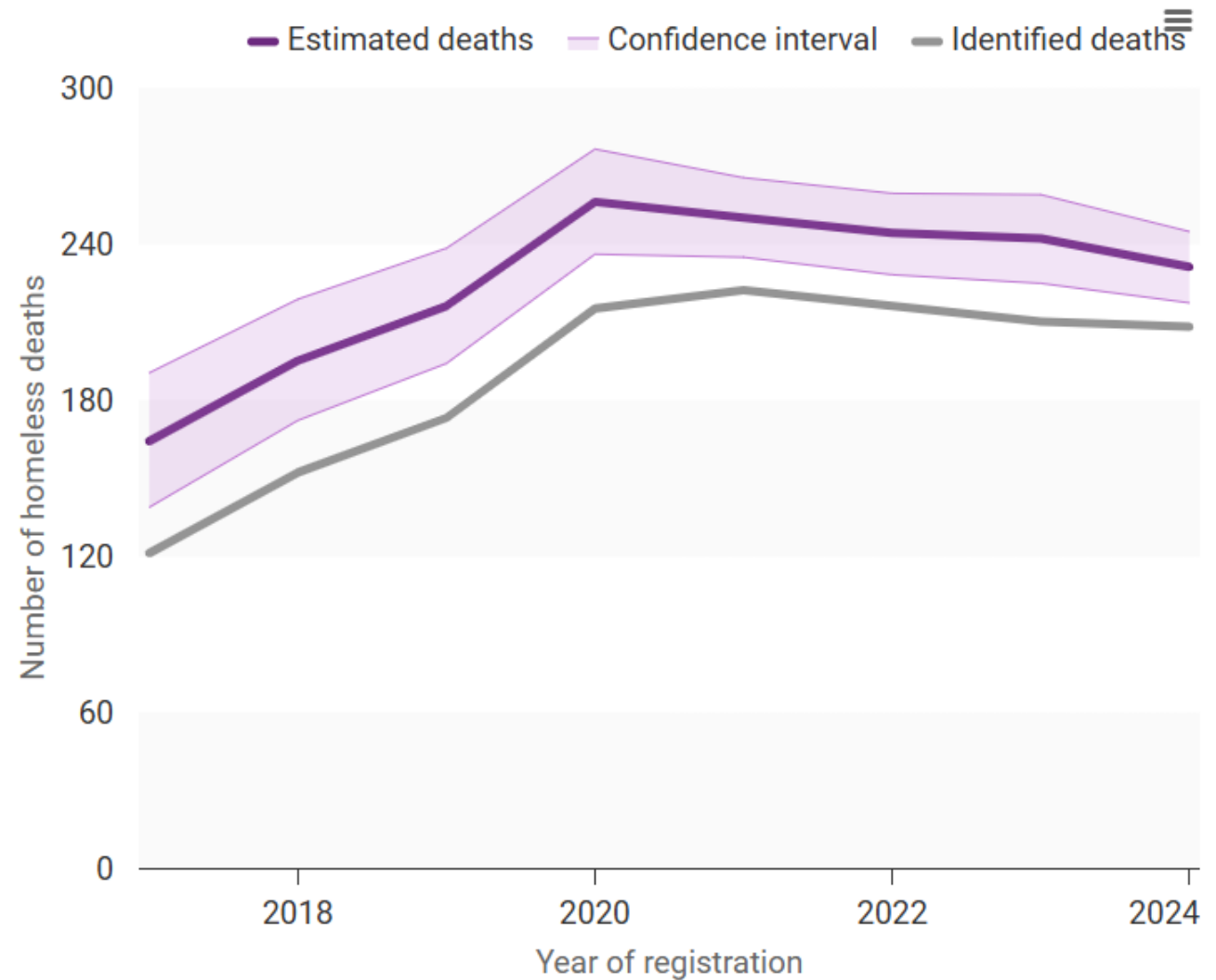


Drug death rates in Scotland are second highest in the world but even higher in our 'hard edges' cohort

Jamesy, 42 years old



“There’s no hope for any kind of a decent life”



**Pharmacy/Nursing/GP Homeless Outreach
Engagement Non-medical Independent prescribing
Rx (PHOENix)
for people experiencing
severe and multiple disadvantages:
randomised controlled trial**

Dr Richard Lowrie on behalf of PHOENix team

Richard.lowrie@ed.ac.uk



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PHOENIx team

Grampian: Alcohol and Drug Action + NHS Grampian Pharmacists

Lanarkshire: Turning Point Scotland + NHS Lanarkshire Nurse

Lothian: Simon Community Scotland + NHS Lothian Pharmacists, Nurse, GP

Highland: New Start Highland, NHS Highland Pharmacist

Ayrshire: North Ayrshire Alcohol Drugs Programme + NHS Pharmacist

Tayside: The Steeple Church, NHS Tayside Nurses

University of Edinburgh: Centre for Homelessness and Inclusion Health (**Jane Moir**); NHS Greater Glasgow and Clyde (**Andrew McPherson**; **Fiona Hughes**); Clinical Trials Unit; Usher Institute; Health care for the homeless, Hannepin County; Police and Public Health Scotland, Scottish Ambulance Service; Scottish Prisons Service; National Records Scotland.

1. Background and methods
2. Participant recruitment
3. Baseline characteristics
4. Progress with follow up

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Jamesy, 42yrs old: homeless + using drugs + criminal history

Background: Homeless for 8 years, cycling in and out of jail and violence. Barred from multiple hostels, lives in a re-traumatising B&B. No benefits.

Medical history: Chronic painful leg ulcers. Chronic insomnia, PTSD, Depression, Anxiety. Dental pain. Obese, lives on ultra processed snacks. COPD, breathless on walking. Seizures. Head injury. “Gonnae blow mase up in the middle y George Square”. Multiple previous overdoses.

Social support: naebody

Drug use: Street benzodiazepines (10 years); injecting heroin (26 years) and coke (15 years); gabapentin; occasional cannabis.

Treatment: Methadone 60ml/day, Mirtazepine 15mg/day.

Severe and multiple disadvantage → complex needs → c'plex intervention → c'plex intervention testing

Lowrie F, Gibson L, Towle I, Lowrie R. A descriptive study of a novel pharmacist led health outreach service for those experiencing homelessness. International Journal of Pharmacy Practice (IJPP), 2019. 8 March 2019. <https://doi.org/10.1111/ijpp.12520> **(Feasibility)**

Lowrie R, McPherson A, Mair FS, Stock K, Maguire D, Paudyal V, Duncan C, Blair R, Lombard C, Ross S, Hughes F, Moir J, Scott A, Reilly F, Sills L, Hislop J, Wishart S, Brannan D, Robertson JR, Ramage R, Boyle A, Greenlaw N, Williamson AE. Holistic health and social care outreach for people experiencing homelessness with recent non-fatal overdose in Glasgow, Scotland: the Pharmacist and third sector Homeless charity worker Outreach Engagement Non-medical Independent prescriber Rx (PHOENIx) pilot randomised controlled trial. BMJ Public Health. 13 March 2024. <https://doi.org/10.1136/bmjph-2023-000219> **(Pilot RCT with process and economic analysis)**

Lowrie R, Paudyal V, McPherson A, Heath H, Moir J, Allen N, Barnes N, Hill H, Araf A, Lombard C, Ross S, Tearne S, Jagpal P, Cheed V, Middleton L, Akhtar S, Provan G, Hislop J, Williamson A, Mair FS. Pharmacy Homeless Outreach Engagement Non-medical Independent prescribing Rx (PHOENIx) community pharmacy based pilot randomised controlled trial. Journal of Urban Health. 9 June 2025
<https://link.springer.com/article/10.1007/s11524-025-00981-0> **(Pilot RCT with process and economic analysis)**

Feasibility and piloted PHOENix intervention: integrated health and third sector outreach for Jamesy and co

- **3rd sector homelessness charity worker join forces on outreach with empathetic, non-judgemental NHS clinician**
- **Integrated with local health, social care and third sector teams.**
- **Same pairs visit participants weekly for 6-9 months.**
- **Asking what matters...then offering holistic clinical and social assessment, treatment/prescribing + housing, support; welfare benefits; practical support; social prescribing.**

Inclusion and exclusion criteria

Inclusion:

- **Currently homeless + previous overdose + previous criminal justice encounter.**
- **Lothian, Tayside, Ayrshire, Aberdeen, Highland, Lanarkshire.**

Exclusion:

- **In rehabilitation / residential accommodation with in-house medical care.**
- **Lacking capacity to consent.**

Outcomes

Primary: Reduce the occurrence of fatal/non-fatal overdose (time-to event).

Secondary:

- **Health related quality of life;**
- **Treatment uptake;**
- **Unscheduled care;**
- **Criminal Justice;**
- **All-cause mortality;**
- **Receipt of welfare benefits; vocational employment or training; tenancy sustainment; uptake of social prescribing opportunities.**

Statistical assumptions and analysis

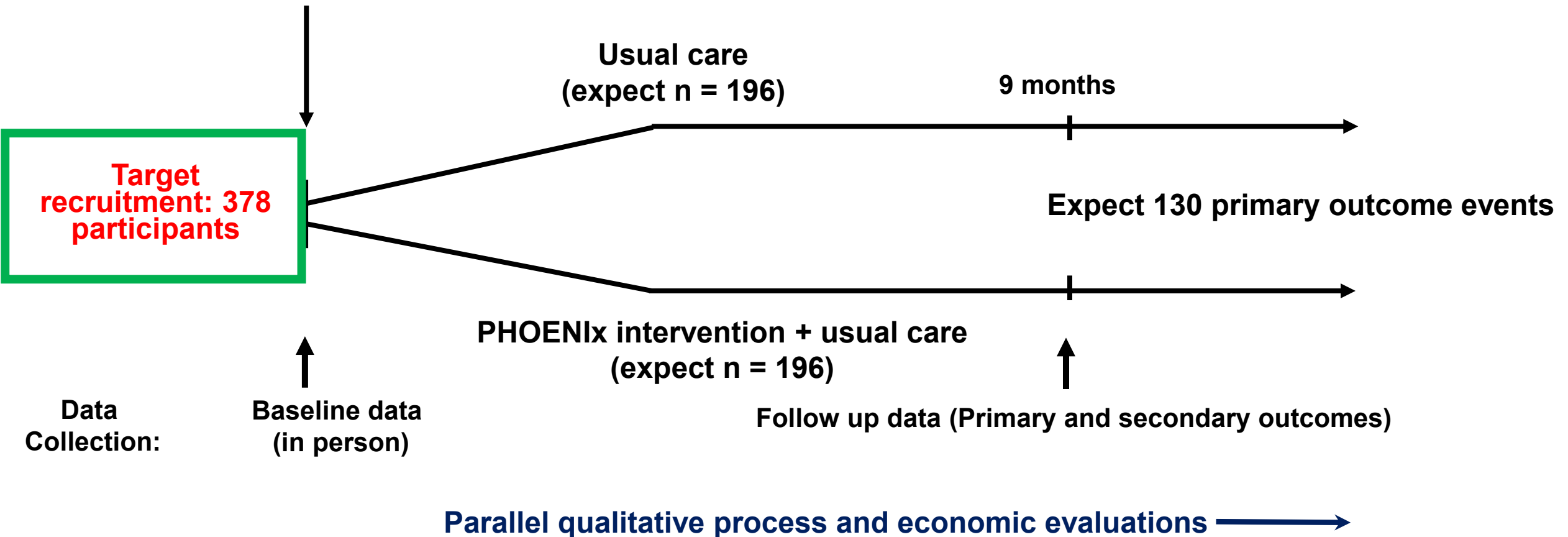
- **Collecting 130 primary outcome events, the trial has 90% power (two sided log rank test with a 5% significance level) to detect a difference of 18% (assuming 52% usual care and 34% PHOENIX have a primary outcome event) in the proportion of participants overdosing at nine months.**
- **The primary outcome, and other time-to-event secondary outcomes, will be analysed by Cox proportional hazards regression.**
- **Aim to follow 160 participants per group to nine months.**
- **Allowing for 15% loss to follow up, aim to recruit ~ 378 participants.**

PHOENix for people facing severe and multiple disadvantage: trial schema

Recruitment and randomisation
Feb-Jun 2025

PHOENix Intervention delivery
Feb 2025 – Mar 2026

Follow up (in person)
Nov 2025 – Jun 2026






Protocol

Open access

Protocol

BMJ Open Protocol for a multicentre randomised controlled trial of the Pharmacy Homeless Outreach Engagement Non-medical and Independent Prescriber (PHOENIX) intervention for people facing severe and multiple disadvantages

Richard Lowrie,^{1,2} Andrew McPherson,² Jane Moir,¹ Emma McGilvery,³ Katherine Vickery ,⁴ Jen O'Loan,⁵ Gordon Rushworth,^{6,7} Vibhu Paudyal,⁸ Alex Adam,³ Elaine Thomson,⁹ Alison Rowe,⁹ Hannah Ali Akbar,⁹ John Murphy,⁹ John Budd,⁹ Fiona Raeburn,¹⁰ Trudi Marshall,¹¹ Kirsty Nelson,¹² Zofia Garstka,¹³ Emma McKinney,¹³ Lauren Melville,¹³ Graeme Duncan ,¹³ Zoe Breingan,³ Sarah Johnsen,¹ Andrew Stoddart,¹⁴ Steff Lewis,¹⁵ Andrea E Williamson ,¹⁶ Jack Lilley,¹⁷ Tracy Orr,¹⁸ Michael Orr,¹⁸ Shona Kelly,¹³ Mairi Macaulay,¹⁹ Alison Maclean,¹⁹ Heather Kennedy,¹⁹ Andrea Sutherland,¹⁹ Gillian MacLean,²⁰ Magda Rosinska,²¹ Carlos Dos Santos,¹² Kelly Esson,¹⁰ Craig Robertson,¹⁰ Jill Carnegie,¹⁰ Mariangela Alejandro Cortez,¹³ Marion Orr¹¹

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Participant recruitment

Target recruitment n = 378 participants across Edinburgh, Inverness, Aberdeen, Dundee, Lanarkshire, Ayrshire and Arran (Jan – Jun 2025)

Recruitment by researchers, in third sector homelessness organisations, streets, graveyards, temporary accommodation...

n = 392 participants recruited, baseline data collected and randomised
Jan – Jun 2025

1. Background and methods
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3. **Baseline characteristics**
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Baseline characteristics of 392 people experiencing homelessness + previous overdose + criminal history

N (%) or Mean (SD)

Characteristic	n = 393
Age (years)	41.9 (9.5)
Sex (male)	294 (75%)
Number of years homeless	7.7 (8.5)
Employed before becoming homeless	276 (70%)
Unemployed / in training programme	382 (97%) / 10 (2%)
No structured activity	279 (71%)
No welfare benefits	136 (35%)
Have children	265 (67%)
In care as a child	133 (34%)
Accommodation	
Number of changes in the past year	3.0 (9.9)
Unsupported (Hostel or B&B) / supported	90 (23%) / 45 (11%)
Rough sleeping	56 (14%)
Sofa surfing	66 (17%)

Baseline characteristics of 392 people experiencing homelessness + previous overdose + criminal history

N (%) or Mean (SD)

Physical health (self report or confirmed during baseline assessment)

Obese/overweight or underweight	156 (39%)
Postural hypotension	50 (15%)
Forced Expiratory Volume (FEV) 1 second / FEV 6 seconds* < 0.7	128 (33%)
Lung age	81 years (33)
Fractures	296 (76%)
Dental (current)	272 (69%)
Traumatic head injury	264 (67%)
Musculoskeletal pain	207 (53%)
Seizures or Skin problems or Wounds or GI problems	~ 34%

5.3 (SD 2.6) physical health problems per participant

* FEV1/FVC approximation; ≥ 20 mmHg systolic and/or ≥ 10 mmHg diastolic drop;

Baseline characteristics of 392 people experiencing homelessness + previous overdose + criminal history

N (%) or Mean (SD)

Mental health (self report or confirmed during baseline assessment)

Anxiety	315 (80%)
Depression	318 (81%)
PTSD / Trauma	221 (56%)
Suicide attempt (s)	175 (45%)
Psychosis	101 (26%)
Personality disorder	70 (18%)
Bipolar	48 (12%)
Schizophrenia	38 (10%)

Most people have 4 (SD 2) mental health problems

Drug use (self report)

Heroin	254 (65%)
Cocaine	310 (79%)
Street benzodiazepines	216 (55%)
Gabapentin	144 (37%)
Cannabis	221 (92%)
Spice	35 (9%)

Most people use 3.8 (SD 2) Street drugs

Overdoses in past year

2.8 (6)

Baseline characteristics of 392 people experiencing homelessness + previous overdose + criminal history

N (%) or Mean (SD)

Current treatments / service registration

Opiate Substitution Treatment	230 (59%)
Diazepam	63 (16%)
Number of prescriptions	1.3 (1.1)
GP registered	360 (92%)
Specialist mental health team registered	137 (35%)
Specialist alcohol / drug recovery service registered	218 (56%)

People at highest risk of overdose and drug death in Scotland have, on average, 5 untreated physical health problems and 4 untreated mental health problems; take 4 different street drugs to cope, and overdose 2 – 3 times per year.

Does PHOENix reduce the occurrence of fatal/non-fatal overdose relative to standard of care?

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PHOENIX follow up (in person, 22nd April 2026)

Grampian: 41 / 75 (includes 2 dead)

Lanarkshire: 38 / 40 (1 dead)

Lothian: 110 / 140 (6 dead)

Highland: 22 / 34 (2 dead)

Ayrshire: 69 / 77 (2 dead)

Tayside: 18 / 26 (3 dead)

Overall: 298 / 392 (76%)

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Thank you

Economic evaluation and analysis

- 1. A standard NICE reference case based NHS and personal social services perspective cost-utility analysis.**
- 2. A Social Return on Investment analysis including NHS, PSS, Criminal Justice, 3rd sector and welfare costs.**

Only EQ-5D will be self-reported (baseline and nine months), with sensitivity analyses, and light touch modelling to address risk of missingness not at random from loss to follow up. An activity based costing exercise will estimate direct intervention/program costs. To account for skew, CUA will be reported utilising probabilistic sensitivity analyses, and SRoI will provide a profile of costs by category (NHS, PSS, 3rd Sector, CJ), with non-parametric bootstrapped confidence intervals.

Qualitative process evaluation

- 1. Implementation (structures, resources and processes through which delivery is achieved).**
- 2. Mechanisms of impact, especially participants' and other stakeholders' perceptions of and interactions with the intervention.**
- 3. Context (factors facilitating or inhibiting delivery and attainment of outcomes).**

In-depth, semi-structured, one-to-one interviews. Analysis seeks to uncover context-mechanism-outcome configurations