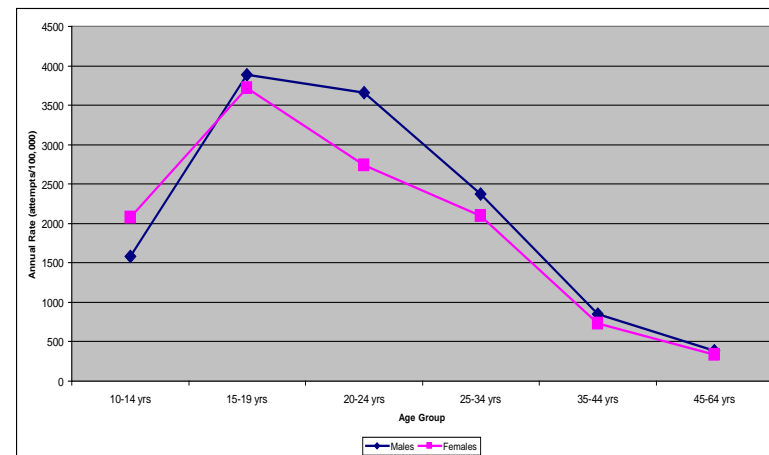
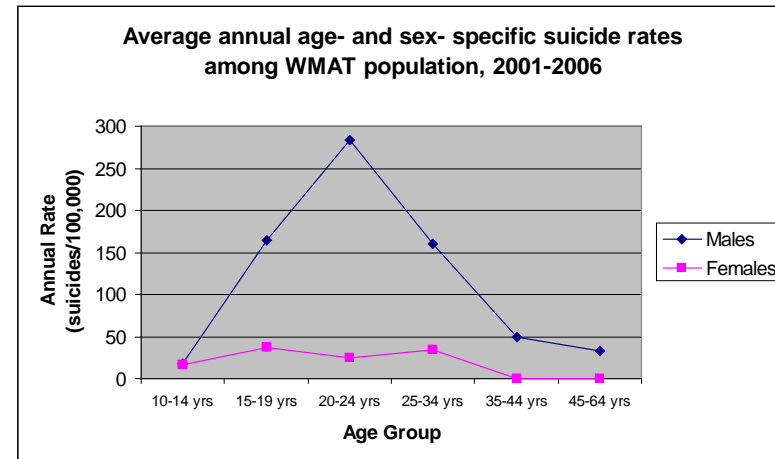
How Do Apache Rates Compare to Others?

Average suicide incidence rates per 100,000/year

	U. S. All Races (2003)	AI/AN (2003)	White Mountain Apache (2001-2006)
Total Population, Age Adjusted	10.7	10.3	40.1 (~4x US)
Ages 15-24	9.8	17.25 (~2x US)	129.9 (~13x US)

Summary: Rates and Patterns

- Apache youth 15-24 year old rate: 13x U.S. All Races, ~6x AI/AN rates
- Highest death rates: 20-24 yr olds
- Highest attempt rates: 15-19 yr olds
- Male:Female ratios: 6:1 suicide; ~1:1 attempts



Gaining a deeper understanding of precipitants from youth who attempted (n=71)

- Aged 10 to 19; recently attempted suicide
- One time, in-depth, quantitative assessment battery (n=71)
 - Self-report
 - Structured interview
- Sub-sample did year-long qualitative interviews (n=25)
- Assessments conducted by Apache research staff



What we learned from Youth who Attempted

- Precipitants/reasons for attempt:

- Family problems: 35%
- Anger/depression: 19%
- Relationship problems: 16%
- Suicide/death of another: 15%
- “Nothing”: 22%

- Treatment

- 64% referred
 - Of those referred, 60% attended
- = < 40%

- Important Role of Substance Use



How they were feeling and thinking before they attempted (themes)

Impulsivity & Reactivity

“It just happened out of nowhere.”

“I didn’t really think about it, I just took off and tried to look for that rope...”

Family Dynamics

“I would have to say that... our relationship is a boat and it’s got holes in it and we’re both trying to haul out the water so we don’t talk like we used to.”

Substance Use

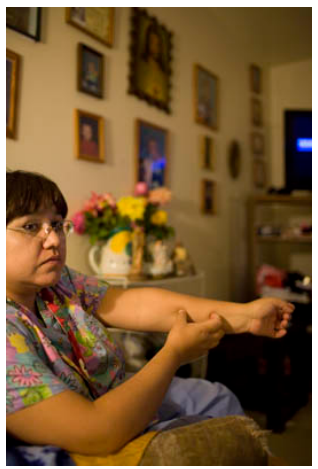
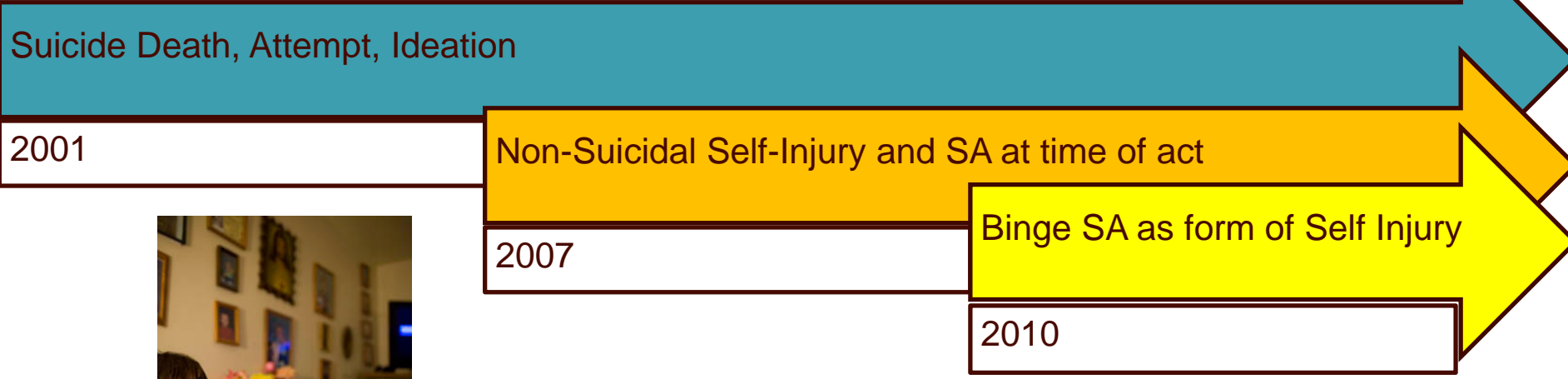
“My mom was hardly ever around. I always knew what she was doing even when I was about four years old, I always stayed with my grandma. I only wanted to be around my mom when I knew she was trying to quit. And it wasn’t that long, before she would take off and drink more.”

Intersection of Suicide and Substance Use

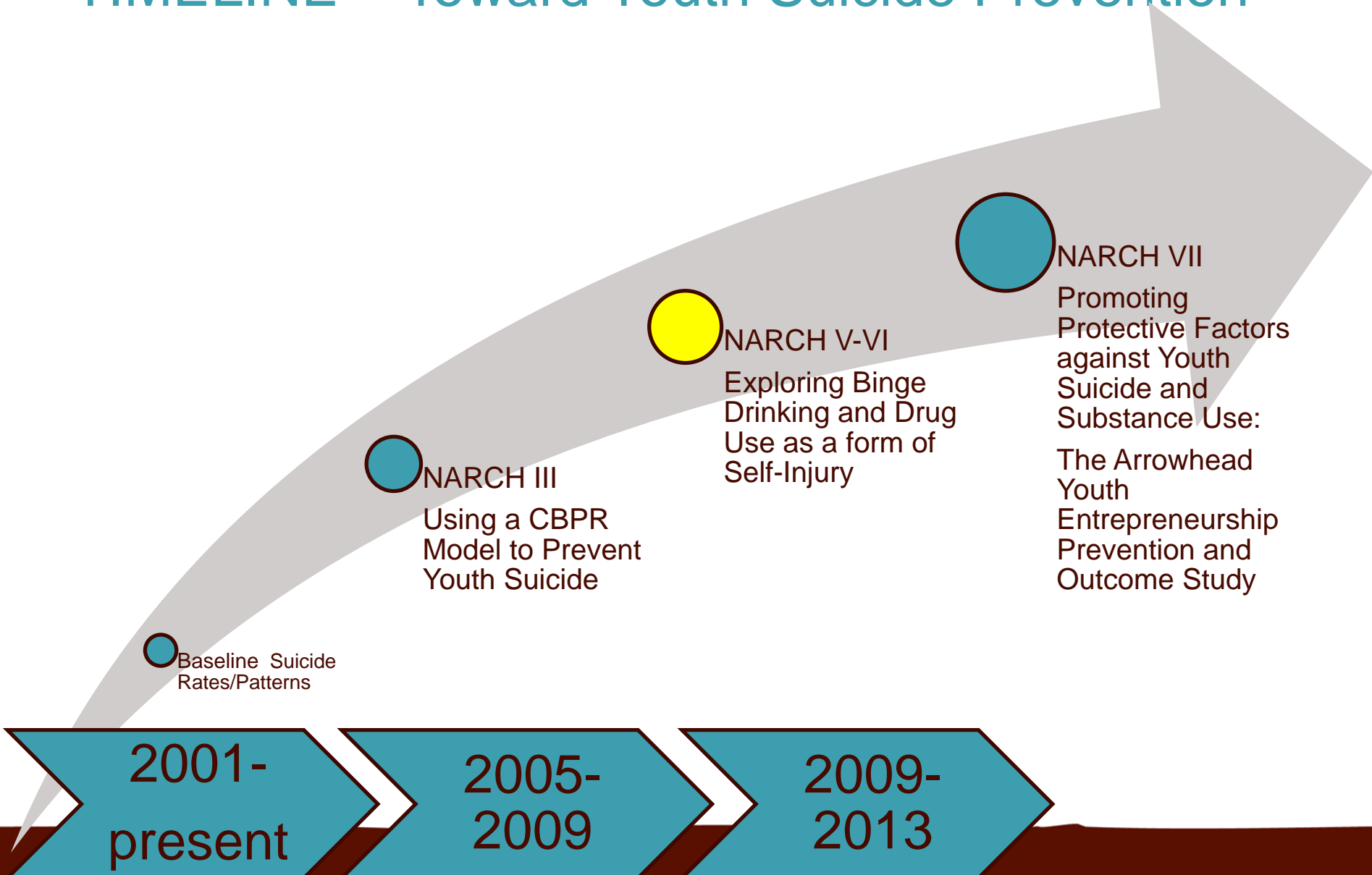
- 68% of deaths ages 10-25 confirmed drunk/high at time of death (the majority of rest unknown)
- 44% of attempts ages 10-25 drunk/high and not primary method (i.e., not the methods of OD)
 - Methods – 35% OD; 18% hanging, thus → 79% using related to attempt



Tribal Expansion of Mandated Reporting



TIMELINE – Toward Youth Suicide Prevention



Study Design: Case-Control Binge Substance Use

- Community-engaged process
 - Native and non-Native researchers
 - Community Advisory Board
- Case-control -- quantitative/qualitative data
 - All: Ages 10-19, AI ethnicity; from Apache community
 - Case: Binge alcohol/drug use, past 90 days
 - Control: No lifetime binge use
- Analysis
 - Individual, peer, family, cultural/community level risk and protective variables

Risk & Protective Factors –

Protective Factors that Mattered

- Individual

- Aggression
- Emotion regulation
- Impulsivity
- Social problem solving skills
- Mental health symptoms
- School attendance
- College interest
- Contact with courts/juvenile
- Index of stressful events

- Peer

- Deviant peer group
- Poor social relations
- Argument with friend (last 6 mo)
- Romantic break-up (last 6 mo)

- Family

- Household composition
- Multigenerational
- Number in home
- Residential stability
- Moved ≥ 1 , last year
- Family closeness
- Family functioning

- Cultural/Community

- Ethnic Identity
- Value Apache identity
- Value traditional AI values
- Desire tradition as adult

Measures -- Case-Control Binge Substance Use

ASSESSMENTS FOR YOUTH
ASSESSMENTS FOR YOUTH-ONLY (CASES & CONTROLS)
Demographics
Problem Oriented Screening Instrument for Teenagers
Multigroup Ethnic Identity Measure
Self-Injurious Thoughts and Behaviors Interview
Drug and Alcohol Assessment
Aggression Questionnaire
Social Problem Solving Inventory
Difficulties in Emotion Regulation Scale
Apache-JHU Family Assessment (Family Apgar)
Voice of Indian Teens – Happenings Scale
UPPS Impulsive Behavior Scale
ASSESSMENTS FOR YOUTH & PARENT TOGETHER (CASES & CONTROLS)
Children and Adolescent Services Assessment
GENERAL STUDY RELATED FORMS
Suicide Ideation Questionnaire (cases only)
Suicide Ideation Questionnaire – Past few days (cases only)
Study Visitation Form (cases and controls)
Study Exit Form (cases and controls)

= AI- or Apache-specific

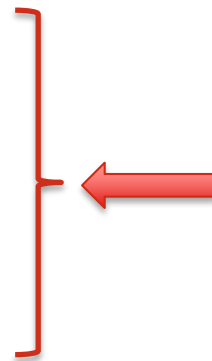
Results-Exploratory: Individual/Peer

Variable Name	AOR	p-value
<i>Individual Level</i>		
Aggression		
Total Score ¹	1.04	0.001
Physical ²	1.17	<0.001
Verbal ³	1.12	0.080
Anger ²	1.17	0.001
Hostility ¹	1.16	0.001
Indirect ²	1.11	0.057
Emotion Regulation		
Non-Acceptance	1.06	0.207
Goals	1.11	0.093
Impulse	1.14	0.027
Awareness	1.03	0.509
Strategies	1.14	0.007
Clarity	1.14	0.043
Impulsivity		
Total Score	55.83	<0.001
Premeditation	2.63	0.017
Urgency	3.54	0.005
Sensation Seeking	1.15	0.740
Perseverance	3.49	0.009
Social Problem Solving Skills ³	0.65	0.004
Mental Health Problems-Symptoms ⁴	1.19	0.025
Currently in School	0.07	0.014
College Aspiration ¹	0.12	0.067
Contact with Court/Juvenile Justice, last 6 months ⁵	5.31	0.139
Stressful Events ⁶	1.30	0.033
<i>Peer Level</i>		
Deviant Peer Group ⁴	1.40	0.003
Poor Social Relations ⁴	1.33	0.029
Serious Argument: Friend, last 6 months ²	2.98	0.016
Break-up: Romantic Partner, last 6 months ⁷	1.81	0.238



Results-Exploratory: Family/Culture/Community

Variable Name	AOR	p-value
<i>Family Level</i>		
Household		
Both parents	0.50	0.142
Mother only	0.96	0.943
Non-family members	3.04	0.074
Multigenerational	2.26	0.087
Number in home ²	1.26	0.027
Residential Mobility		
In current home > 10 years ²	0.26	0.003
Lived in > 1 home, last year	1.68	0.235
Family Dynamic		
Family closeness	0.26	0.007
Poor family functioning ⁸	1.38	0.003
<i>Cultural/Community Level</i>		
Values, Beliefs & Practices		
Follow traditional AI beliefs	0.65	0.050
Follow Christian beliefs	0.72	0.171
As an adult, desire to follow traditional AI beliefs	0.65	0.081
Important to have traditional AI values, practices ²	0.34	0.003
Ethnic Identity		
Total Score	0.29	0.004
Affirmation and Belonging	0.45	0.012
Identity Achievement	0.28	0.007
Ethnic Behavior	0.53	0.027
Other Group Orientation	0.31	0.007



Highlight on School Attachment:

- Cases spoke negatively about school; many suspended/dropped out due to drinking
- Controls strongly attached to school; source of pride
- Controls connected academic success and skill development to long-term college and employment goals
- Controls accessed school-based adults in times of need (counselor, nurse, teacher, coach, etc.)

Apache Conceptual Model of Suicide

Risk

Individual

- Predisposing characteristics
- Impulsivity
- Anomie

Family

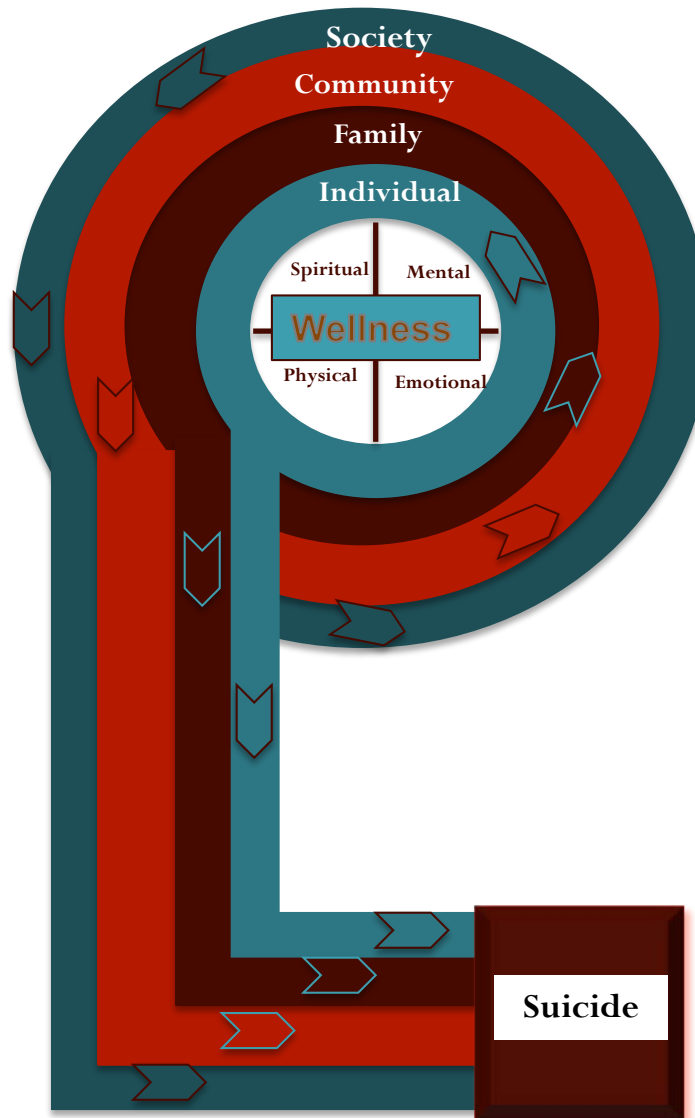
- Strained relationships
- Substance use

Community

- School drop-out
- Violence & grief burden

Society

- High suicide rates
- Imitation



Prevention

Individual

- Emotion regulation skills
- Goal Setting / Vision for Future

Family

- Parent engagement
- Family support

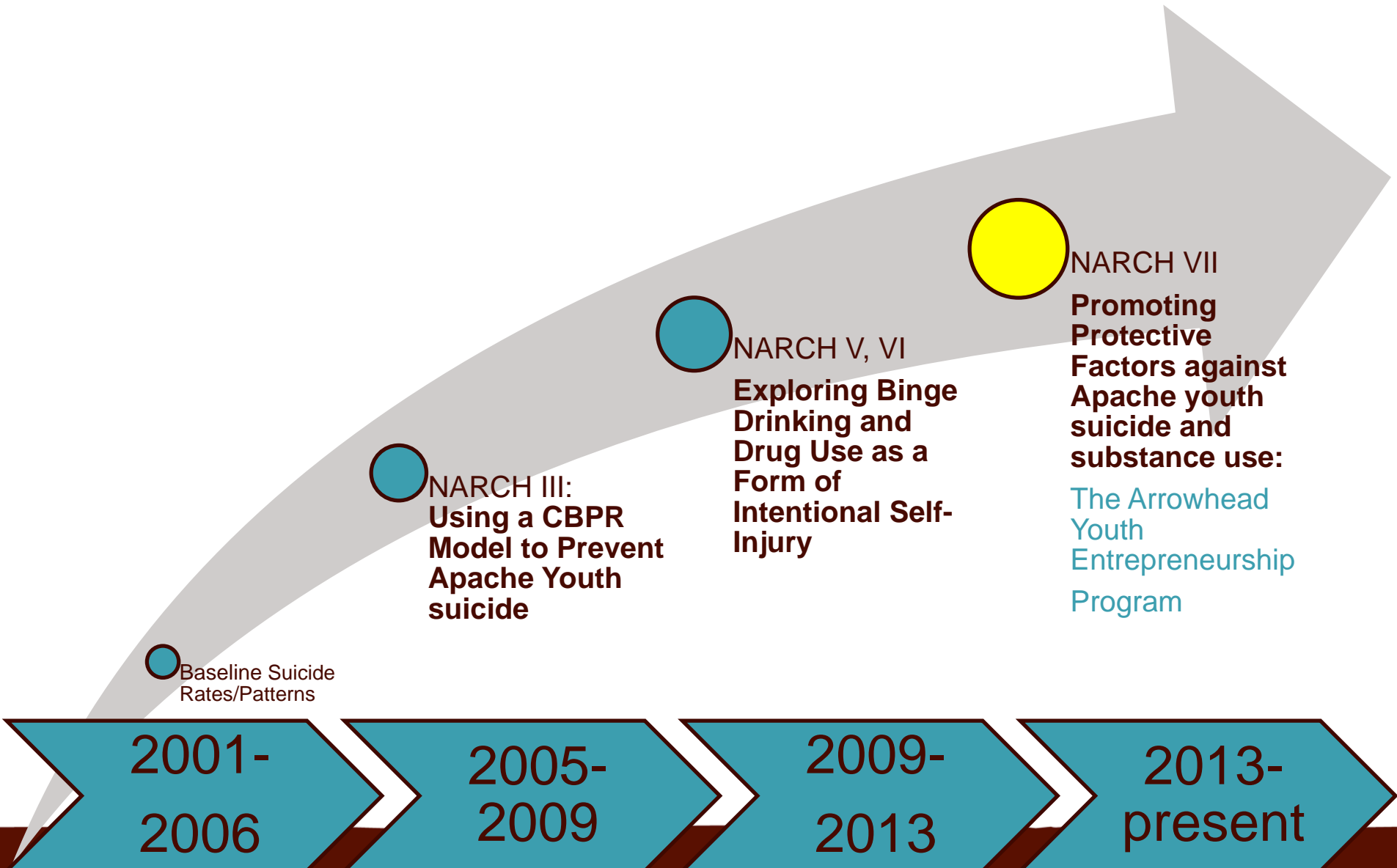
Community

- School attachment
- Support from Positive adults

Society

- Strong Apache identity & morale
- Positive peer networks
- Opportunities for productivity

TIMELINE – Toward Youth Suicide Prevention

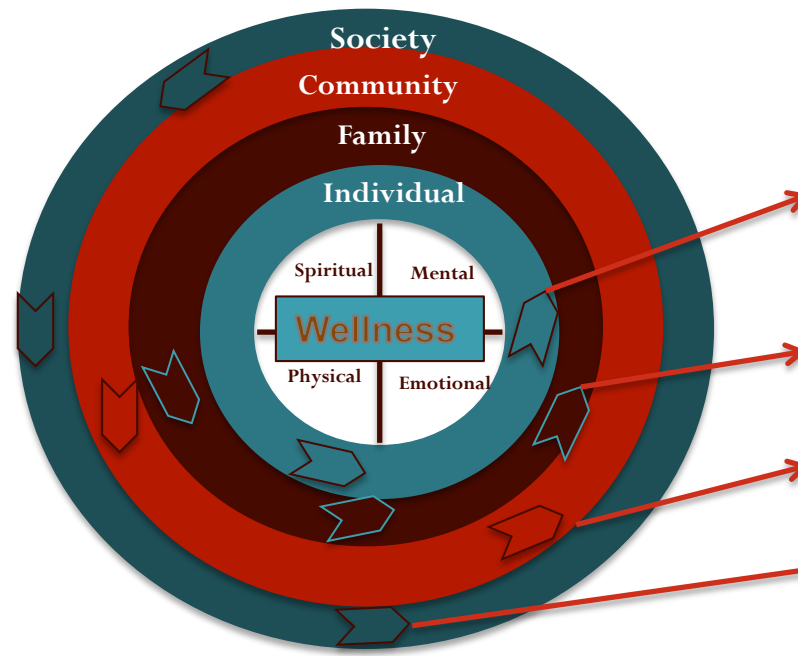


APACHE ARROWHEAD YOUTH ENTREPRENEURSHIP PROGRAM



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The Key Aims of the Youth Entrepreneurship Model



- ## Prevention
- Individual**
 - Emotion regulation skills
 - Goal Setting / Vision for Future
 - Active lifestyles
 - Family**
 - Parent engagement
 - Family support
 - Community**
 - School attachment
 - Support from Positive adults
 - Society**
 - Strong Apache identity & morale
 - Positive peer networks
 - Opportunities for productivity

Arrowhead Youth Entrepreneurship Program: The Intervention



- Recruit 13-16 year olds
- One-week residential camp
 - Coping/Problem Solving
 - Goal setting
 - Entrepreneurship skill development
 - Stay in school incentives
 - Positive cultural identity
- 6 months guided small business development
- Adult/Elder mentors
- Business incubator

Supported by



Structured Curriculum and Native Facilitators

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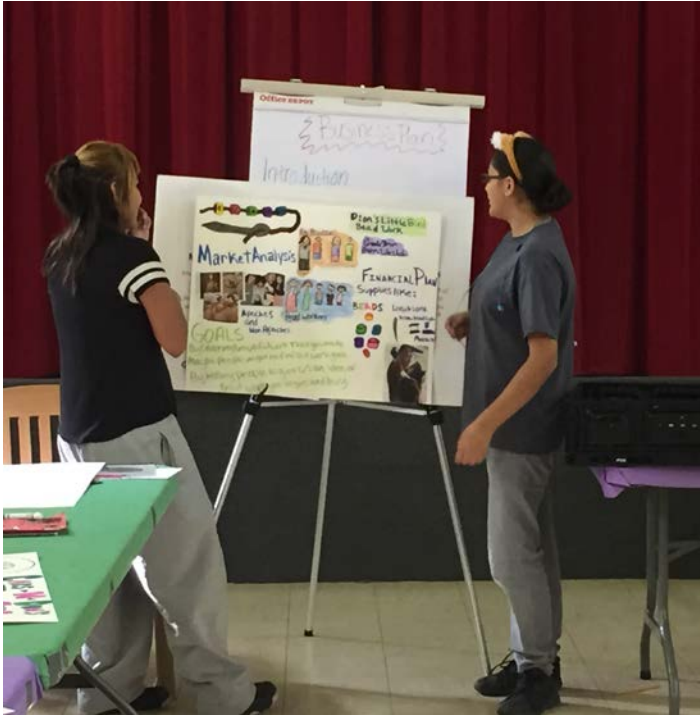
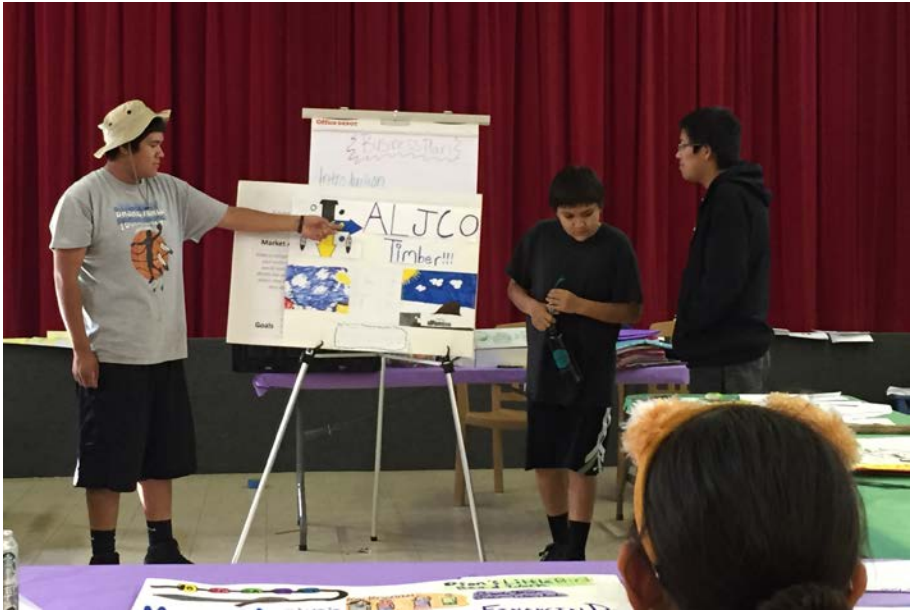
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Facilitator Guide Color Key:

- ▶ All black text (apart from what is written on the overview page of the lesson) is information to share with youth.
- ▶ All text in blue boxes is information to share with youth. It includes additional information that they don't have printed in their workbooks.
- ▶ All orange script and orange boxes should not be read out loud. Orange indicates a note to the facilitator.
- ▶ All green script and green boxes are examples you can use to support a point. You can choose to use these examples or provide your own.
- ▶ All purple script and purple boxes are questions to ask the youth. You don't have to ask all of the questions, just the ones that you think are appropriate.



Experiential Learning and Team Presentations



Program Evaluation



Design (funded by NIH/NARCH):

- RCT – 450 youth – 2:1 design
- Comparison group:
Recreation/cultural activities

Targeted Outcomes targets:

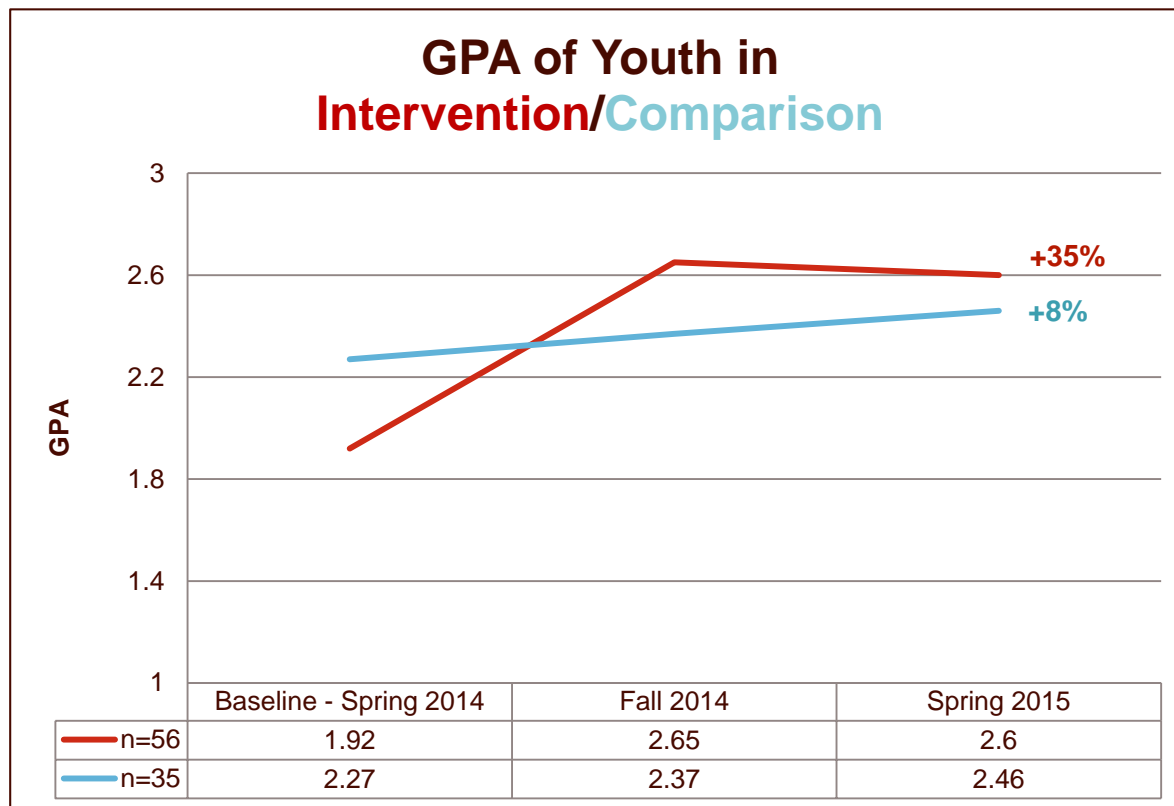
- Education Achievement
(HS completion, attendance, GPA)
- College Aspirations
- Behavior/mental health outcomes
 - Hopefulness vs. Hopelessness
 - Self-Efficacy/Locus of Control
 - Substance Abuse
 - Depression
 - Risk-Taking

Youth Entrepreneurship Intervention Measures collected through ACASI (computer-assisted)

Indicator Topic	Data Source (Metric)	Baseline	Post-interv.	6-mos post-interv. mos	12 mos post-interv.	24 mos post-interv.
Demographics	Investigator-developed survey items	5	5	5	5	5
I. Psychosocial Outcomes						
Depressive symptoms	Patient Health Questionnaire 9- (PHQ-9)	3	3	3	3	3
Locus of control	Norwicki-Strickland Locus of Control	10	10	10	10	10
Social connectedness	Hemingway Measure of Adolescent Connectedness	15	15	15	15	15
	Awareness of Connectedness Scale	3	3	3	3	3
Life skills self-efficacy	Life Skills Self-Efficacy Scale	5	5	5	5	5
Hopelessness and hopefulness	Hopelessness Scale + Apache Hopefulness Scale	5	5	5	5	5
II. Behavioral Health Outcomes						
Substance use	Youth Risk Behavior Survey (substance use subscales)	5	5	5	5	5
Sexual and risk-taking behaviors; violence	Youth Risk Behavior Survey (various subscales)	12	12	12	12	12
II. Educational Outcomes						
School achievement/attendance (GPA, absenteeism, tardiness), completion and performance	School Records (no time burden)	0	0	0	0	0
College and occupational interest	Across Time Orientation Measure (ATOM)	4	4	4	4	4
IV. Entrepreneurial and Economic Outcomes						
Entrepreneurial knowledge and activities	Investigator-developed survey items	3	3	3	3	3
Economic advancement and empowerment	Investigator-developed survey items	5	5	5	5	5
Participant program satisfaction	Investigator-developed survey items	0	10	10	0	0
Maximum Total Time Burden (in minutes):		75	85	75	75	75

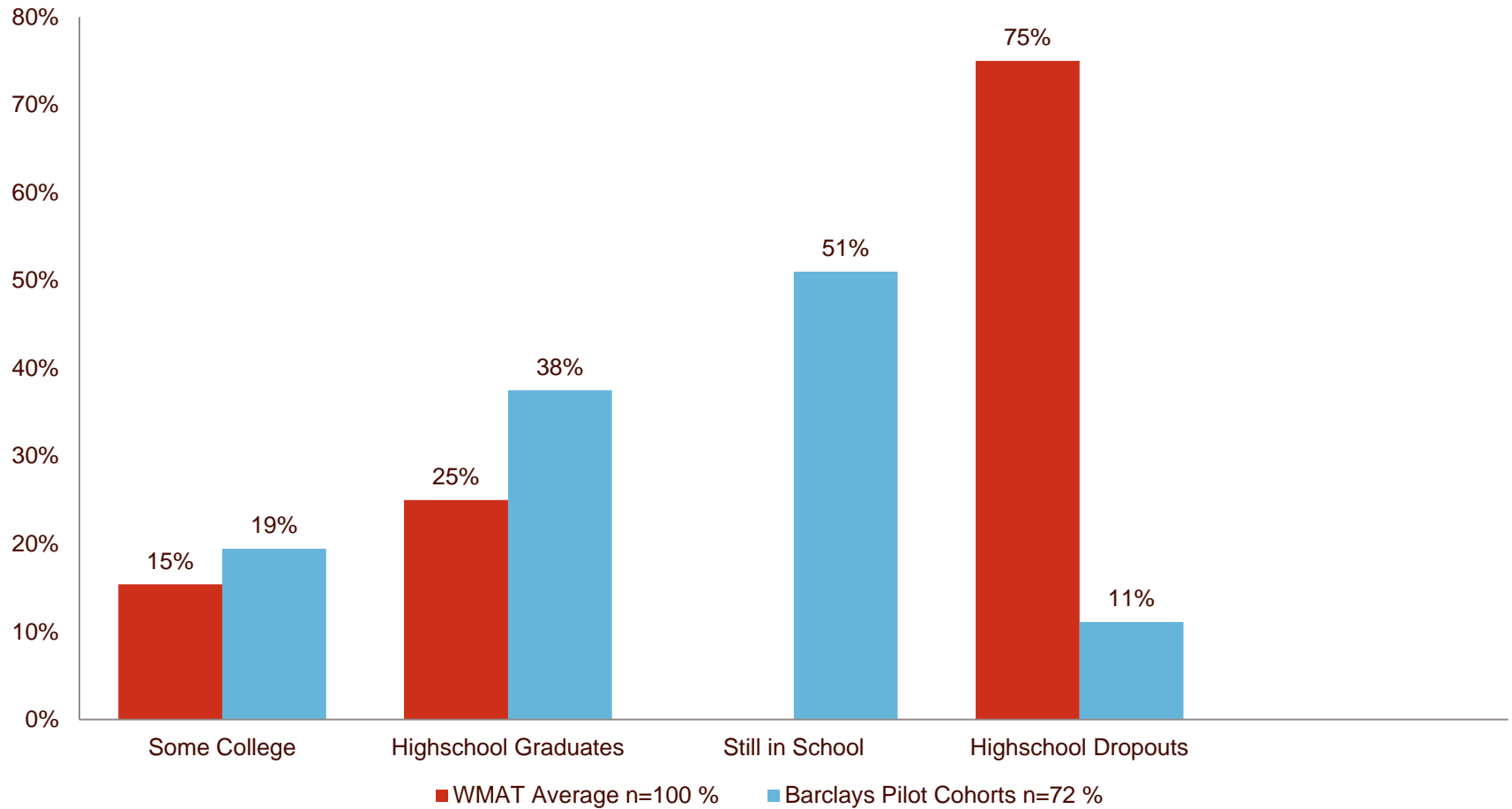
=previously proven w/community

Preliminary Data: Changes in GPA – Cohort 1 (Enrolled Summer 2014)



School Achievement of Pilot Cohort (2013)

Enrolled Summer 2013 (n=72)



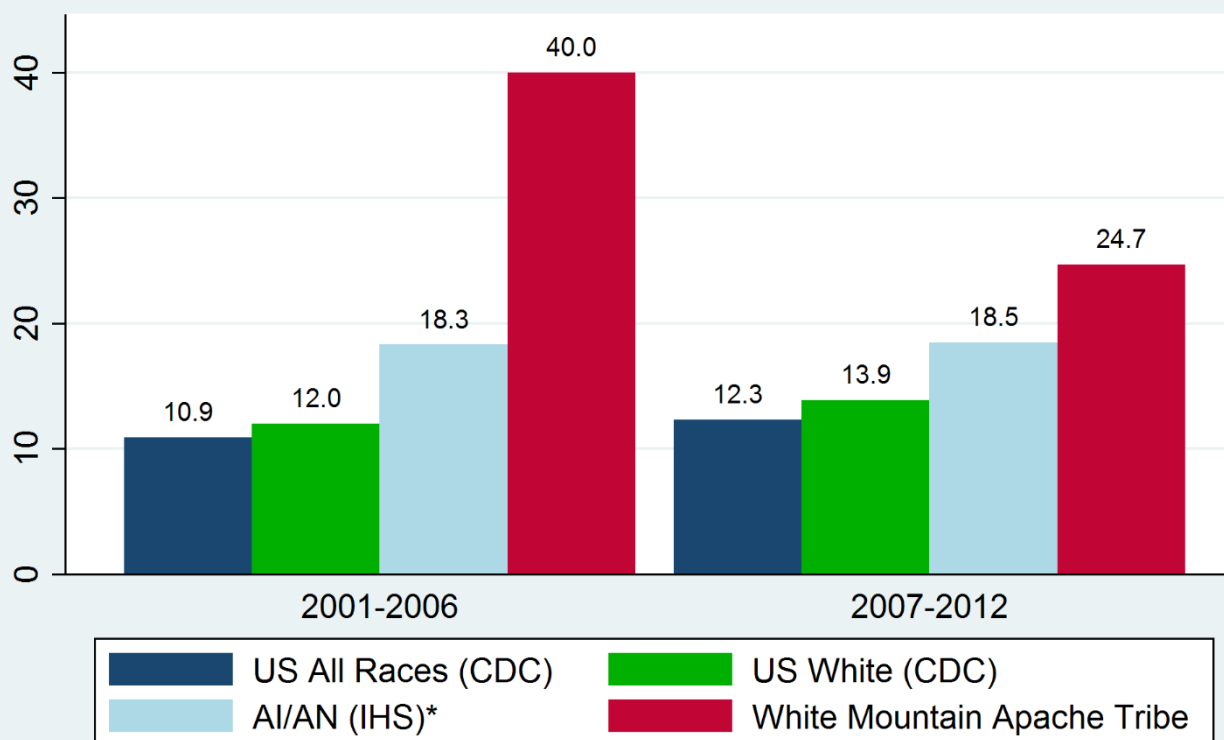
Continuing the Journey Toward Wellness....





The good news:

Suicide Death Rates per 100,000 Population



* AI/AN Rates were provided by IHS and are only available through 2008

Our Team and Support



Melanie Alchesay

Allison Barlow

Mary Cwik

Hector Garcia

Novalene Goklish

Sonny Goseyun

Francene Larzelere-Hinton

Kristin Lake

Angelita Lee

Anthony Parker

Rosemarie Suttle

Lauren Tingey

John Walkup

SAMHSA Suicide
Prevention grants

NARCH grants

Barclays