

Take-home naloxone and user engagement

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Figure 3.1: Cumulative number of THN kits supplied in community, prisons and combined, by source, financial year and month (Scotland; 2011/12 to 2015/16)

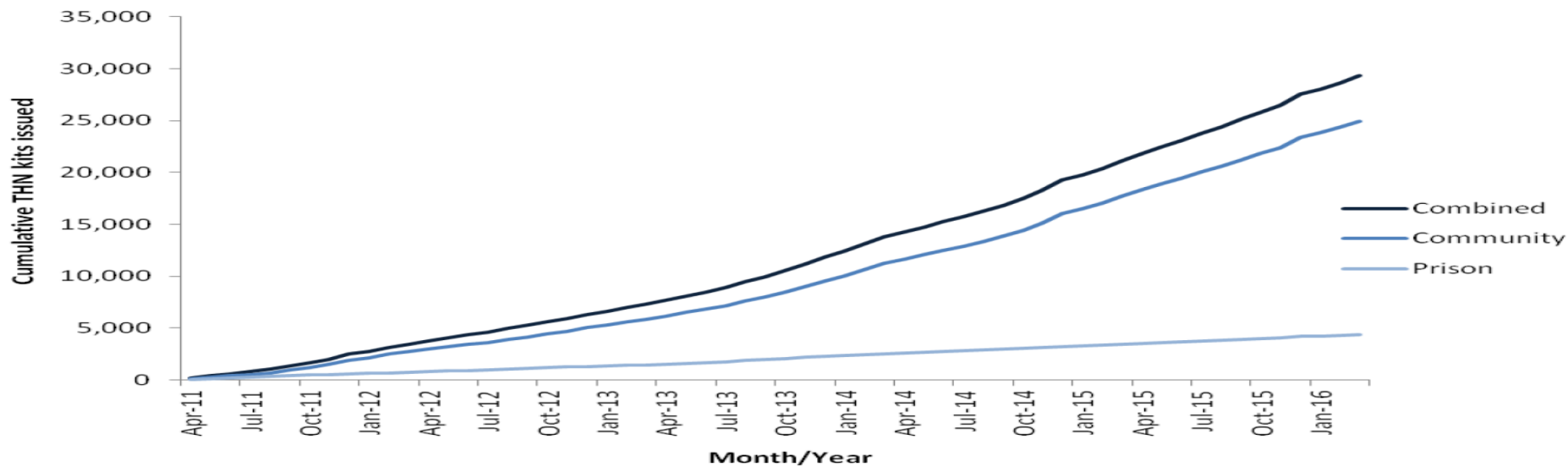
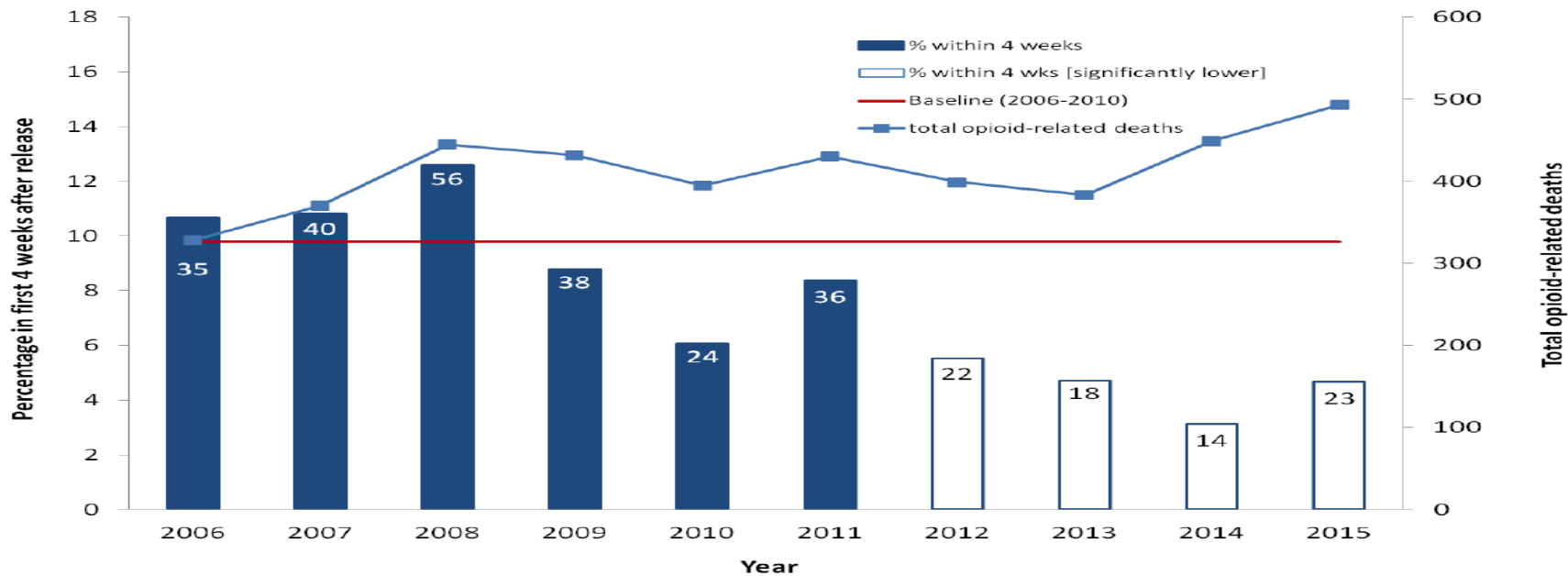


Figure 4.1: Number of opioid-related deaths and percentage within four weeks of prison release, by calendar year (Scotland; 2006 to 2010 (baseline) & 2011 to 2015†)



Scotland's National Naloxone Programme

Calendar Period	Number of opioid-related deaths, ORDs	PRIMARY: ORDs within 4-weeks of Prison-release	TERTIARY: ORDs within 4-weeks of Hospital-discharge	SECONDARY: ORDs within 4-weeks of Prison-release and/or Hospital-discharge
2006-10 (5 years)	1970	193 (9.8%; 8.5 -11.1)	191 (9.7%; 8.4 -11.0)	374 (19%; 17.2 - 20.7)
2011-13 (3 years)	1212	76 (6.3%; 4.9 - 7.6)	111 (9.2%; 7.5 -10.8)	181 (15%; 12.9 - 16.9)
2014-15 (2 years)	942	37 (3.9%; 2.7 - 5.2)	90 (9.6%; 7.7 - 11.4)	123 (13%; 10.9 - 15.2)
2011-15 (5 years)	2154	113 (5.2%; 4.3 - 6.2)	201 (9.3%; 8.1 - 10.6)	304 (14%; 12.6 - 15.6)

Reach... Carriage...

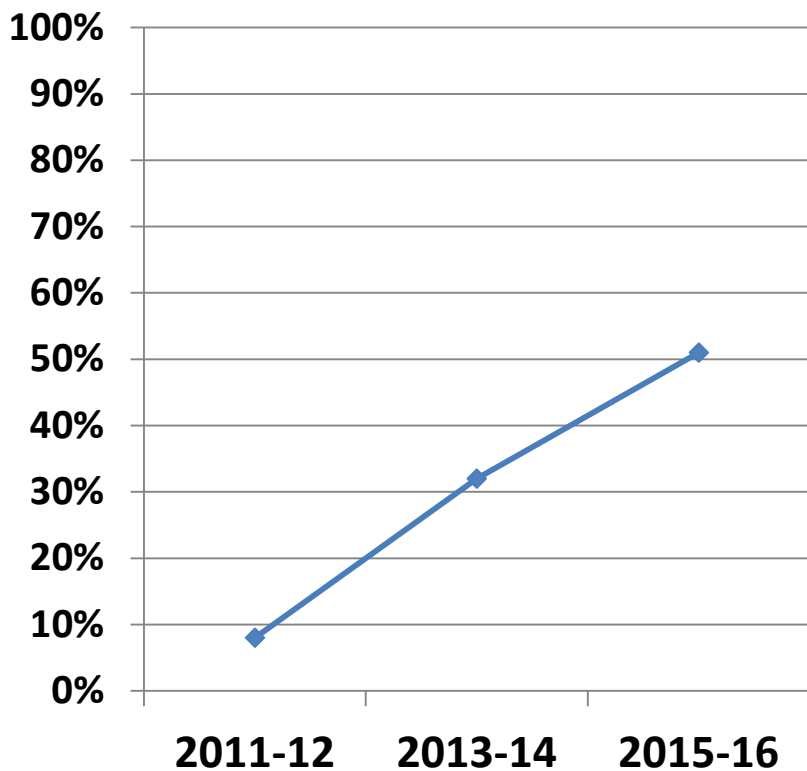
Needle Exchange Surveillance Initiative (NESI)

- Since 2008-09, 2-yearly, cross-sectional, nationally representative survey of ~ 2500 PWIDs recruited from IEP sites.
- Majority recent injectors: 80% in last 6-months
- **18%** NESI respondents in 2011-16 had been in prison in the past-year, with mean incarceration-time of **5 months**.
- **Naloxone questions added in 2011-12.**

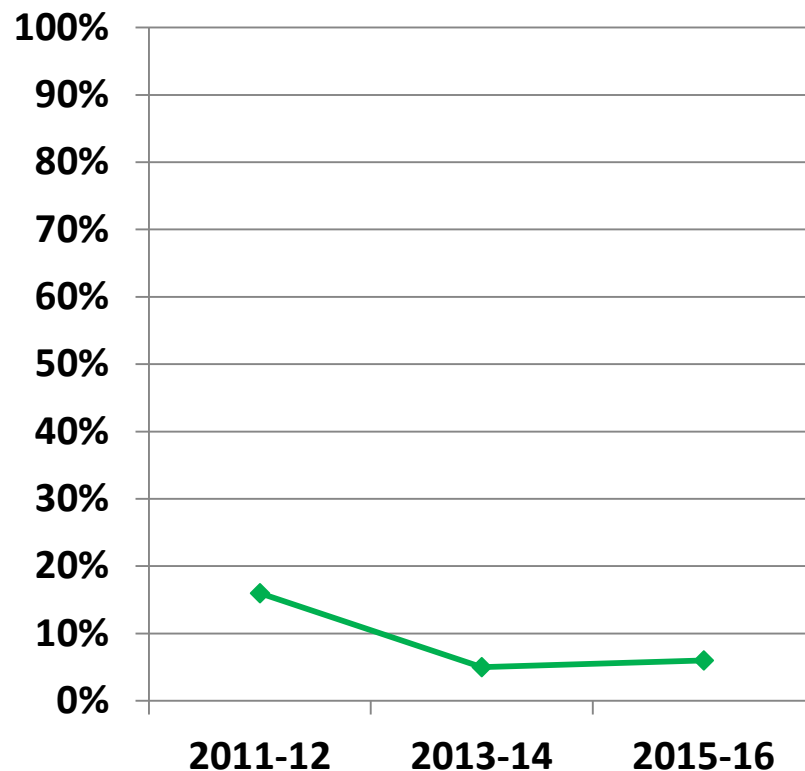


Naloxone reach vs. carriage among PWID in Scotland, 2011-16

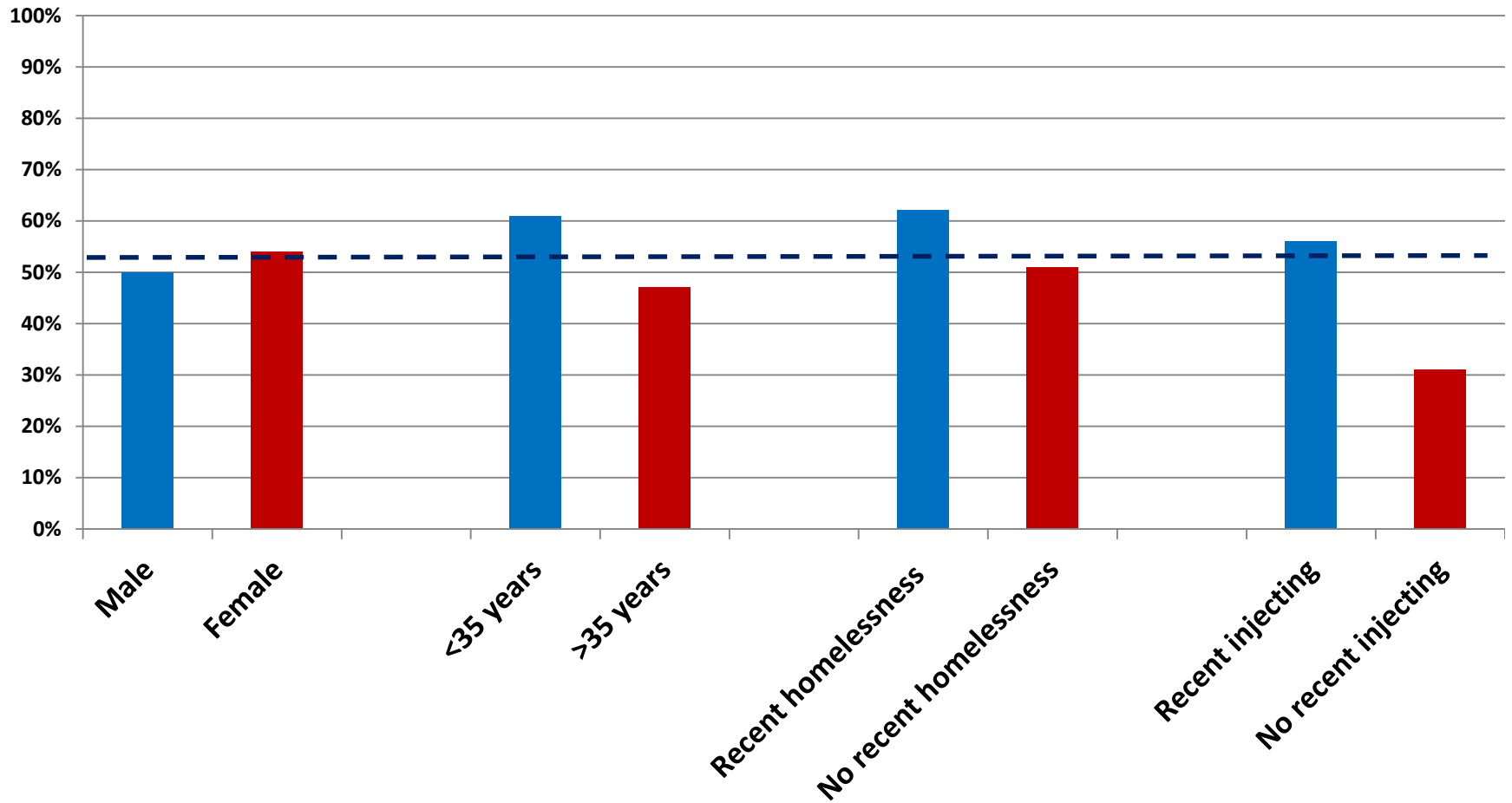
% prescribed naloxone in the past year



% carrying naloxone at time of NESI interview

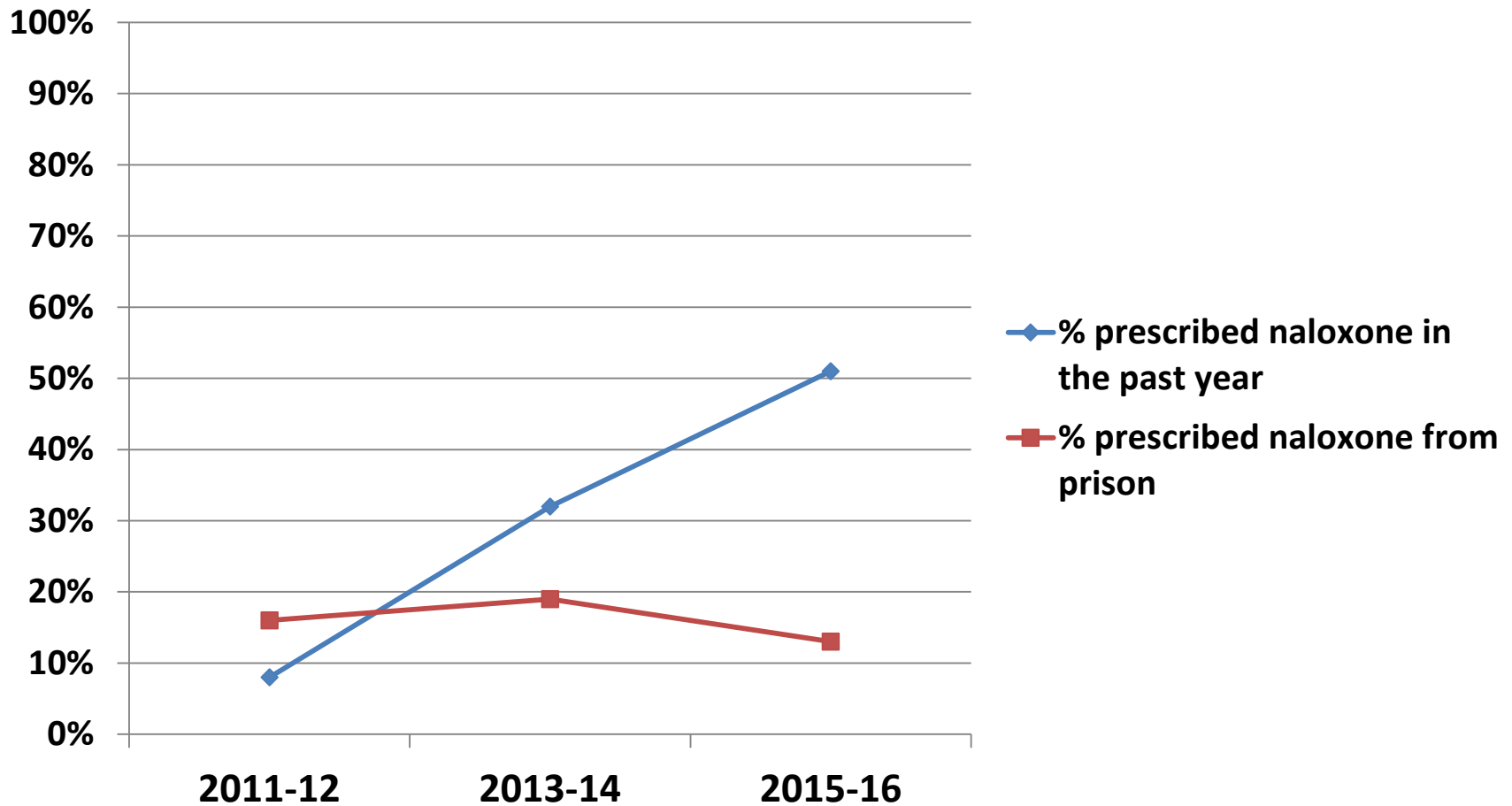


NESI: Naloxone reach among PWIDs in Scotland, by sub-group, 2015-16



Source: NESI

Naloxone reach among PWID in Scotland, 2011-16



Source: NESI

NESI: Naloxone reach among PWIDs in Scotland, by sub-group, by setting, 2015-16.

Lancet, 10th March 2017

NESI-estimated annual rate of naloxone-provision	SEX		AGE-GROUP		INJECTED in the past 6-MONTHS	
	male	female	< 35 years	35+ years	Yes	Not in past 6-months
Per Prison-Release	39%	67%	48%	37%	43%	37%
Per Community-Year	46%	52%	37%	43%	37%	28%

Naloxone carriage

Where do you think they're keeping it?

"They're keeping it in wherever they're staying, in bed and breakfasts, flats...yeah they're not carrying it about wi' them which is pretty silly really.

It's carrying about wi' them cause it's in the woods and everything and in the toilets and stuff like that is where everybody is taking the gear.

Och at night time you go home and you have a bag o' gear or a couple o' bags o' gear. Or maybe in the morning.

But when you're out, most drug addicts are in the city centre getting money for drugs all day. And they do that right up 'til, fae morning 'til night.

And so...what's the point in having the naloxone at home or wherever you are staying when that's no where you're needing it? You're needing it in your bag really I suppose. So I suppose a lot o' people have got tae get told, you've got tae carry it about in your bag. That would be the sensible thing.

But it's the police I think as well. I think that bothers...it bothers me wi' the police."

'Walter', 45-54 year old former PWID on OST, multiple uses of naloxone

Behavioural
response(s)...

Naloxone use and ambulance call outs

“It is quite likely that, other things being equal, if users and their peers had access to naloxone they **would be less likely to call an ambulance.**”

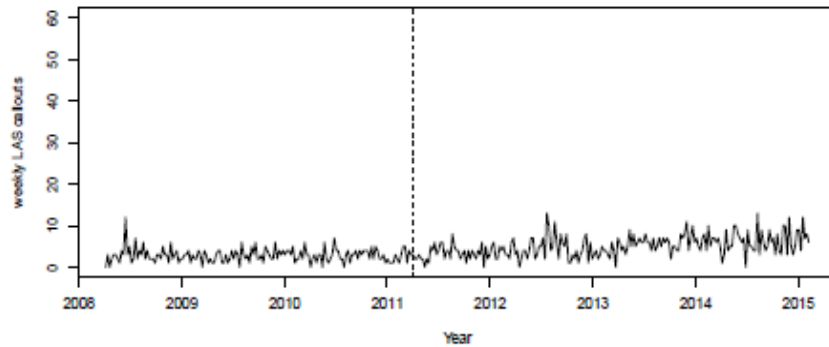
(Lenton S., Hargreaves K. Drug Alcohol Rev 2000; 19: 365–9)

“The authors cite 440 "reversals" of 6000 doses distributed: what happened to the other 5560 doses? There is a risk that these were **used to avoid calling emergency services as drug users associate emergency ambulance services with police.**” *(Ashworth AJ. BMJ 2006; 333: 754)*

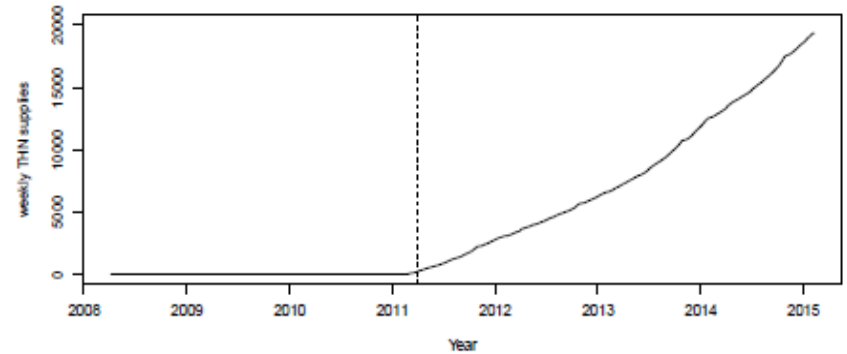
“Data from several studies show **wide variation (29%-100%) in ambulance callouts to overdose events where naloxone has been administered by peers.**” *(Clark AK., et al. J Addict Med 2014; 8: 153–63)*

Naloxone use and ambulance call outs

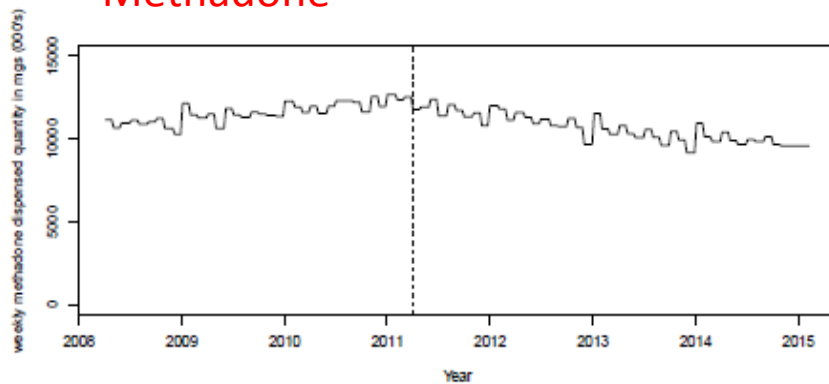
London



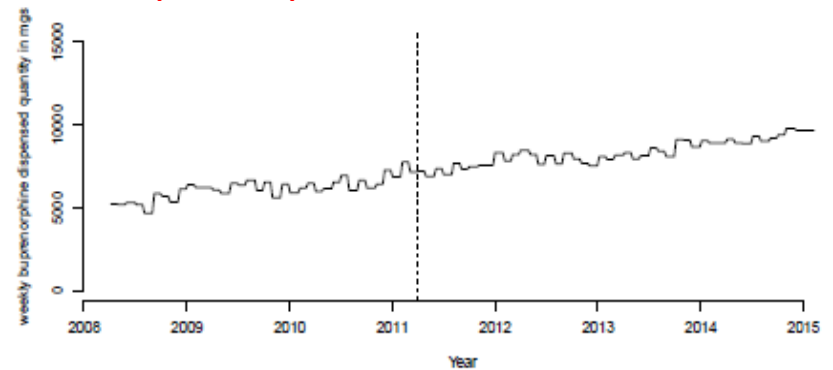
Naloxone



Methadone

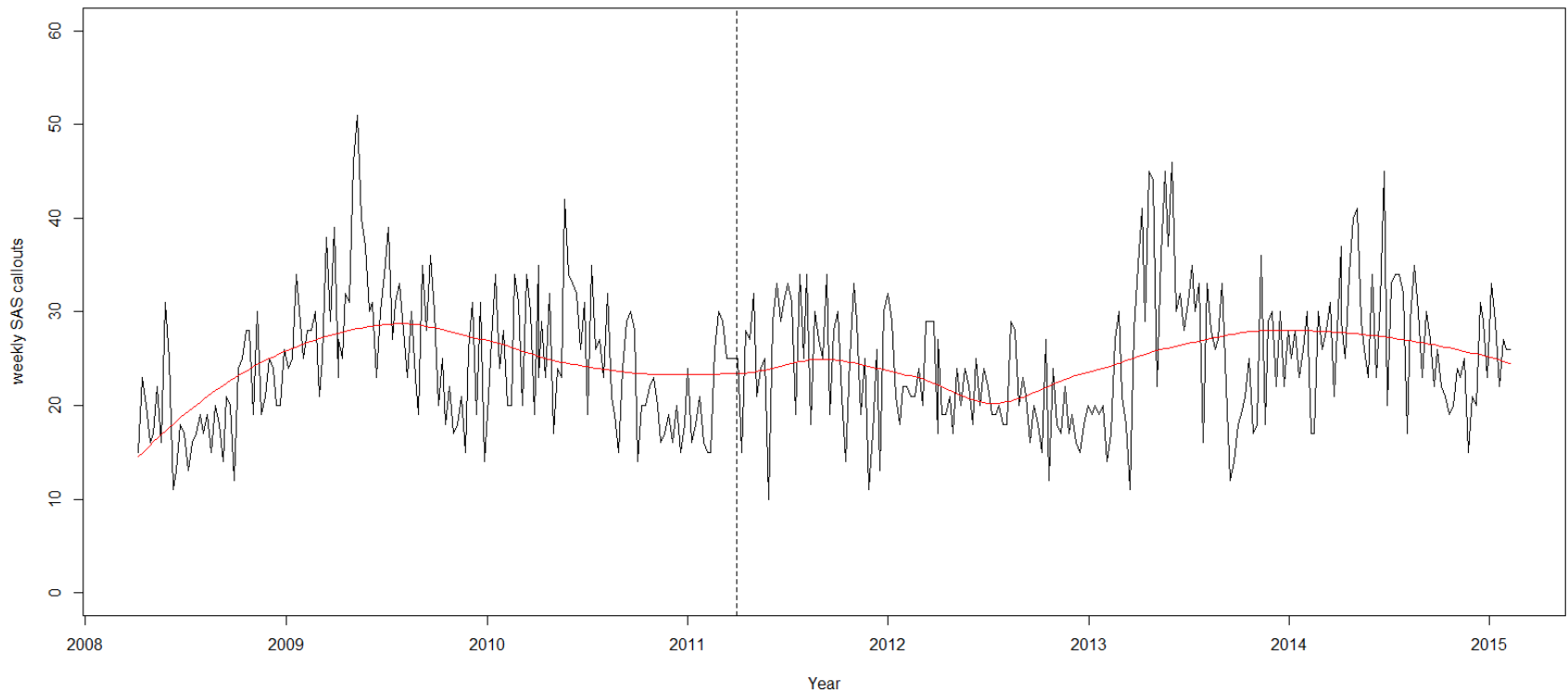


Buprenorphine



Naloxone use and ambulance call outs

Figure 1: weekly callouts to opioid-related overdose (SAS), 2008-2015



Adjusted for ORT, $p= 0.29$

Adjusted for ORT with London control, $p= 0.39$

Naloxone use and ambulance call outs

*“When they [paramedics] came they were like, **‘you’ve saved that guy’s life’**. He says, em...*

*‘The guy’s no very happy but he doesn’t realise how lucky he really is. **If it wasn’t for you, you really did, saved his life, well done’**.*

*Ken that, **I got the big heid after that**, you know? You know what I mean?*

*There’s him telling me **I could do his job**, you know that type thing.”*

‘Andy’, 45-54 year old active PWID on OST, multiple uses of naloxone

Thank you

Acknowledgements

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- PWID interviewed as part of my PhD thesis

Naloxone use and ambulance call outs

- Exploring the null finding...
 - If take-home naloxone is effective, 'high risk' people are kept alive and there should be an increase in overdose events, an increase in ambulance attendance and a fall in DRDs...unless...naloxone does *decrease* the likelihood of calling help.

Or...



- If naloxone (supply? use?) also leads to reduction in overdose risk for some, then the overdose event rate may remain fairly stable or even decrease as adoption and reach grows over time.

In reality...

- Multiple, interacting factors (e.g. Ageing cohort, availability) pushing and pulling the overdose/ambulance attendance rate up and down, of which naloxone is one.