

Investigation for Health Effects after the Buncefield Fire

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Introduction



Initial risk assessment

- Minimal public health impact
- Precautionary messages “stay inside”
- Considerable media interest and concern among public about health effects
- Important to establish “evidence of absence”
- Provide reassurance

Follow-up health projects



1. Review of A&E case notes (acute effects)
2. Population survey (public concerns)
3. Occupational Health survey ('high exposure' group)

A&E case note review



RESULTS

- Describe A&E attendance between 11/12 – 14/12/2005
- Characterise who attended & reasons for attending

METHODS

- Watford & Hemel Hempstead A&Es
- Manual review of all medical notes
- Individuals attending because of the Buncefield fire
- Recorded information on a pro forma

A&E attendance



Number of individuals attending A&E due to Buncefield

Emergency responders	187 (77%)
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Depot workers	17 (7%)
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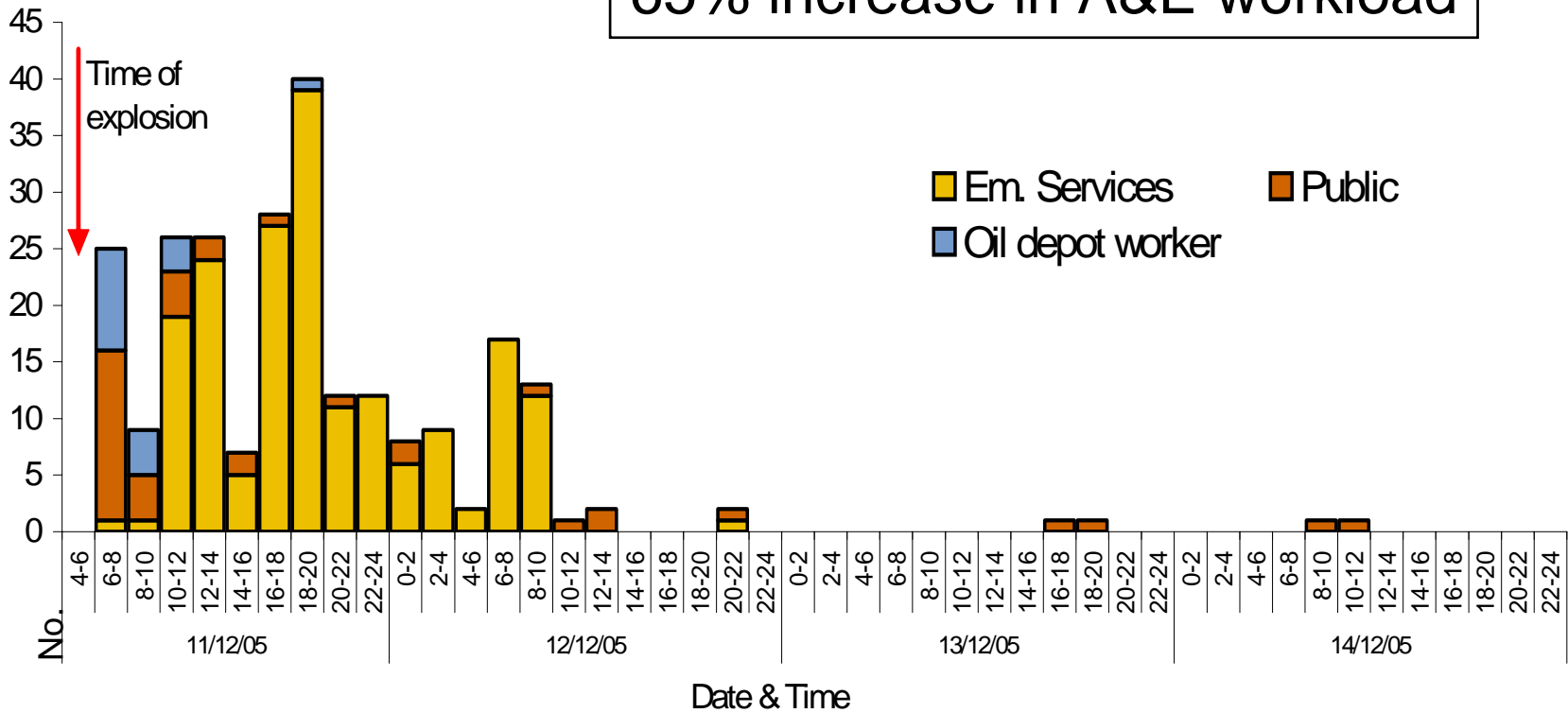
Public	40 (16%)
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Total	244 (100%)
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A&E attendance



65% increase in A&E workload



A&E attendance



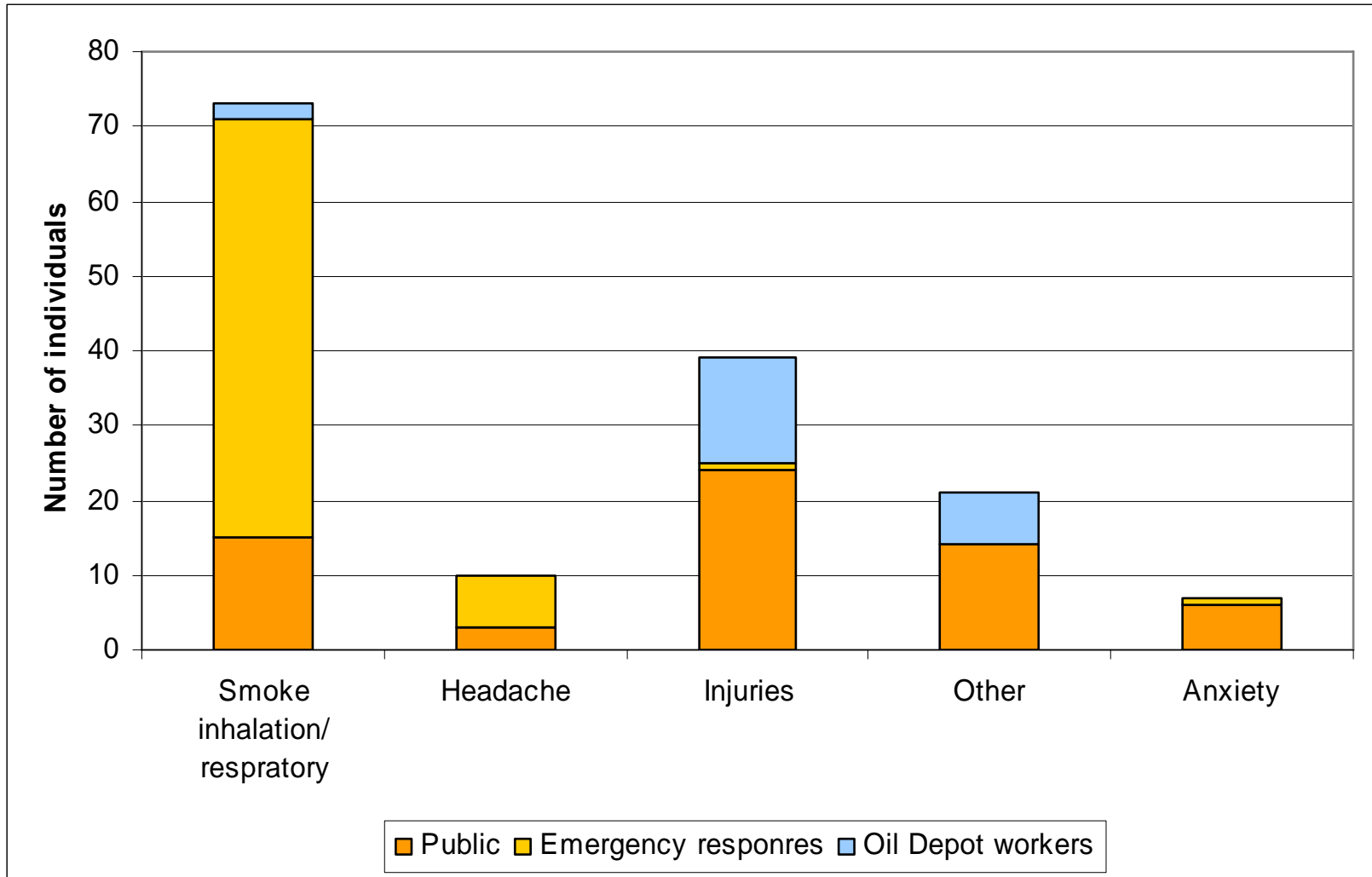
Number of individuals with and without symptoms

	Symptoms n (%)	No symptoms n (%)	Total n (%)
Emergency Services	63 (26%)	124 (51%)	187 (77%)
Worker	16 (7%)	1 (0.5%)	17 (7%)
Public	38 (16%)	2 (1%)	40 (16%)
Total	117 (48%)	127 (52%)	244 (100%)

A&E attendance



Main symptoms reported at A&E (N=117 people)



A&E attendance



Outcome of A&E attendances due to Buncefield

Discharged home	209
Sent to GP for follow-up	15
Referred to a specialist	4
Admitted to hospital	3
Unknown	13
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Total	244
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Population Survey



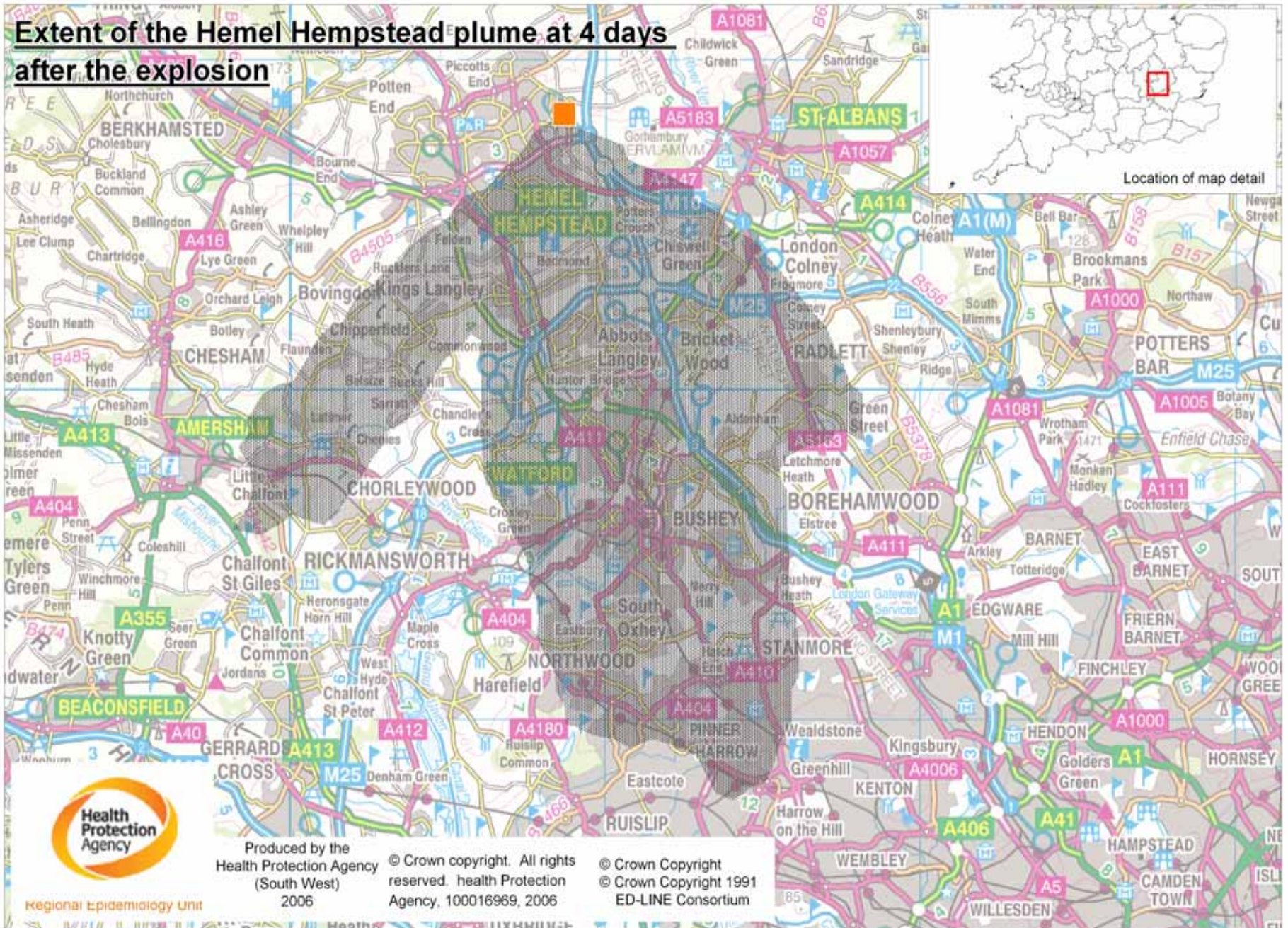
OBJECTIVE

- To understand health concerns of local population

METHODS

- Random sample of 5,000 people registered with a GP in Dacorum PCT or Watford & Three Rivers PCT
- Sample taken from population under the plume and not under the plume
- Self-completion postal questionnaire (Feb 2006)

Extent of the Hemel Hempstead plume at 4 days after the explosion



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Population Survey



Response rate to postal questionnaire

PCT	Number (%)
Dacorum North (not under plume)	413 (41%)
Dacorum South (under plume)	886 (44%)
Watford & Three Rivers (under plume)	702 (37%)
Total	2,001 (41%)

Population Survey



Reported 'exposure' and health concerns

	Not under plume	Under Plume	
	Dacorum North	Dacorum South	Watford & Three Rivers
Heard explosion	71%	88%	85%
Smoke over house	8%	39%	23%
Offensive smell	49%	71%	59%
Health concerns during incident	59%	73%	58%
Health concerns at time of questionnaire	10%	18%	11%

Population Survey



People reporting health concerns at time of incident

Yes

No

Heard explosion

87%

13%

Smoke over house

50%

50%

Offensive smell

55%

46%

Population Survey



Reported concerns

Area of concern	n (%)
Long term health effects	118 (46%)
Perceived health effects due to incident	58 (23%)
Water contamination	41 (16%)
Effects of smoke and cloud	16 (6%)
Environment in general	11 (4%)
Effects of the Foam waste used in extinguishing the blaze	8 (3%)
Concerned about a recurrence of the incident	5 (2%)
Total	257 (100%)

Population Survey



Health Advice

Comment	n (%)
Satisfied with advice	219 (43%)
Wanted more advice on procedures and more reassurance	98 (19%)
Wanted more information on road and school closures	68 (13%)
Wanted more information regarding the smoke cloud	56 (11%)
Wanted more health advice	51 (10%)
Wanted more advice on drinking water	9 (2%)
Wanted to know where to obtain fuel	5 (1%)
Total	506 (100%)

Occupational Health Survey



Overview

- Self-completion questionnaire
- Distributed via Occupational Health Departments
- Asks information about exposures & reported health outcomes
- Includes all organisations/agencies involved

Occupational Health Survey



Agency/organisation	Number	Est. Individuals deployed
Fire services	33	1075
Public sector	12	865
Voluntary organisations	3	95
Private companies	3	70
Total	55	2105

Acknowledgements



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Population Survey

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