



TB...and more

AI Story

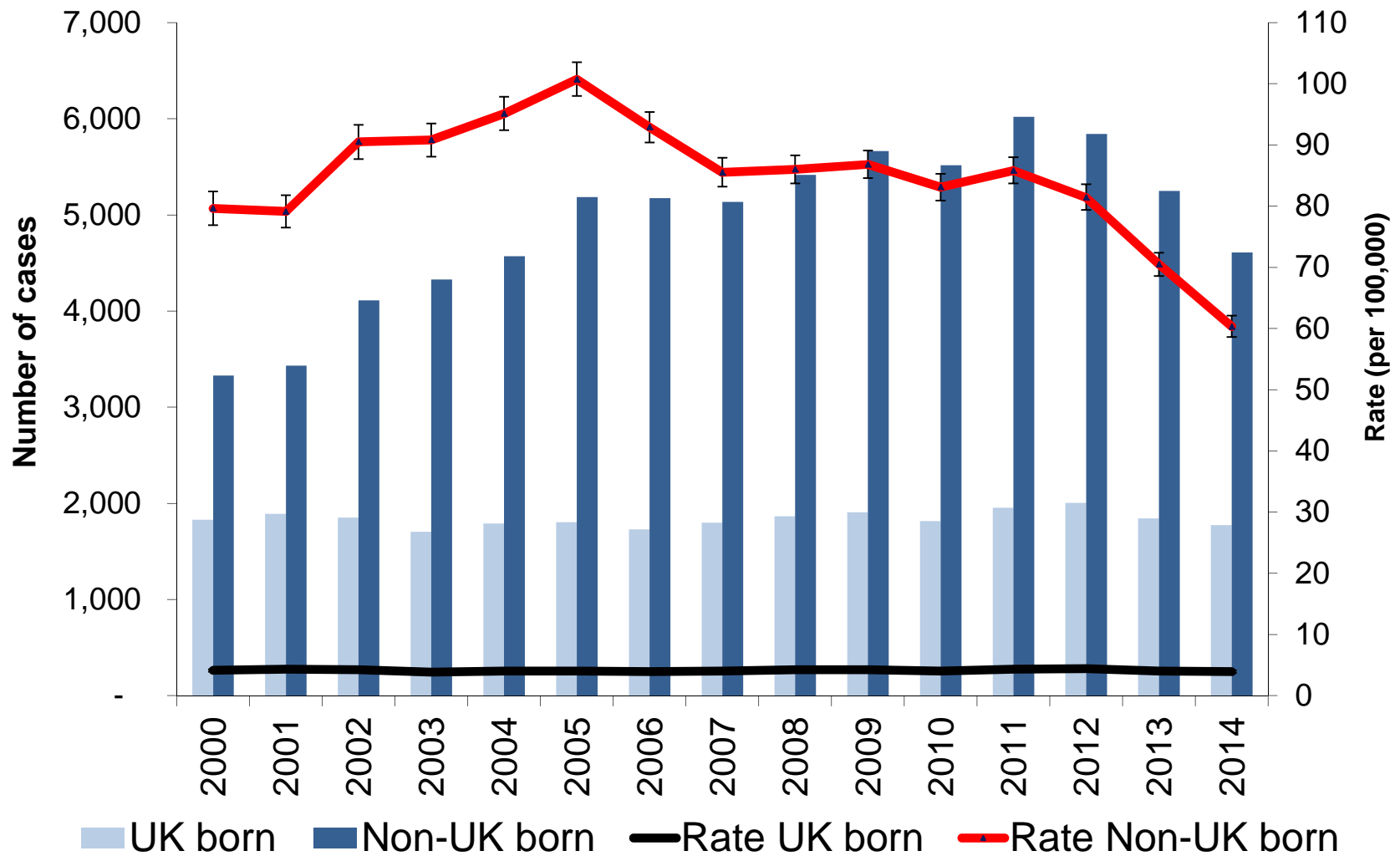
University College London Hospitals



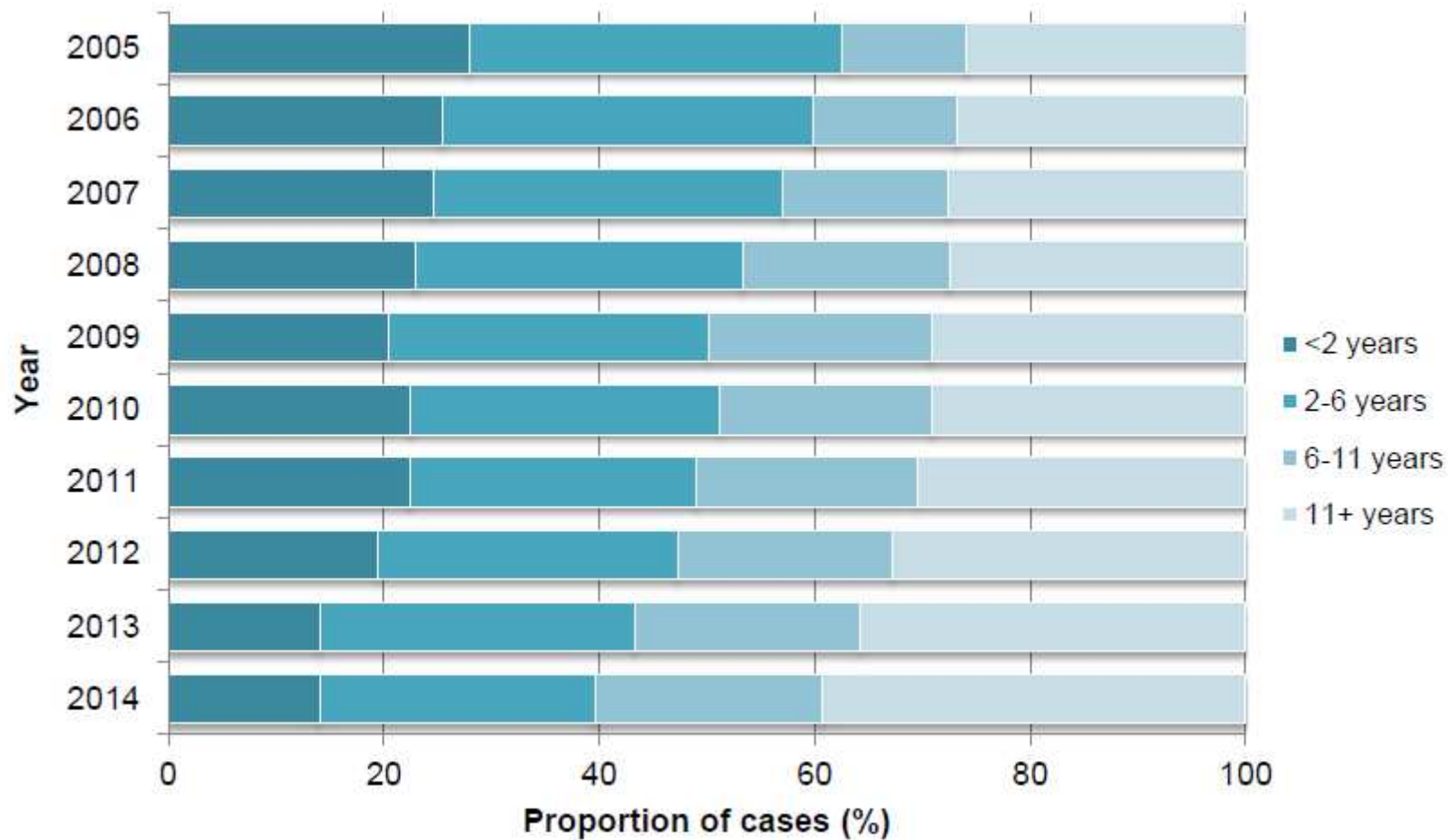
Plan

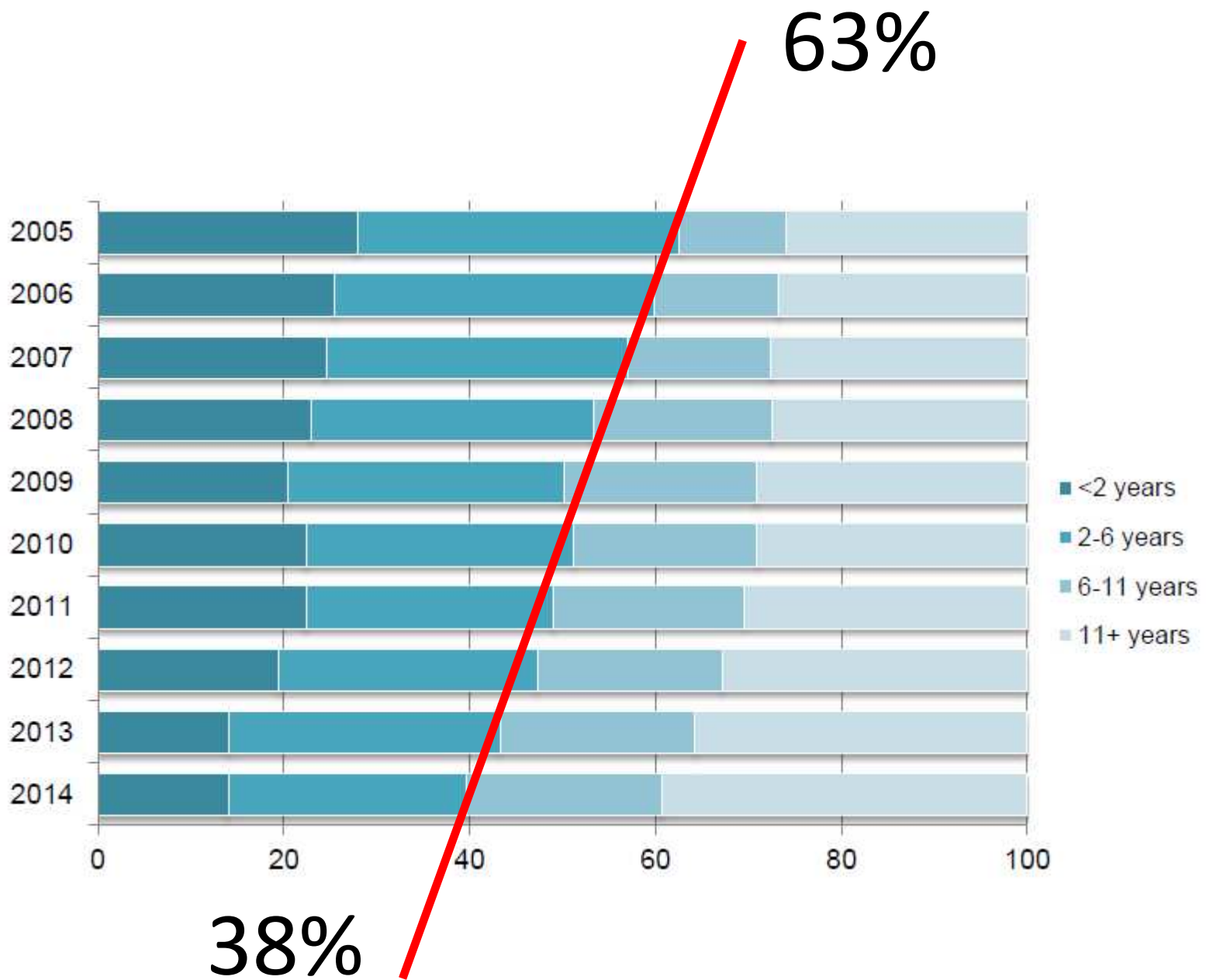
- 21st Century UK TB
- The Find&Treat Model
- People not Pathogens
- A National Service

TB case notifications and rates by place of birth, England, 2000-2014

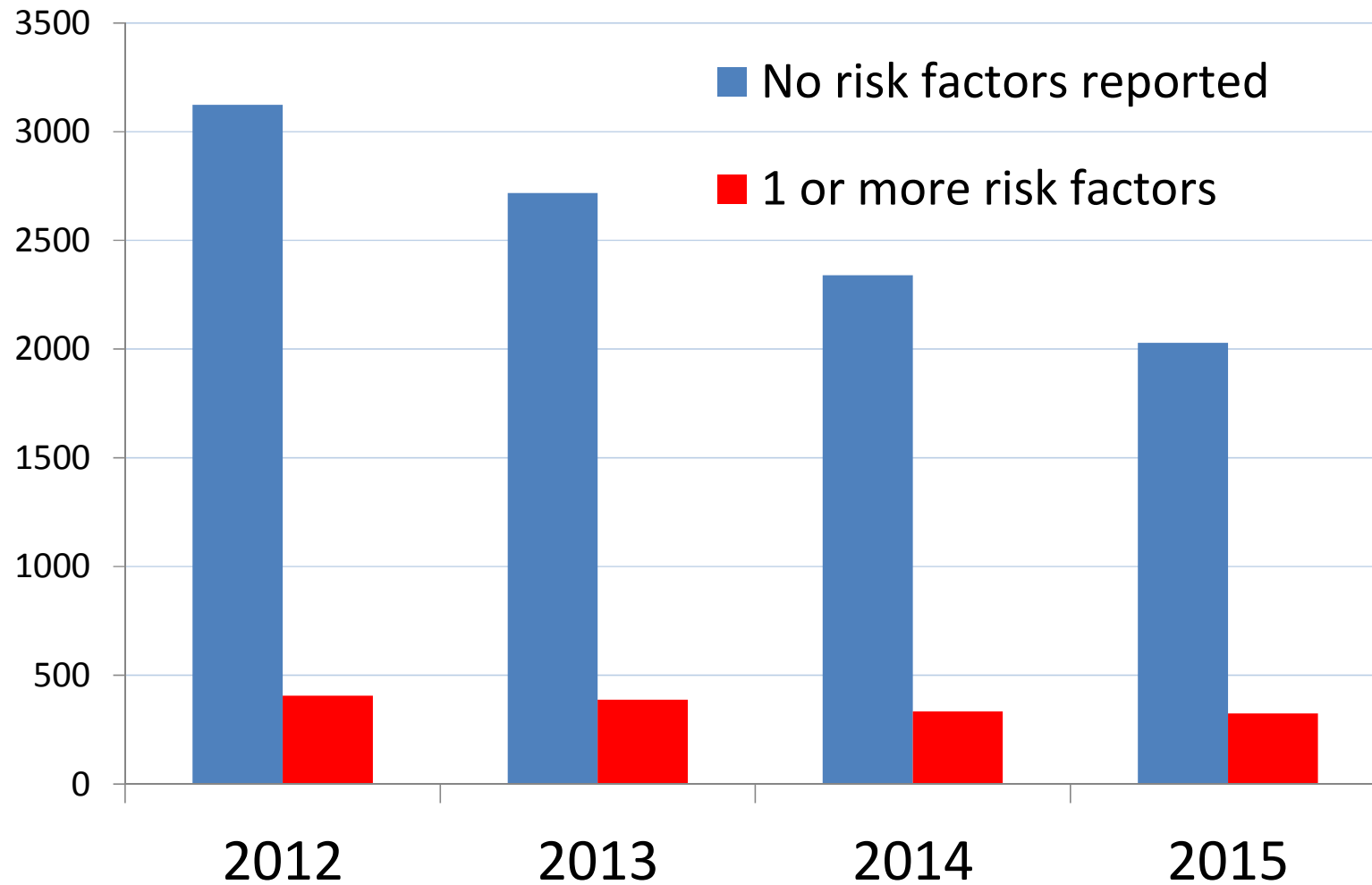


Time between entry to the UK and TB notification for non-UK born cases by year, England, 2005-2014





TB cases in London with one or more social risk factor



Source: London TB Register; Includes Homeless, Drugs, Alcohol, Mental Health

Social and behavioural determinants

- Homelessness
- Harmful and hazardous drinking
- High risk drug use
- Imprisonment
- Destitution – NRFP
 - Compound one another
 - Often overlapping

Addiction

Homeless

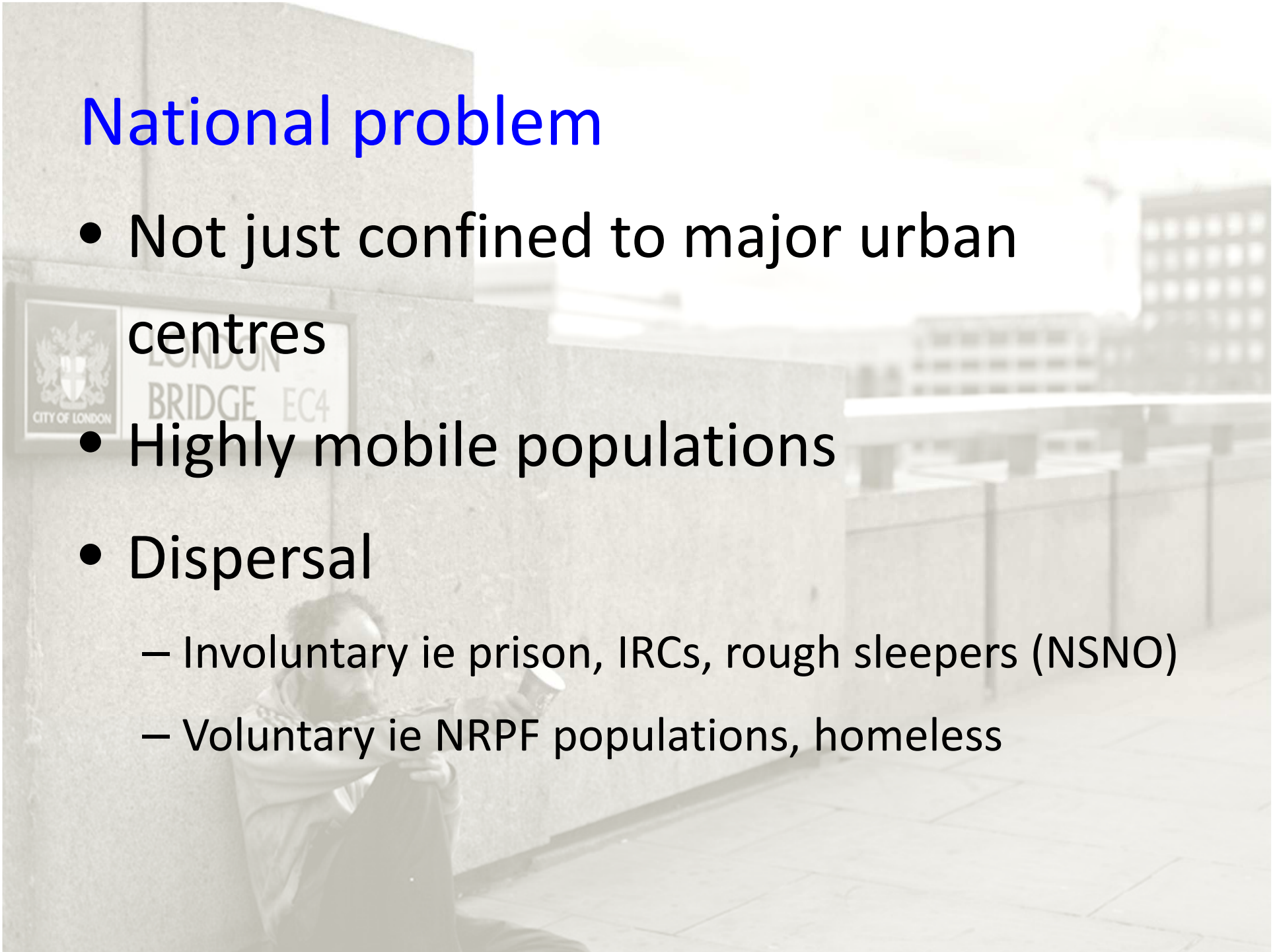
Prison

Major public health impact

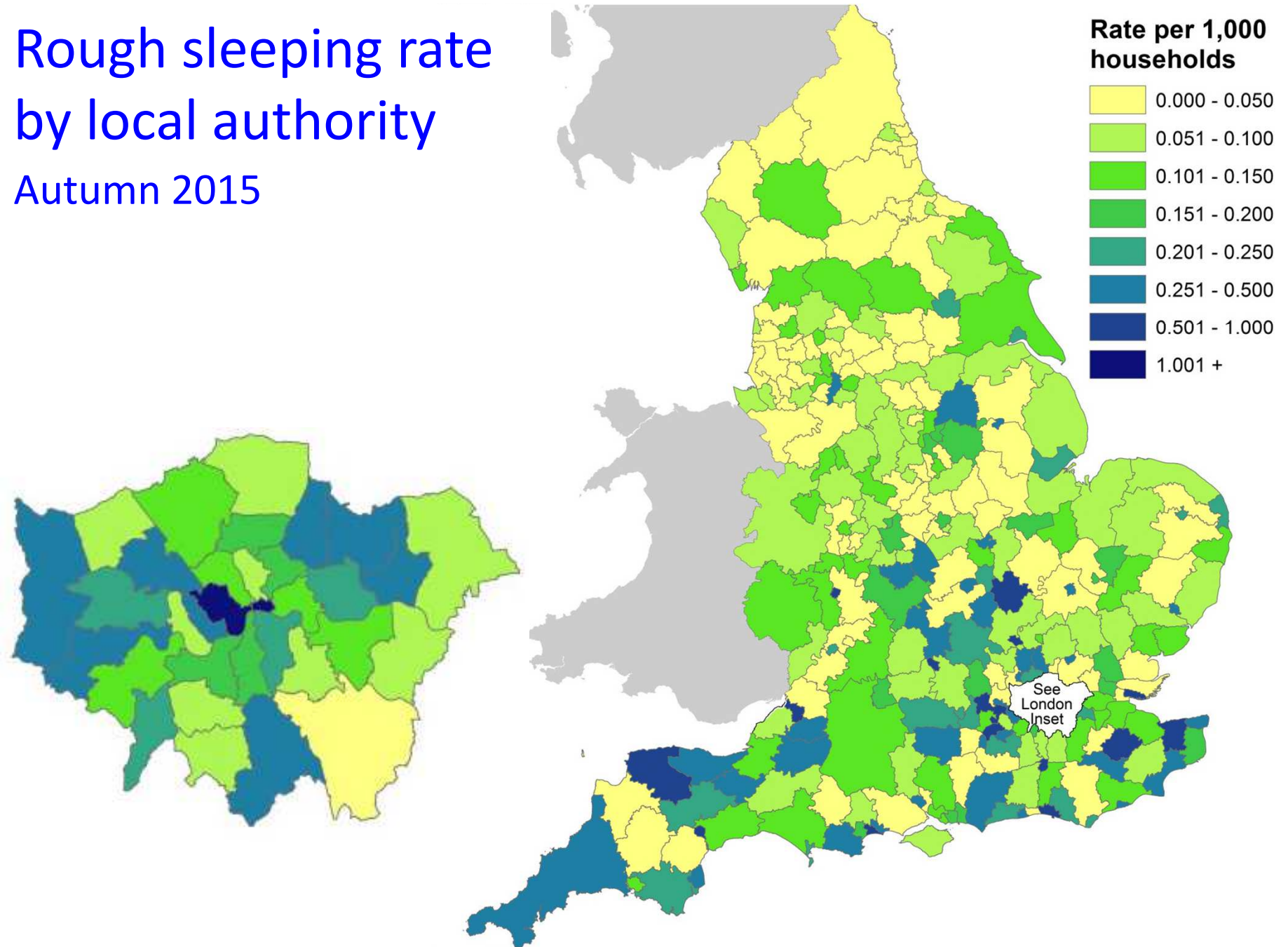
- Delayed diagnosis
- Transmission – outbreaks
- Drug resistance
- Poor treatment outcomes

National problem

- Not just confined to major urban centres
- Highly mobile populations
- Dispersal
 - Involuntary ie prison, IRCs, rough sleepers (NSNO)
 - Voluntary ie NRPF populations, homeless

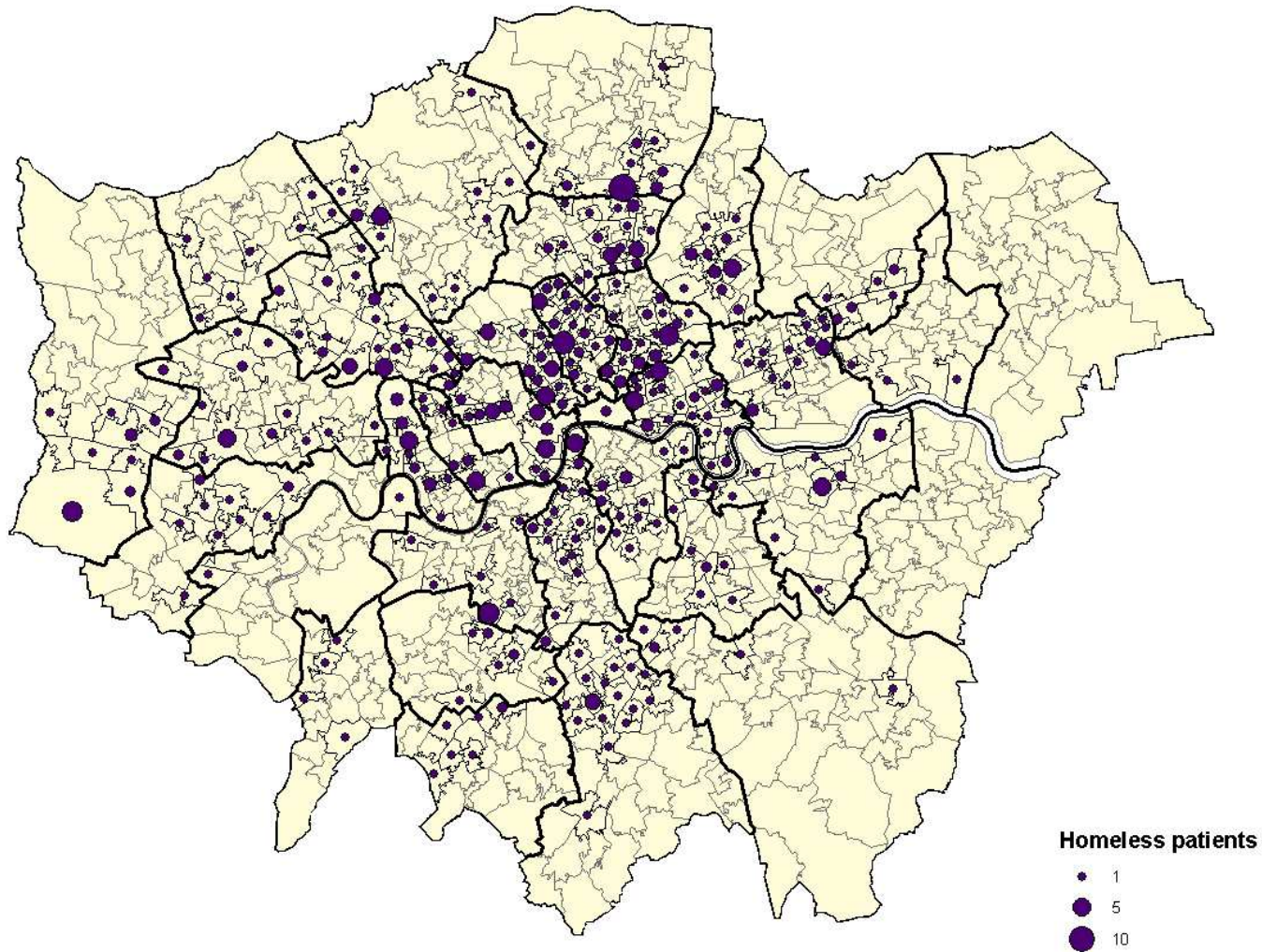


Rough sleeping rate by local authority Autumn 2015



Different distribution to high incidence areas

Homeless TB patients (London 1999-2012)



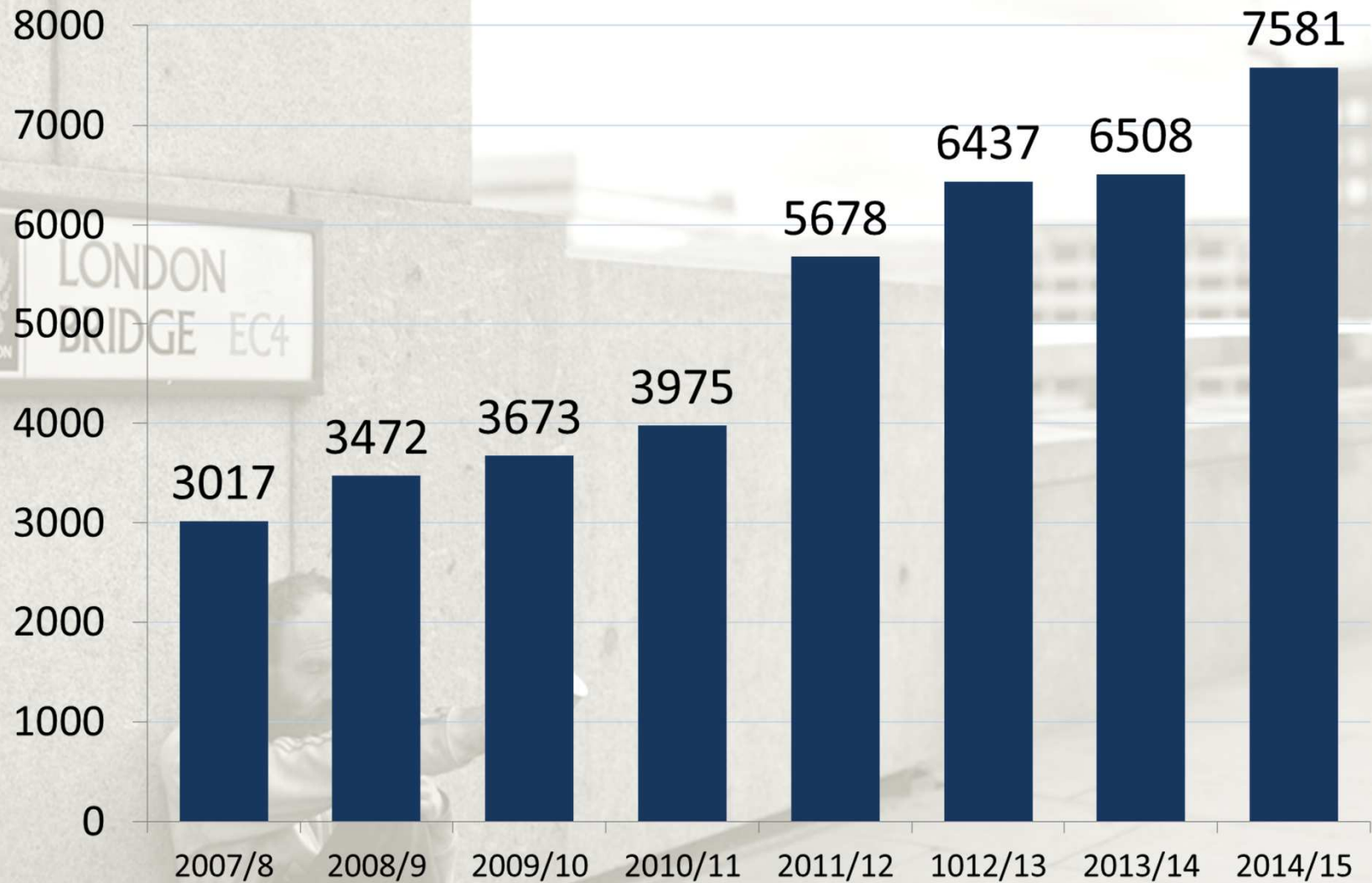
Underreported

- Surveillance data captures risk 'now' better than risk 'ever'
 - 1:10 cases nationally
 - Better captured / higher in Cohort review
 - 1:3 cases in some clinics
- Often not asked
- Reluctance to disclose
- Poorly defined

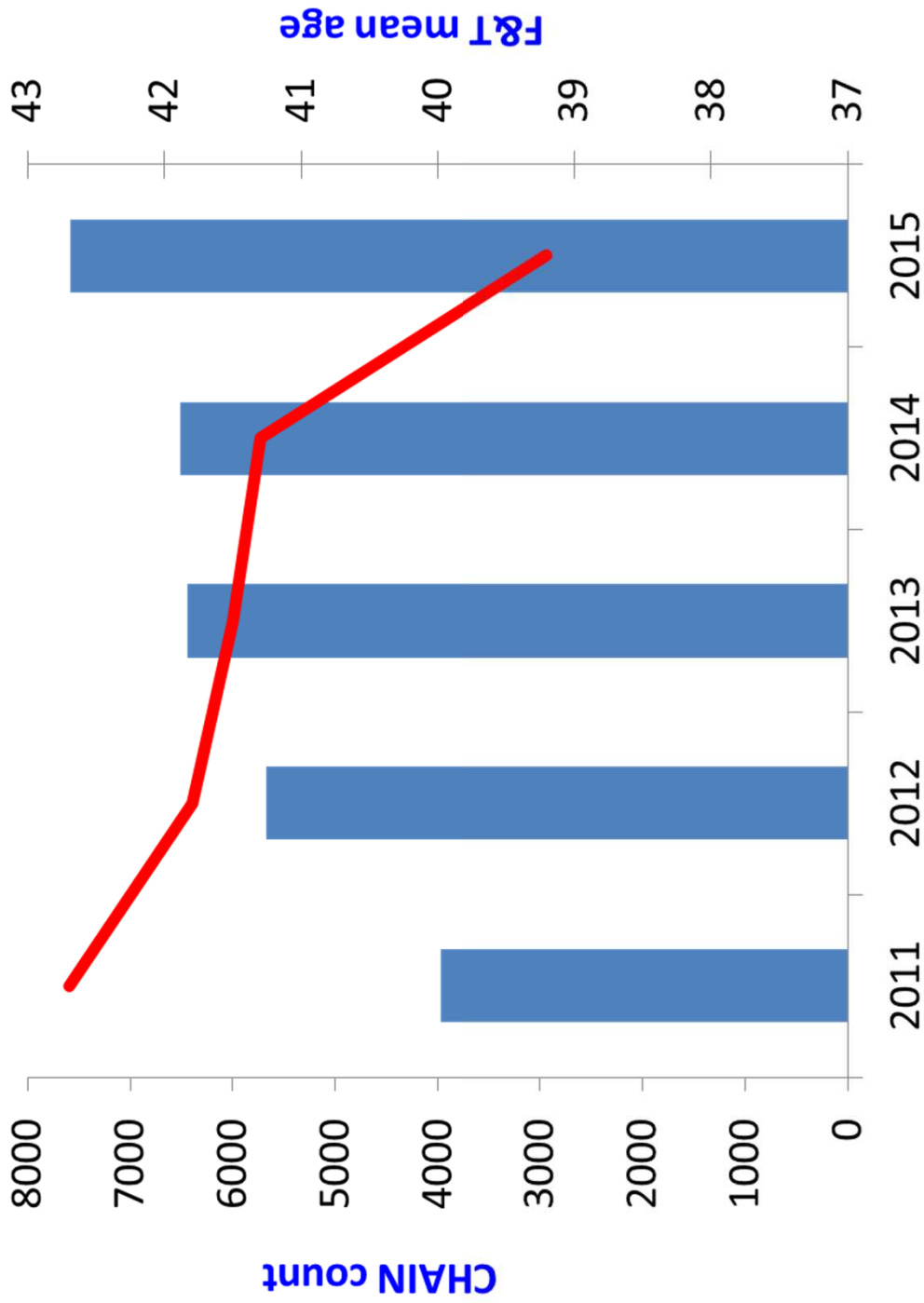
Increasing

- As a proportion of all cases
- As a total population – esp. homeless

Rough sleepers - London

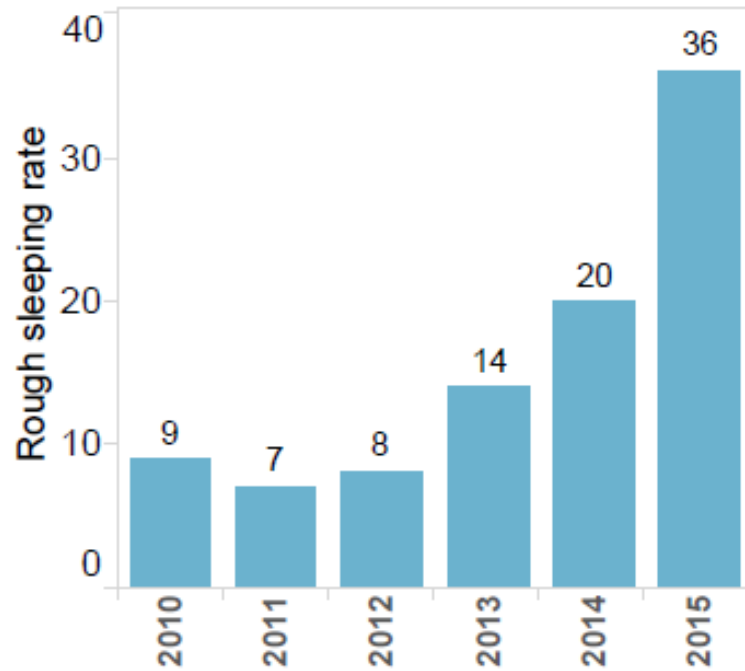


People seen sleeping rough by outreach teams - CHAIN - Combined Homelessness and Information Network
http://www.mungosbroadway.org.uk/press_office/2305_rough-sleeping-in-london-still-on-the-rise

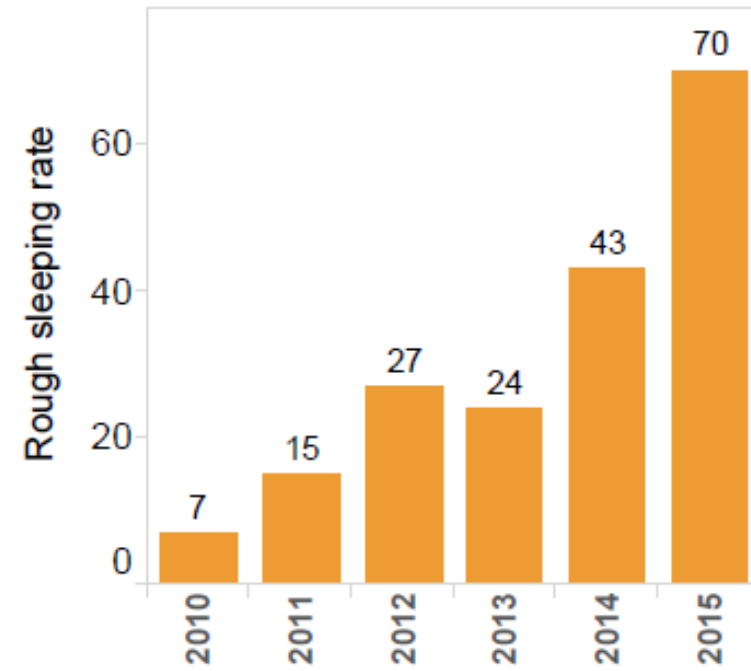


Cities nationally face major challenges

Birmingham



Manchester



Convergence of risk factors

Homelessness TB patients in London

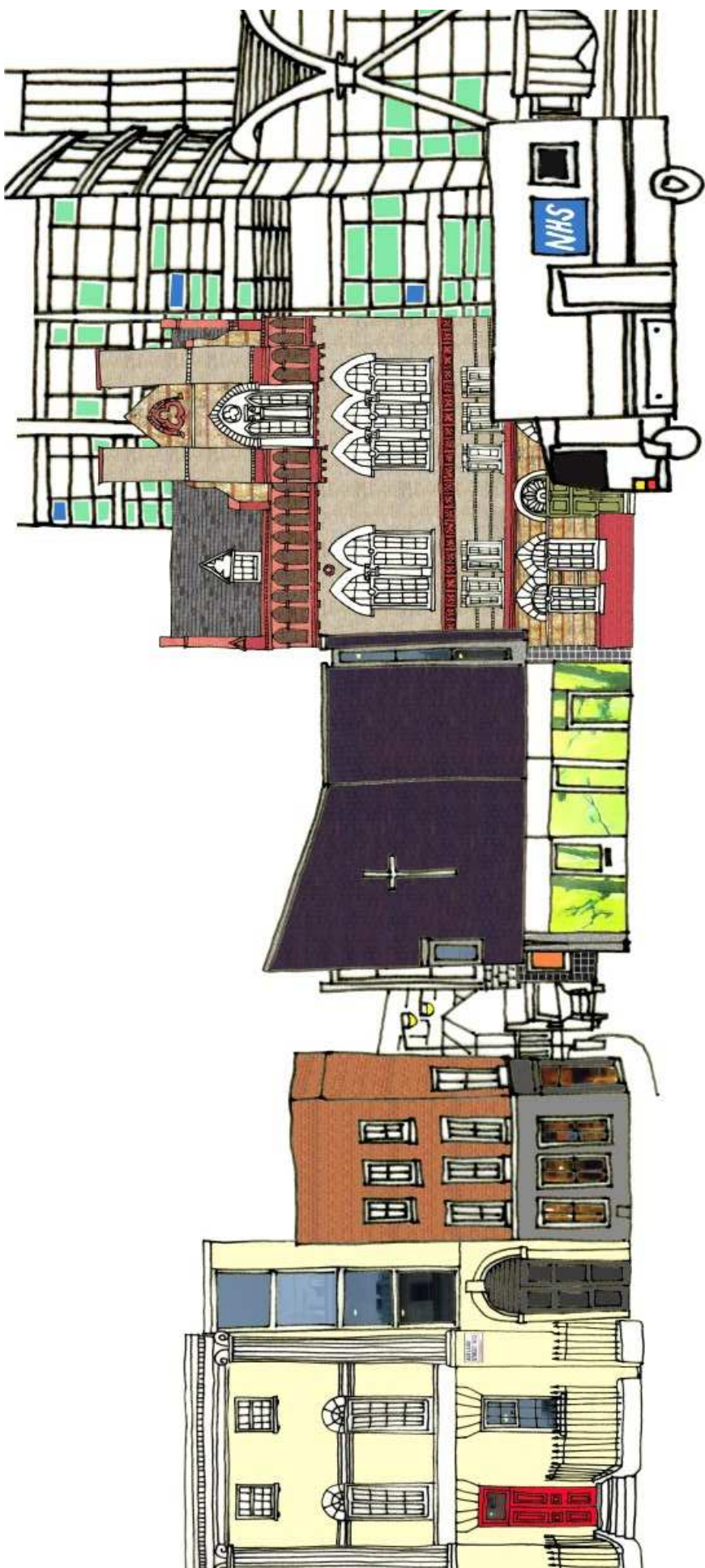
- **2 x** risk of being highly infectious
 - aOR 1.8, 95% CI 1.4-2.4
- **3 x** risk of having MDR TB
 - aOR 2.9, 95% CI 1.6-5.2
- **10 x** risk of non-adherence
 - aOR 10.2, 95% CI 7.9-13.2

Recent transmission

- Approx. one-third of TB cases in London attributable to recent transmission
- Risk factors for clusters
 - Social risk factors
 - Pulmonary
 - UK born
 - Male
 - Previous TB

Esther L. Hamblion EL, Le Menach A, Anderson LF, Lalor MK, Brown T, Abubakar I, Anderson C, Maguire H, Anderson SR. Recent tuberculosis transmission, clustering and predictors of large clusters in London, 2010-2012; results from first three years of universal MIRU-VNTR strain typing. (in press)

FIND TREAT



TB Control in big cities: What works?



Best practice

From contact investigation to tuberculosis screening of drug addicts and homeless persons in Rotterdam

Gerard de Vries and Rob A. van Hest

Outbreak of tuberculosis in a migrants' shelter, Paris, France, 2002

N. Valin,* F. Antoun,† C. Chouaid,‡ M. Renard,§ B. Dautzenberg,¶ V. Lalande,‡ B. Ayache,† P. Morin,† W. Sougakoff,§ J. M. Thiolet,# C. Truffot-Pernot,§ V. Jarlier,§ B. Decludt*

Could a Tuberculosis Epidemic Occur in London as It Did in New York?

Andrew C. Hayward*† and Richard J. Coker

*University of Nottingham, Nottingham, United Kingdom; and
†St. Mary's Hospital, London, United Kingdom

● New York

London ● ● Rotterdam

● Paris

● Barcelona

TUBERCULOSIS IN NEW YORK CITY — TURNING THE TIDE

THOMAS R. FRIEDEN, M.D., M.P.H., PAULA I. FUJIWARA, M.D., M.P.H., RITA M. WASHKO, M.D.,
AND MARGARET A. HAMBURG, M.D.

Proposing indicators for evaluation of tuberculosis control programmes in large cities based on the experience of Barcelona

T. Rodrigo, J. A. Caylà, H. Galdós-Tangüis, P. García de Olalla, M. T. Brugal, J. M. Jansà

Tuberculosis and social exclusion

Developed countries need new strategies for controlling tuberculosis

Story A, van Hest R, Hayward A. BMJ. 2006 Jul 8;333(7558):57-8.

TUBERCULOSIS

Tuberculosis in London: the importance of homelessness, problem drug use and prison

A Story, S Murad, W Roberts, M Verheyen, A C Hayward, for the London Tuberculosis Nurses Network

Thorax 2007;62:667-671. doi: 10.1136/thx.2006.065409

JAN ORIGINAL RESEARCH

The impact of social factors on tuberculosis management

G.M. Craig, H. Booth, A. Story, A. Hayward, J. Hall, A. Goodburn & A. Zumla

Accepted for publication 26 January 2007

JAN ORIGINAL RESEARCH

Establishing a new service role in tuberculosis care:
the tuberculosis link worker

Gillian M. Craig, Helen Booth, Jo Hall, Alistair Story, Andrew Hayward, Ann Goodburn & Alimuddin Zumla

Accepted for publication 6 September 2007

Mass Mobile Radiography



Detection (21st C) Dutch fleet



North London – Mobile X-ray Unit (MXU) 2002

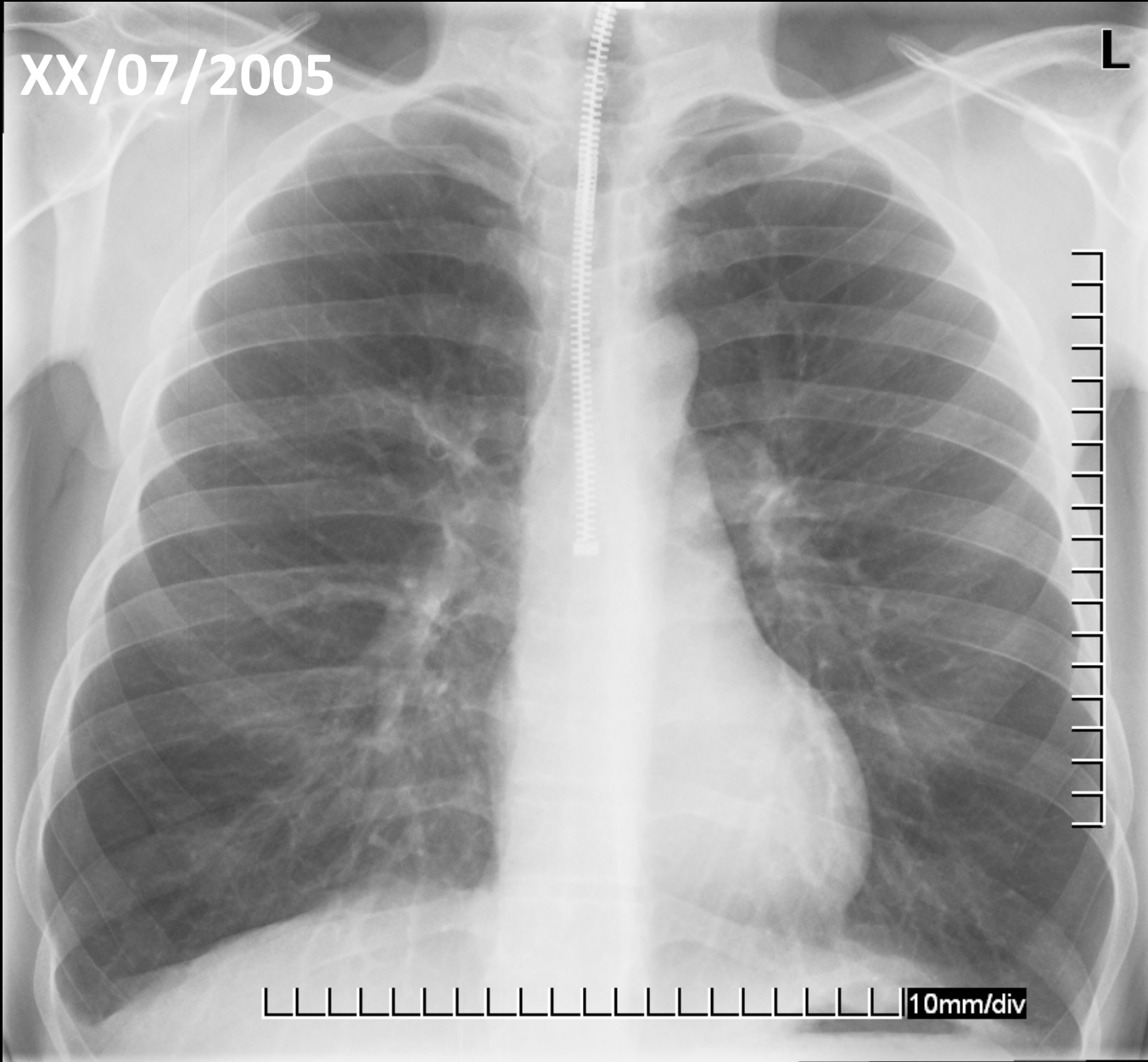


GLA – 1st UK Digital MXU 2005



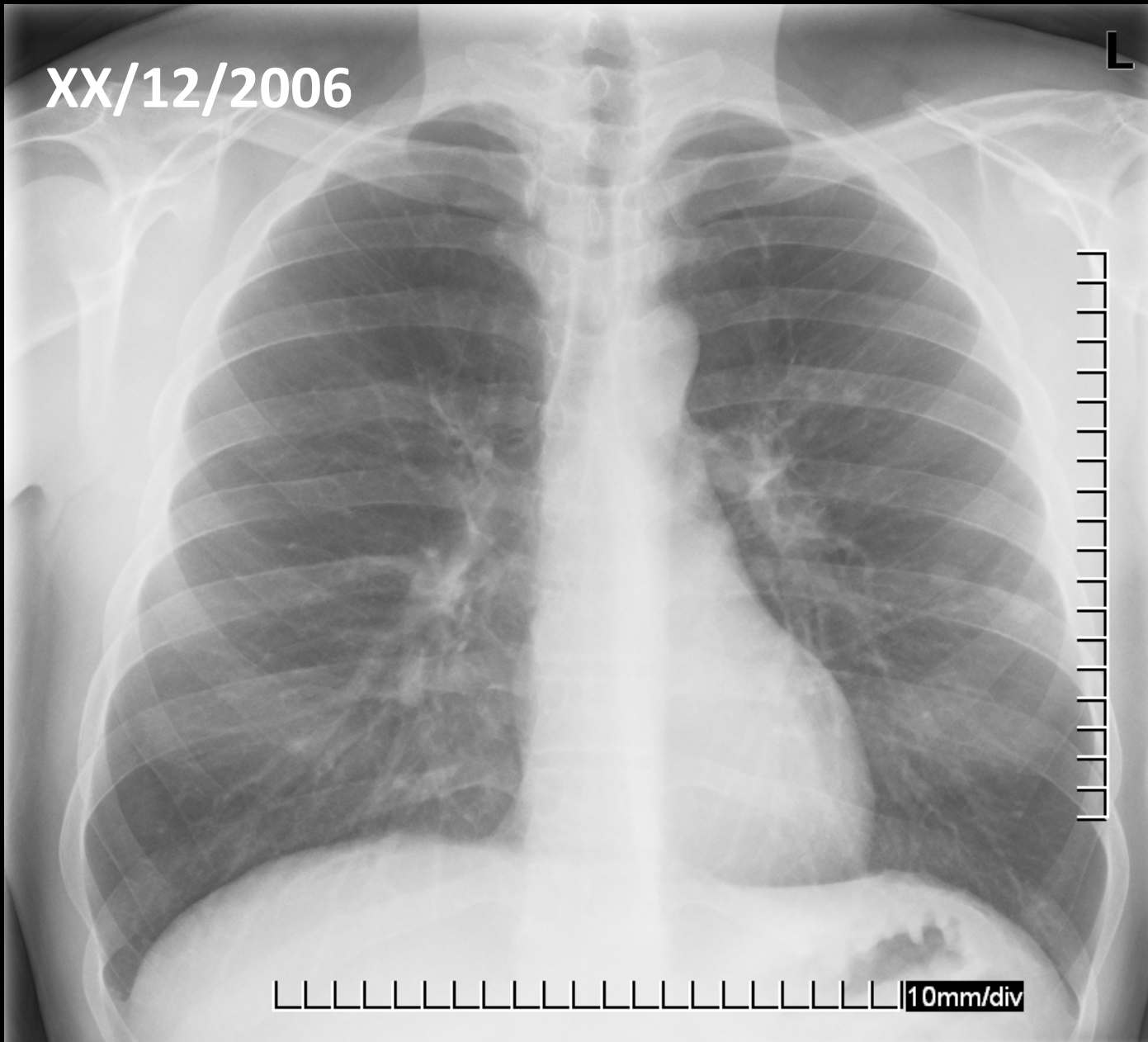
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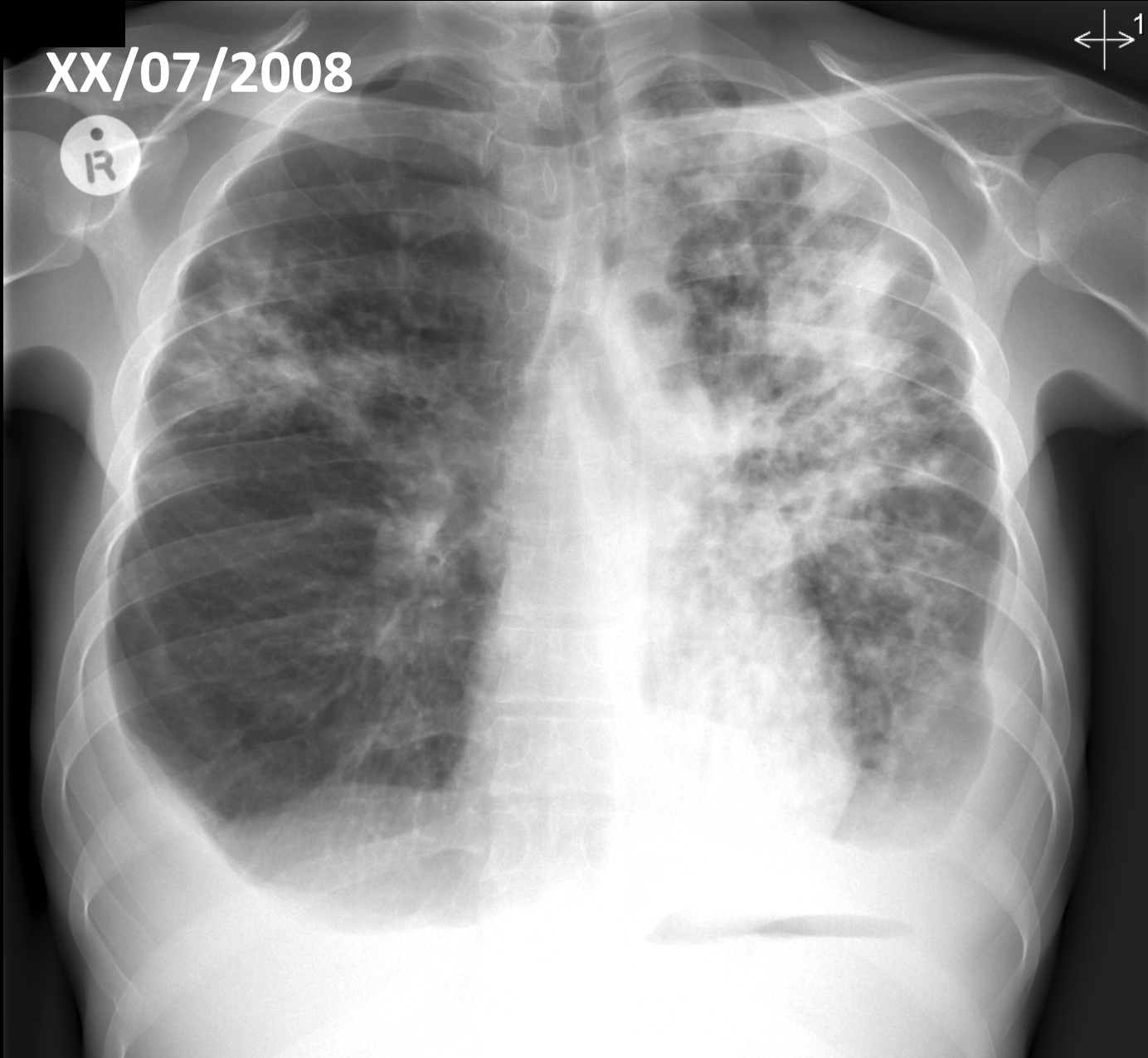


10mm/div

XX/12/2006



10mm/div



Mobile targeted digital chest radiography
in the control of tuberculosis among hard
to reach groups. Department of Health 2007

FIND & TREAT



We come to you



Fast - Friendly



Results on the spot

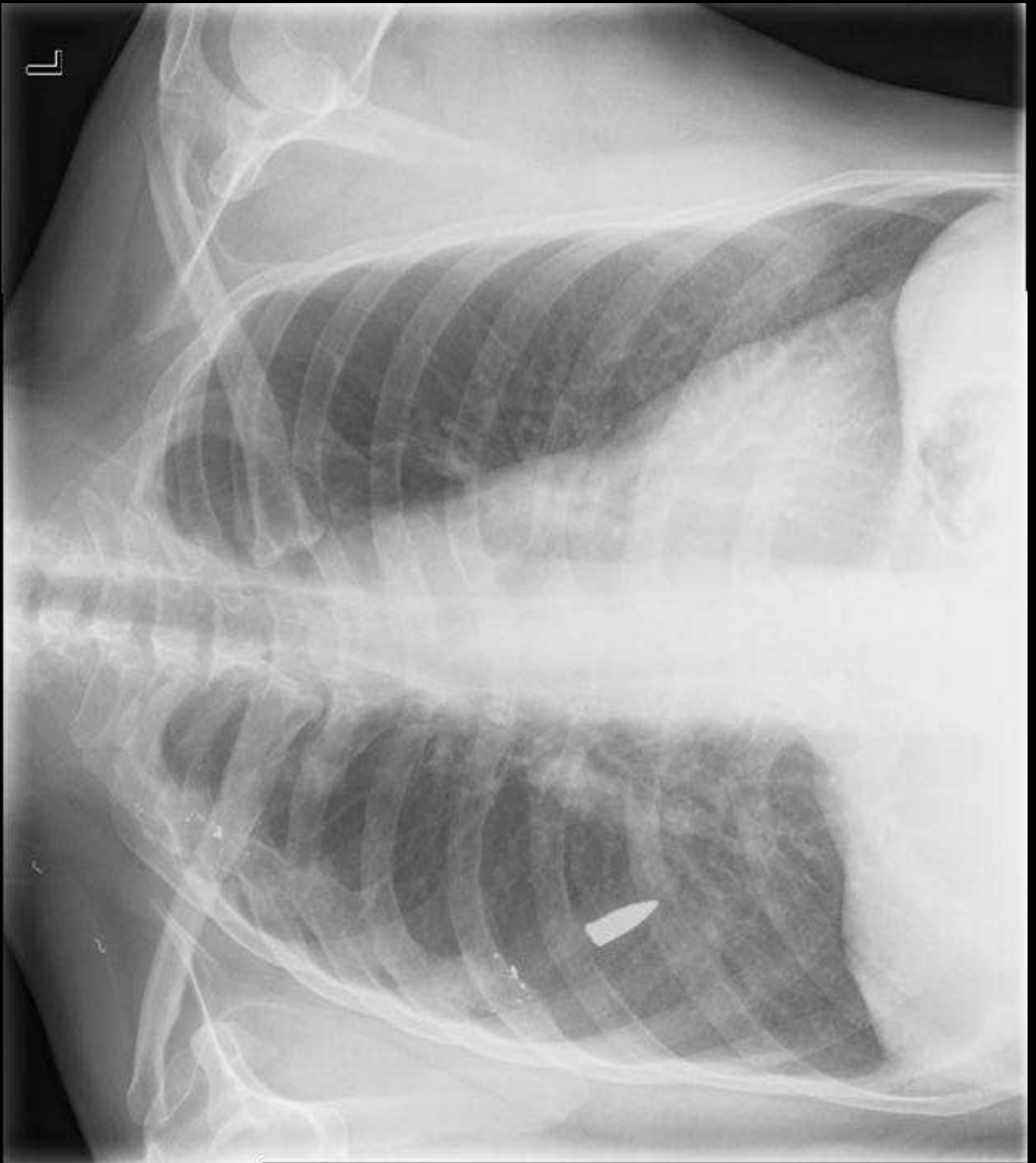




Chest PA
P.A.
Chest PA
11/11/2011

RADIOLOGY DEPARTMENT
1000000

11/11/2011 12:28:38



CXDI

Ex: 1563

Se: 1

Im: 1

DFOV mm

MHU 1

20151014

2192 rows, 2176 cols

kV 102.0

mA: 200

mm

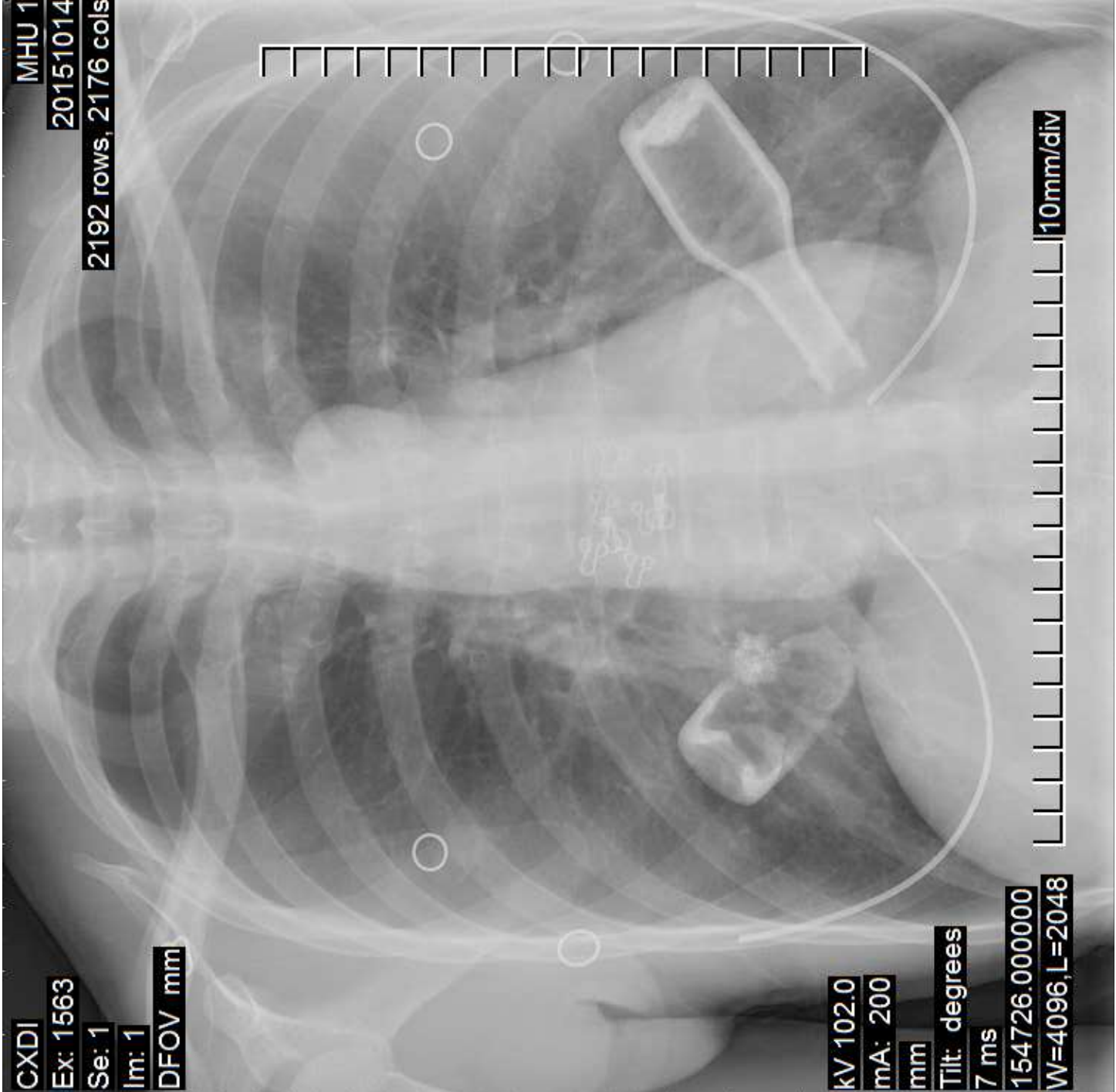
Tilt: degrees

7 ms

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W=4096,L=2048

10mm/div



Social Determinants Model of Care

- Treatment engagement (DOT - VOT)
- Psychosocial support
 - Housing
 - Addiction
 - Mental health
 - Destitution
 - Criminal justice



**Olallo House
TB Hostel**



**Video Observed
Treatment RCT**



European Centre of Disease Prevention and Control World Tuberculosis Day 2016

EXAMPLES OF INTERVENTIONS AND PERSONAL STORIES OF BENEFICIARIES

Tuberculosis interventions in vulnerable groups



The following interventions are presented:

- UK: Video Observed Treatment
- France: Outreach TB team to help in particular homeless TB patients;
- Slovakia: Health assistants to address the needs of Roma populations.

Diagnostic accuracy of digital chest radiography for pulmonary tuberculosis in a UK urban population.

Abubakar I, Story A, Lipman M, Bothamley G, van Hest R, Andrews N, Watson JM, Hayward A.
Eur Respir J. 2010 Mar;35(3):689-92

INT J TUBERC LUNG DIS 17(10):S36-S40
© 2013 The Union
<http://dx.doi.org/10.5588/ijtld.13.0309>

Tuberculosis peer educators: personal experiences of working with socially excluded communities in London

L. A. Croft,* A. C. Hayward,† A. Story†

Tuberculosis in UK prisoners: a challenge for control.

Anderson C, Story A, Brown T, Drobniowski F, Abubakar I.
J Epidemiol Community Health. 2010 Apr;64(4):373-6.

Active case finding for pulmonary tuberculosis using mobile digital chest radiography: an observational study.

Story A, Aldridge RW, Abubakar I, Stagg HR, Lipman M, Watson JM, Hayward AC.
Int J Tuberc Lung Dis. 2012 Nov;16(11):1461-7.



Highly cost effective

BMJ

BMJ 2011;343:d5376 doi: 10.1136/bmj.d5376

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- Early detection prevents future cases
- Case management prevents drug resistance
- 84% complete treatment! vs. 83% nationally

Dedicated outreach service for hard to reach patients with tuberculosis in London: observational study and economic evaluation

Story A, Aldridge R, Hayward AH. NIHR TB Reach Study
(In Press 2016)

PTB

0.25%

LTBI

1:5

HCV

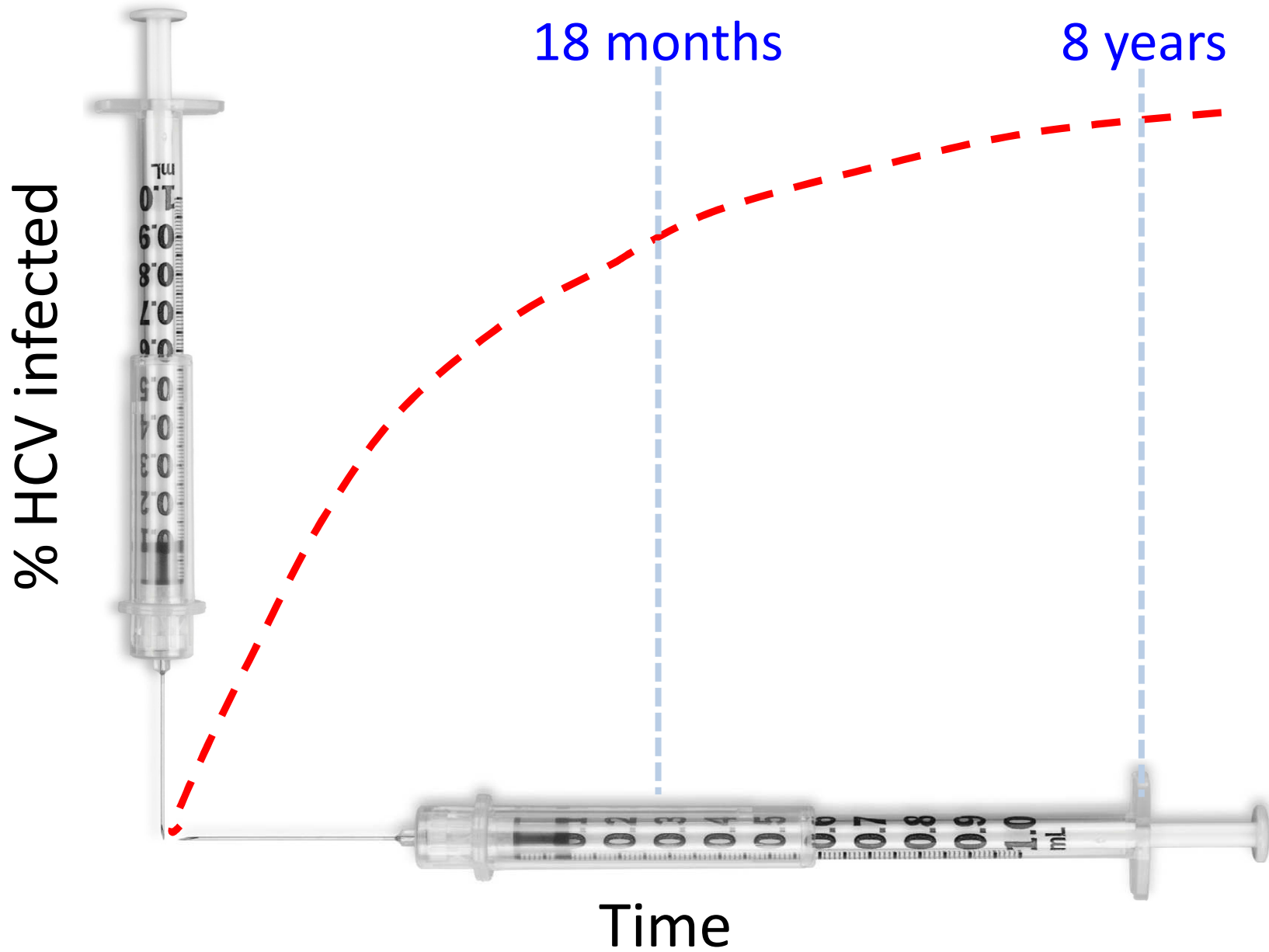
1:6

64% no or inadequate HBV immunity

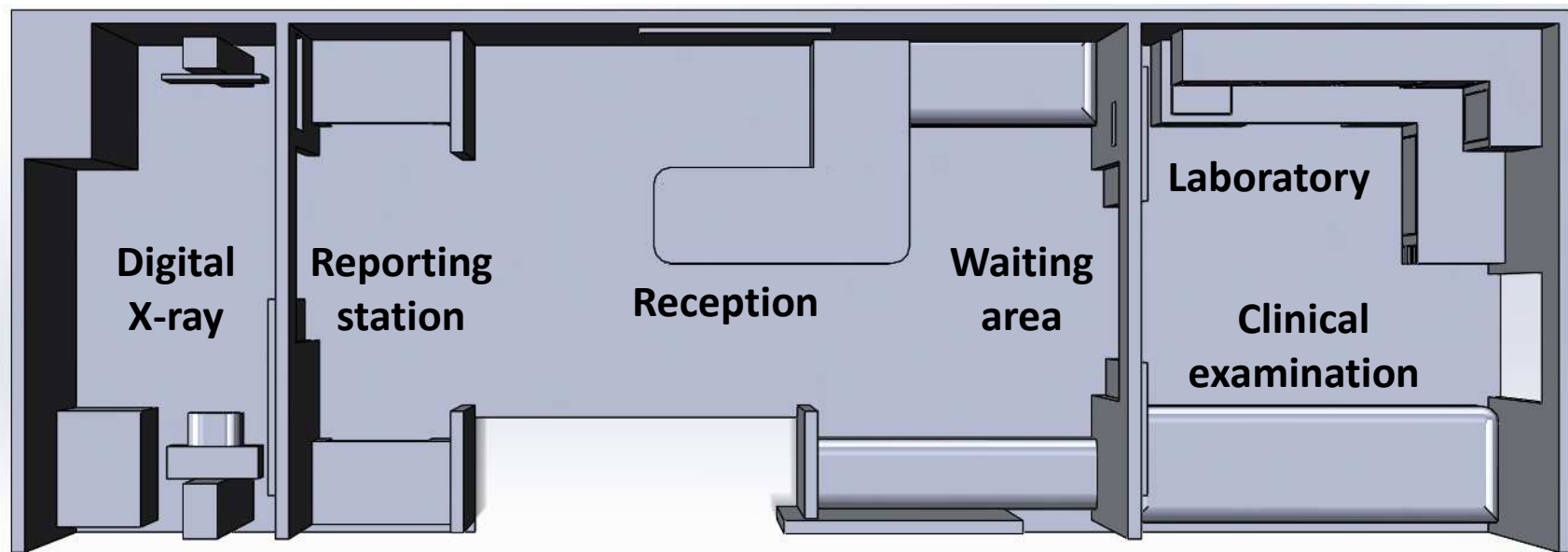
NICE (PH37 2012 & NG33 2015)

- In major urban centres and areas of identified need commissioners should:
 - Offer BBV testing alongside mobile digital chest radiology





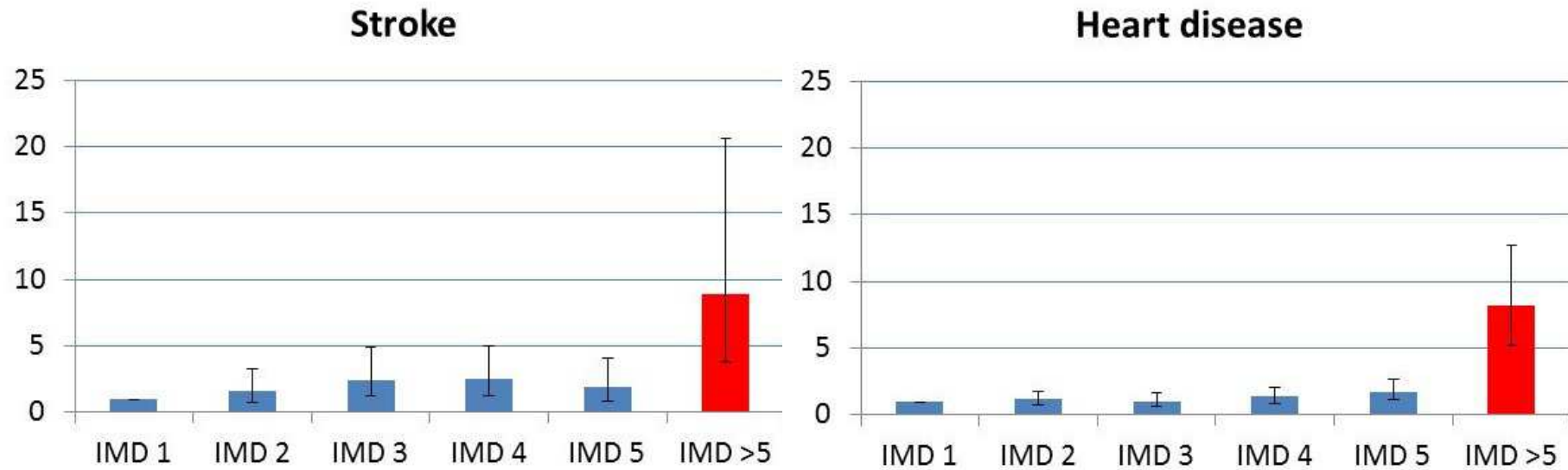
The opportunity of encounter



THE LANCET

Slopes and cliffs in health inequalities: comparative morbidity of housed and homeless people.

Story A. Volume 382, Special Issue, S93, 29 November 2013

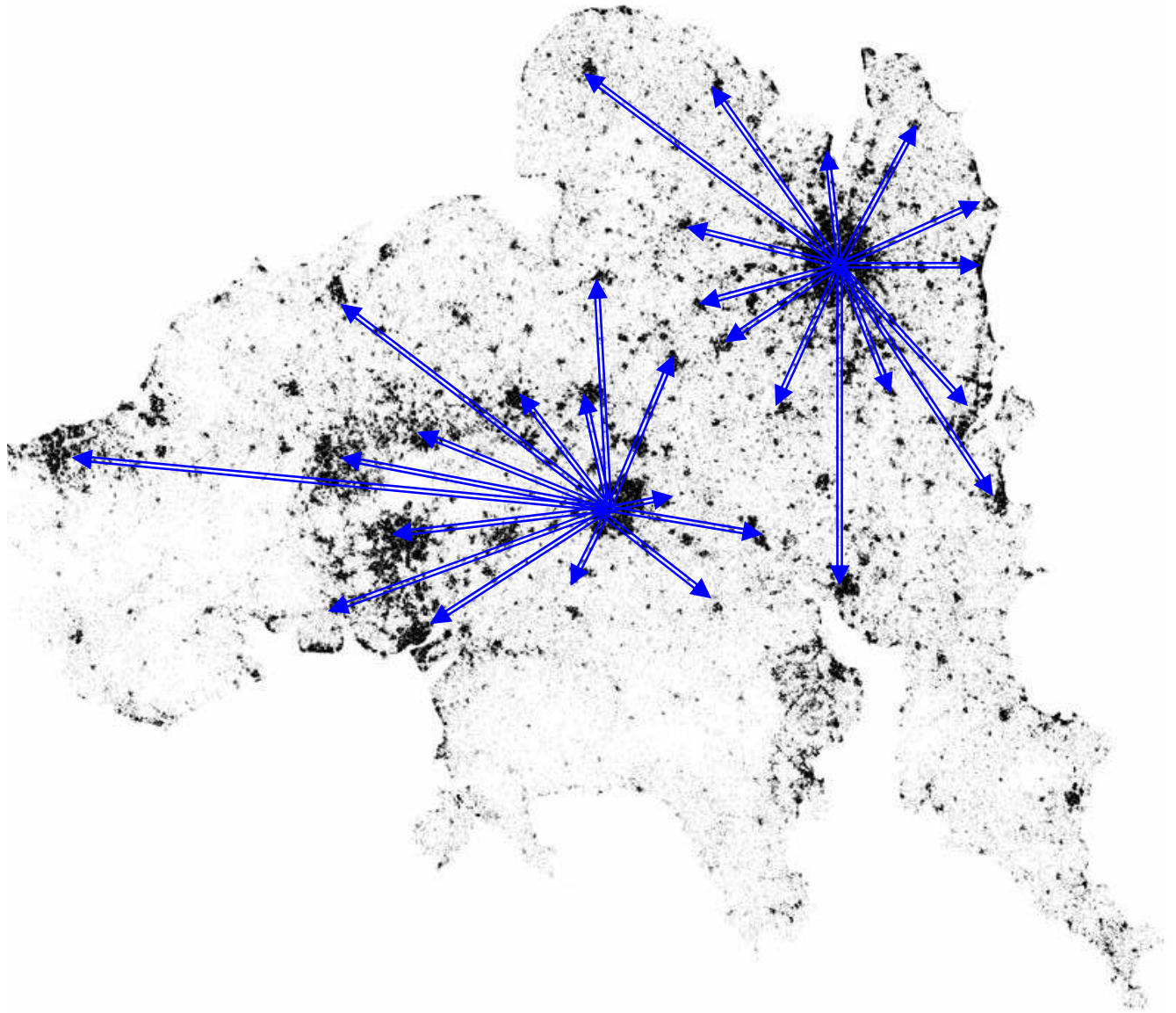


Age adjusted relative risk (95% CI)



- Expansion of an outreach service, similar to the 'Find&Treat' service in London, to the rest of England, to meet the needs of under-served populations (PHE NHSE 2015)





Thank you

