Protective associations between opioid agonist treatment and fatal overdose vary with time and age

Funding: The Opioid Agonist Treatment and Safety (OATS) Study; NIH R01 DA044170

Disclosures - untied educational grant funding unrelated to this work:

LD: Mundipharma, Indivior, and Seqirus.

SL: Indivior

All-cause mortality is reduced by half while in OAT compared to time out of treatment

Opioid overdose mortality is reduced by 70%

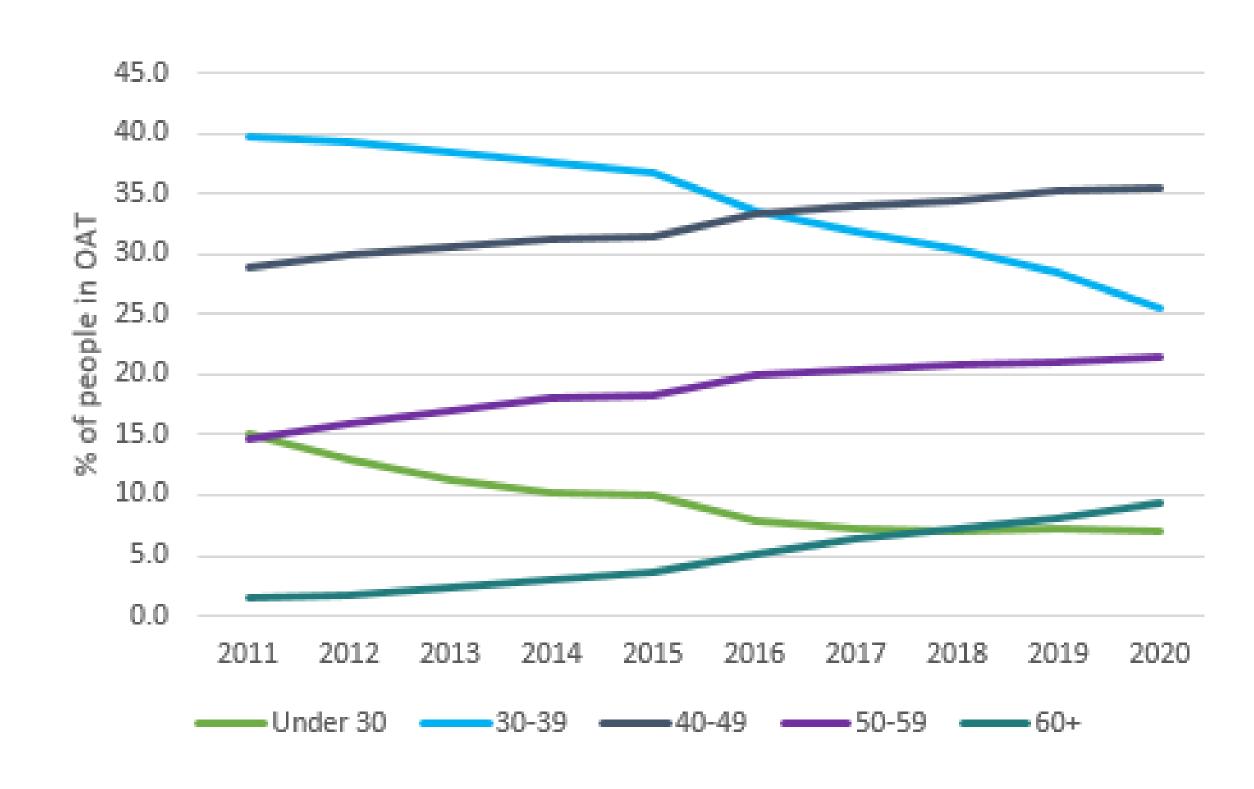
Older adults are a growing population among OAT patients

In this context, "older" = 45 years and above

Environmental and biological factors contribute to premature aging

In many settings, the OAT population is aging

Age of OAT clients in Australia, 2011-2020



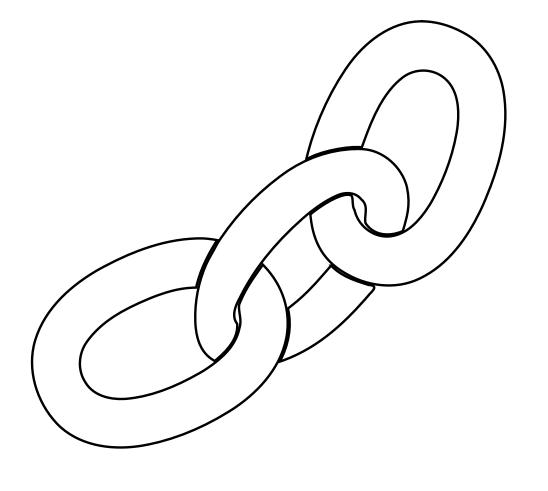
Opioid overdose mortality is reduced by 70%

Is this true as people age?

Aim: Assess changes in the strength of the protective association between OAT and overdose death

Design

A cohort of people prescribed OAT 2001-2016, defined using linked administrative health data



Data sources in this analysis:
Opioid agonist treatment
Deaths

Person-years accumulate from first treatment entry until the first of:

Death

Four years without treatment

End of follow-up

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Person 1	in OA	T	out				died											
	time included in observation period																	
Person 2																		
Person 3																		

Method

Older people: those aged 45 years or older

Deaths: opioid overdoses of unintentional and undetermined intent

Mortality rates 2001-04, 2005-08, 2009-12, 2013-16, 2017-18

Person-years were attributed to older or younger group based on age at any given time point



N = 48,055

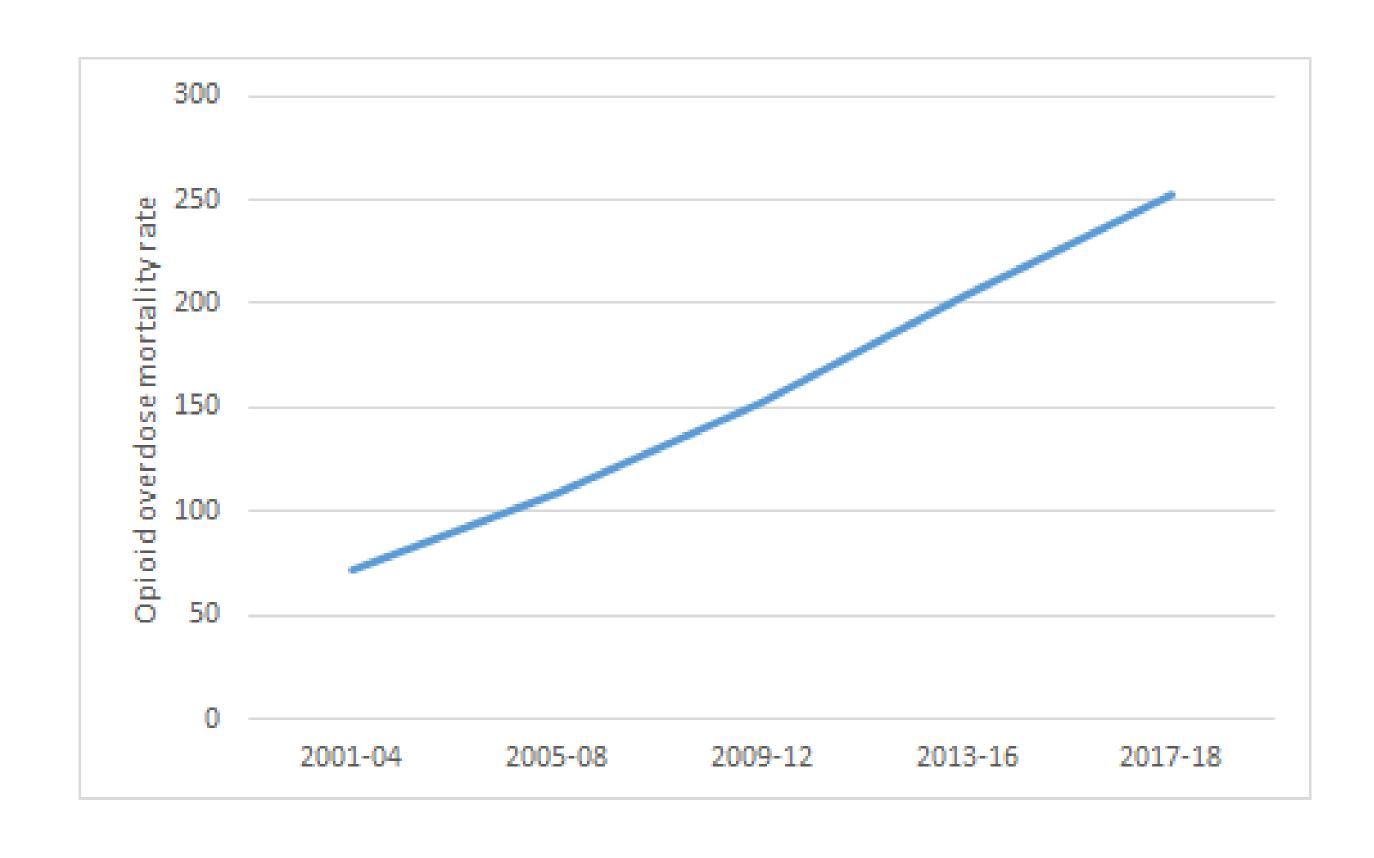
32% female / 68% male (n=2 unknown)

21% identified as Indigenous

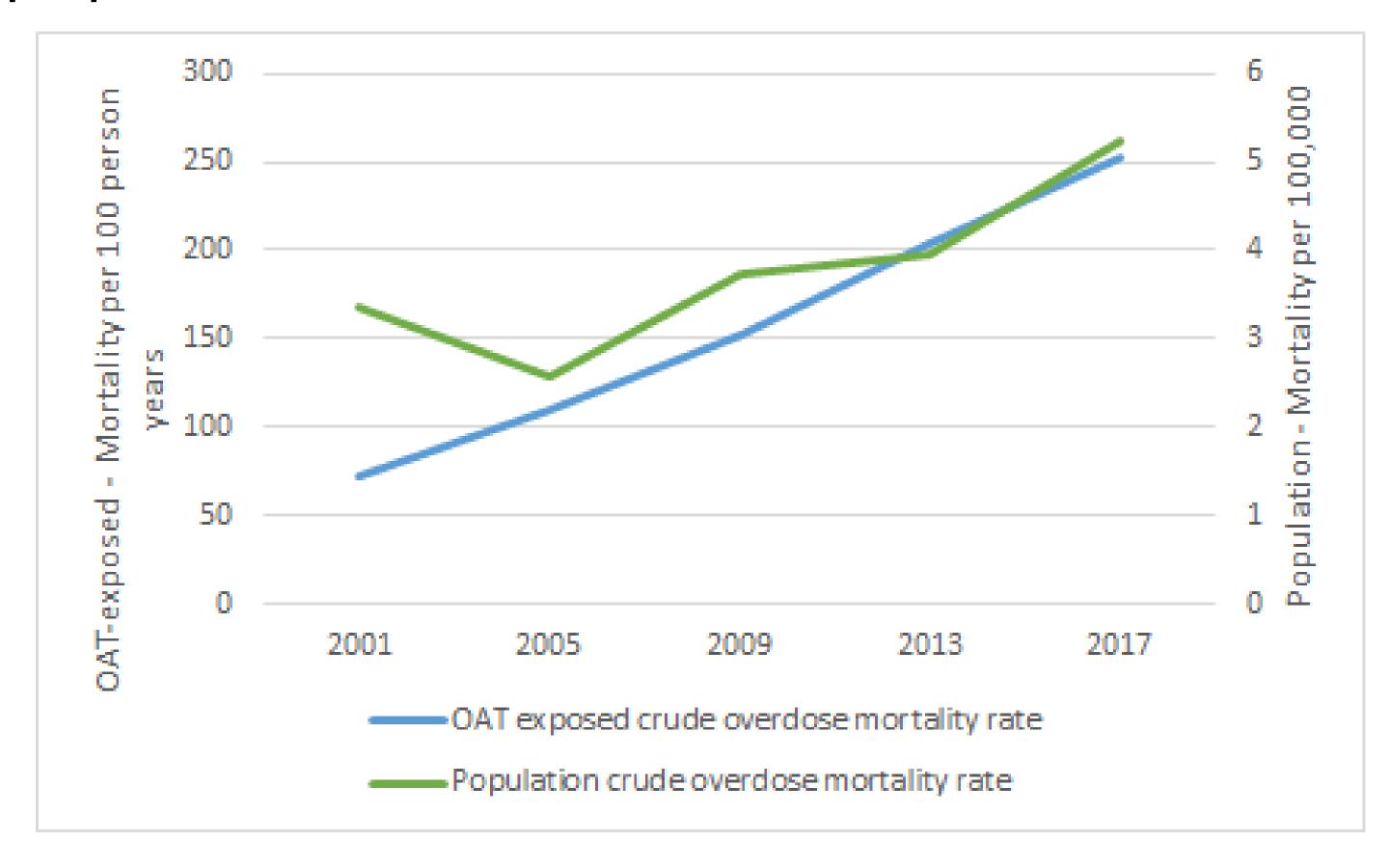
Median age 32 years at cohort entry

473,079.9 person-years of follow-up

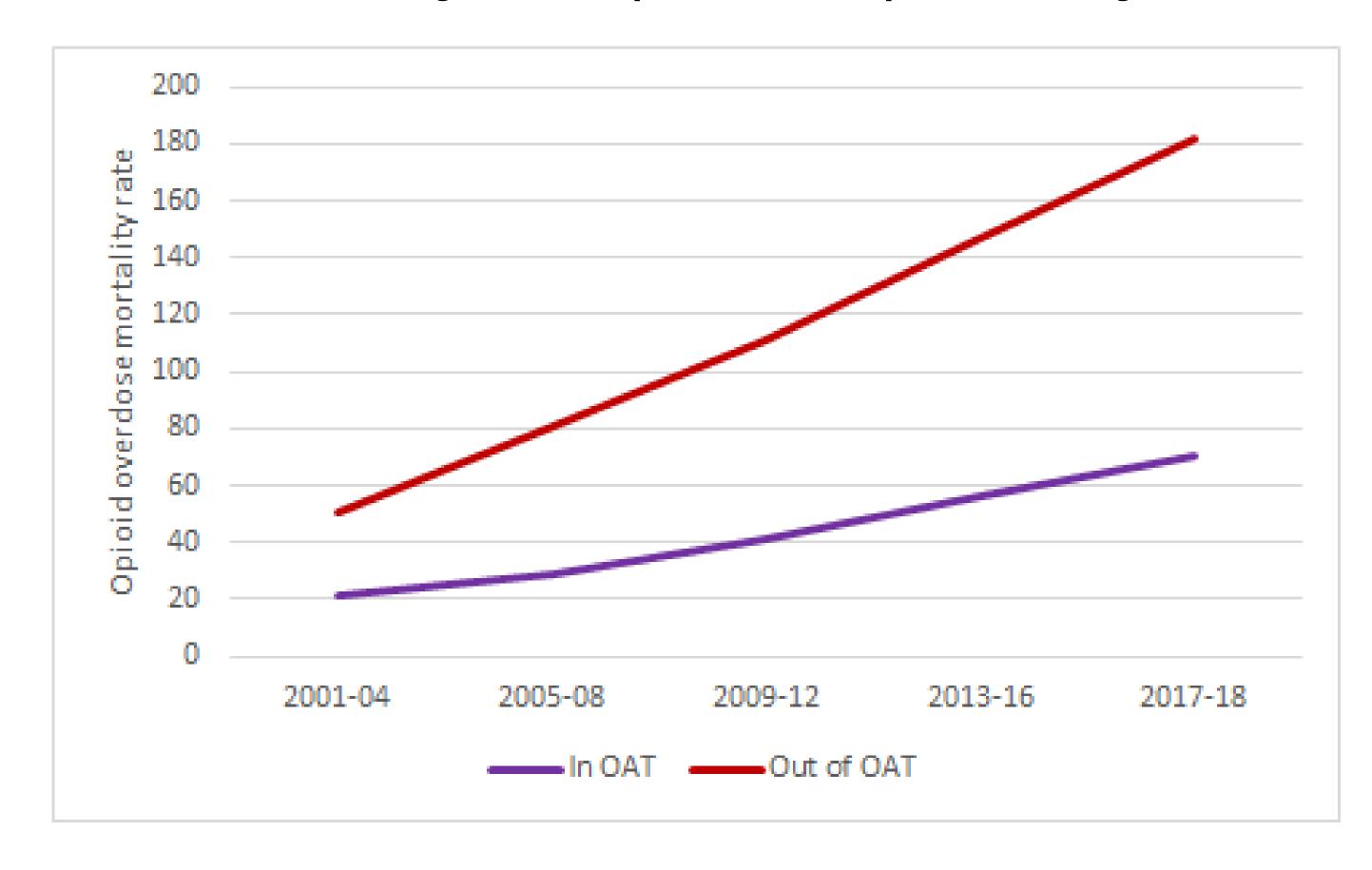
Overdose crude mortality rate per 100 person-years



Similar to population trend

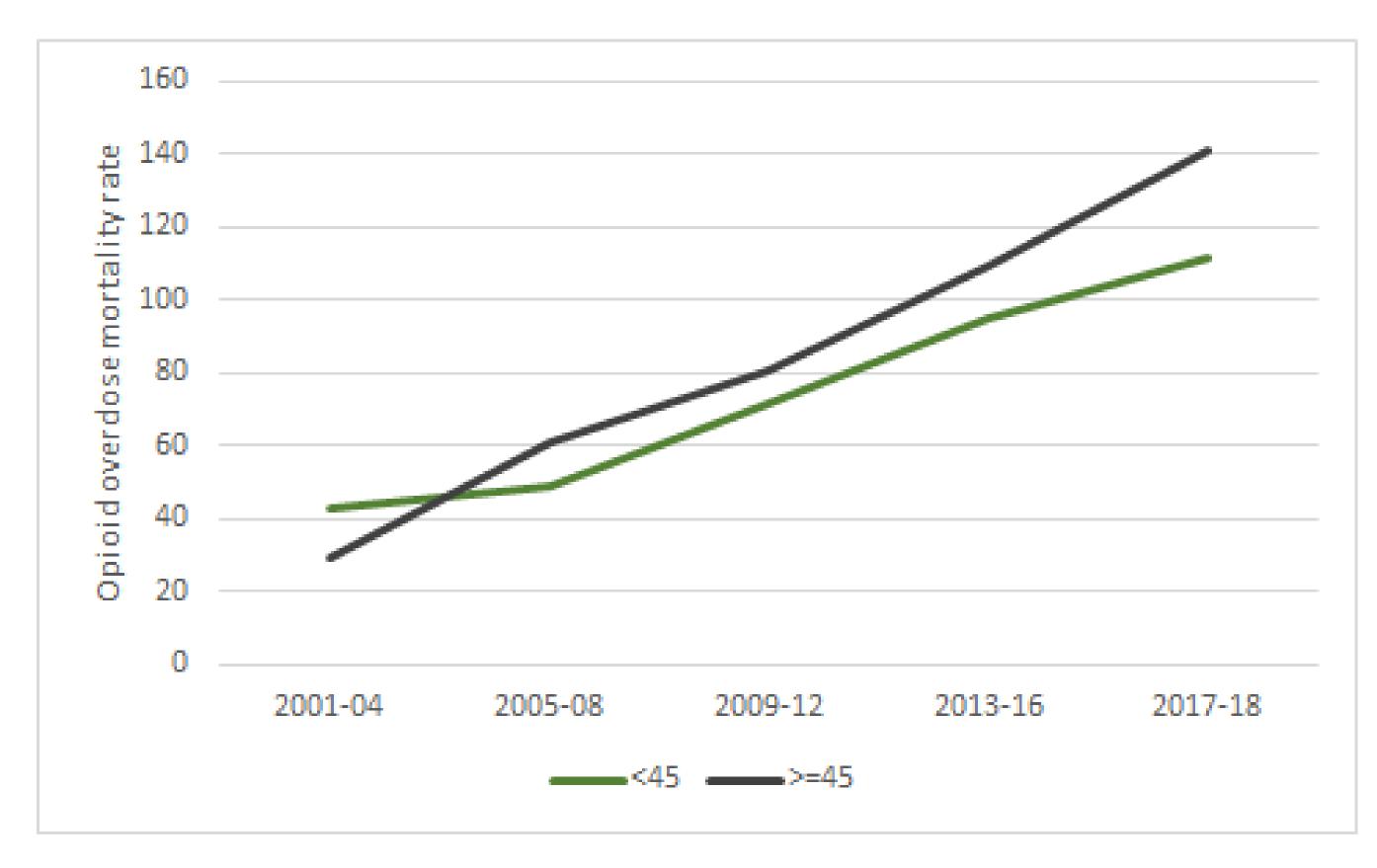


Overdose crude mortality rate per 100 person-years

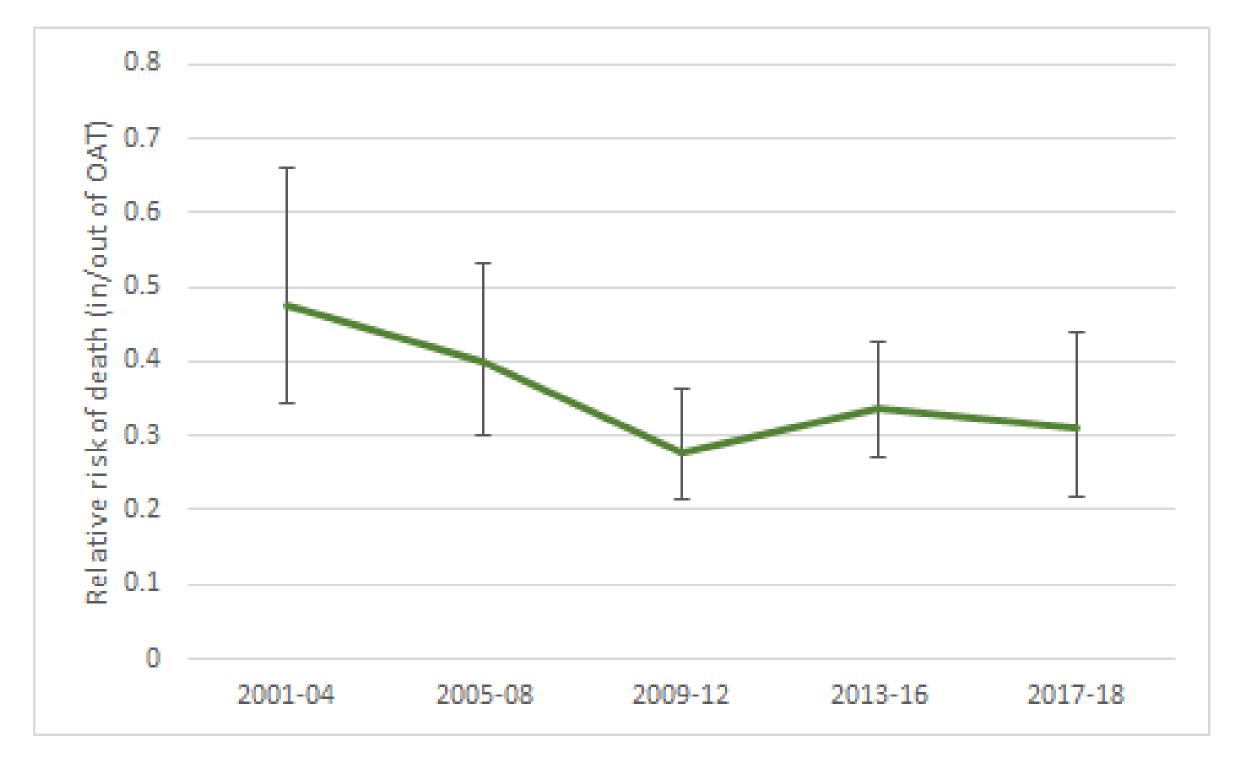


Overdose crude mortality rate per 100 person-years, by

age group

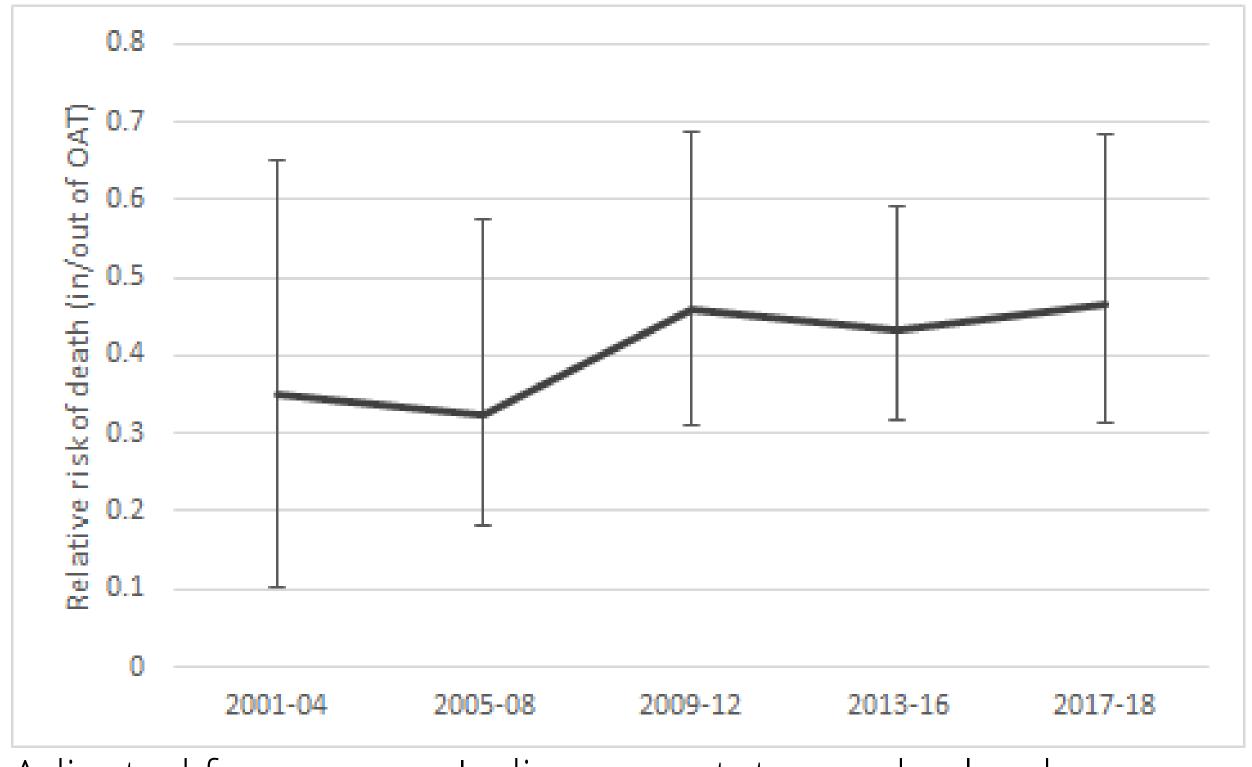


Relative risk of death, in OAT/out of OAT: <45 years



Adjusted for sex, age, Indigenous status and calendar year

Relative risk of death, in OAT/out of OAT: =>45 years



Adjusted for sex, age, Indigenous status and calendar year

Diminution in the protective effect of OAT on opioid overdose as people age

Role of systemic disease?

Role of methadone vs buprenorphine

Goal: to better understand change in overdose risk with age, and support safer OAT



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