



## Using biomonitoring to assess the effectiveness of an intervention strategy: Isocyanates in the motor vehicle repair sector

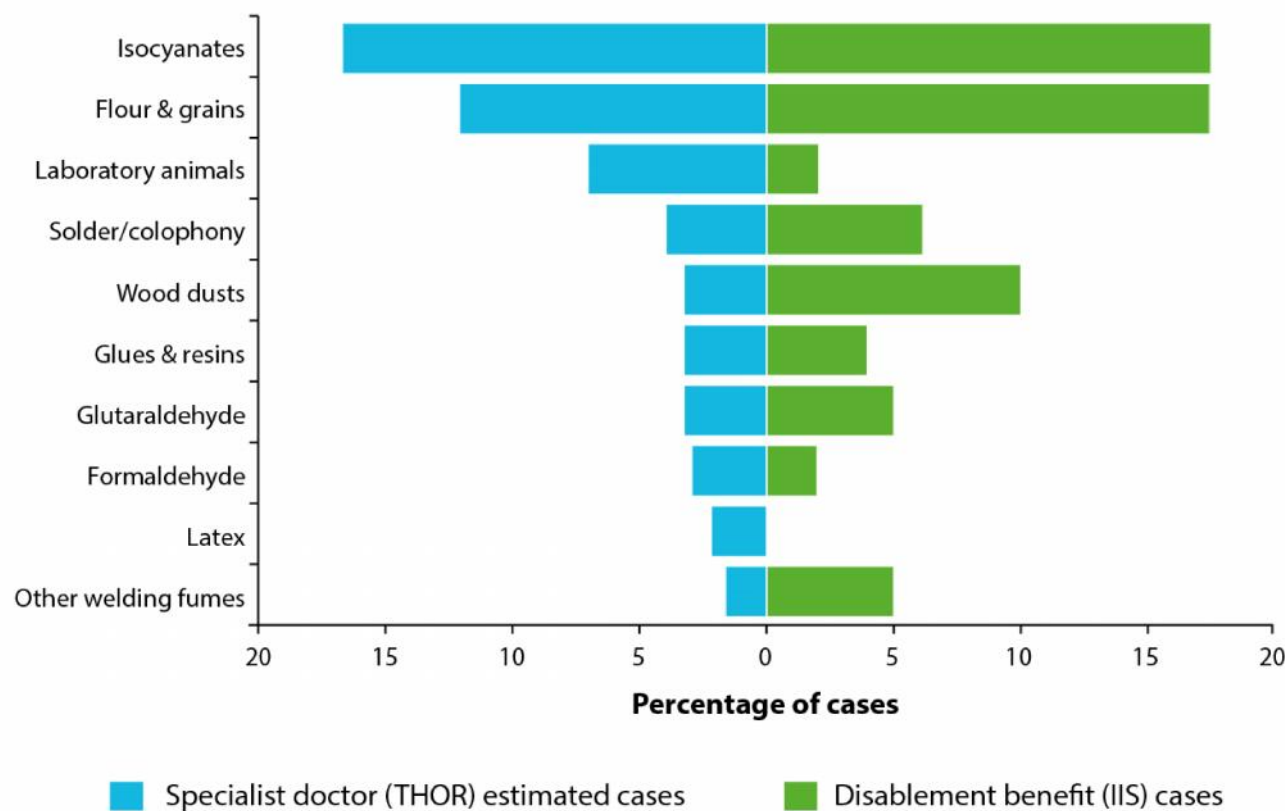
22 January 2019

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# Leading causes of occupational asthma

Figure 2: Top 10 agents for occupational asthma, 2001 - 2003





# Isocyanates in Motor Vehicle Repair

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- Two-pack isocyanate paints are widely used in motor vehicle repair.
- Isocyanates are used because
  - Highly reactive, giving short cure times
  - Results in a high quality, enduring finish
- The reactivity of isocyanates gives rise to their potential as sensitisers (both respiratory and skin)

# Motor Vehicle Repair – The Problem

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- Statistics showed that:
  - “Vehicle Paint Sprayers” were the group at greatest risk of getting isocyanate-induced occupational asthma.
  - Their risk was over 80 times the average for the working population.
  - About 1 in 10 people in MVR getting occupational asthma were not sprayers



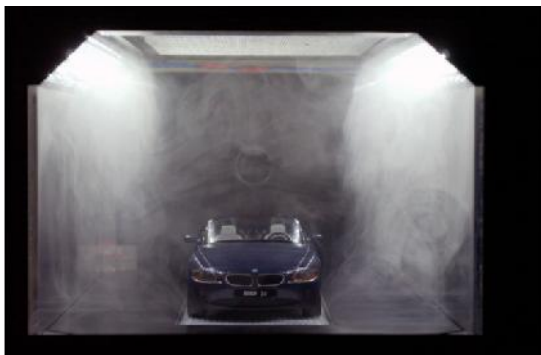
## The size of the problem?

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- Approximately 21,000 spray painters in the UK
  - ~60% work in MVR
  - More than half work in small or micro businesses
  - Many are the only painter

## Key messages for SHAD events

- Health effects of isocyanate exposure
- How exposures occur
- How to control exposures
- Simple ways of checking controls are working and being used appropriately

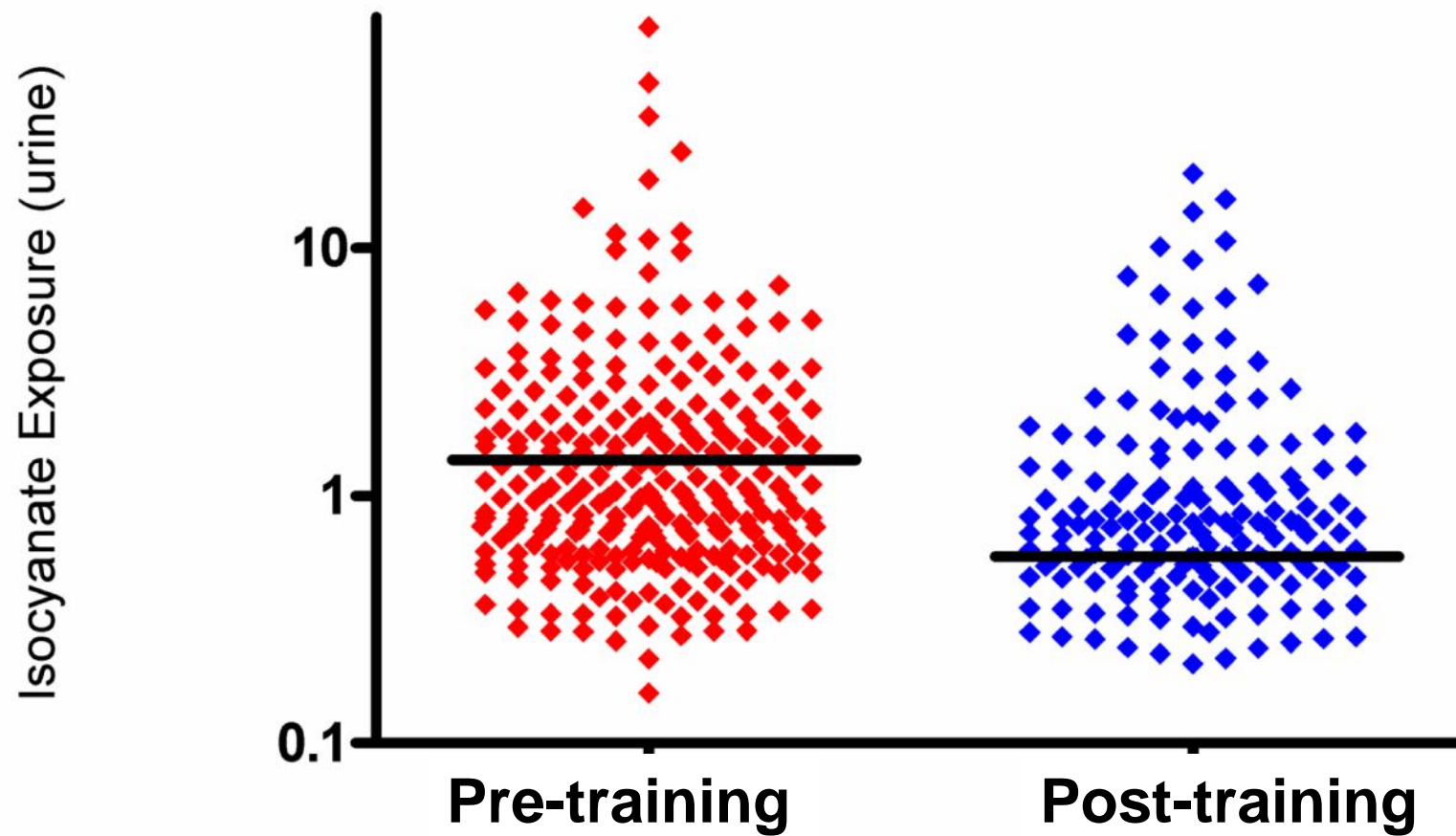


## Measuring isocyanate exposure



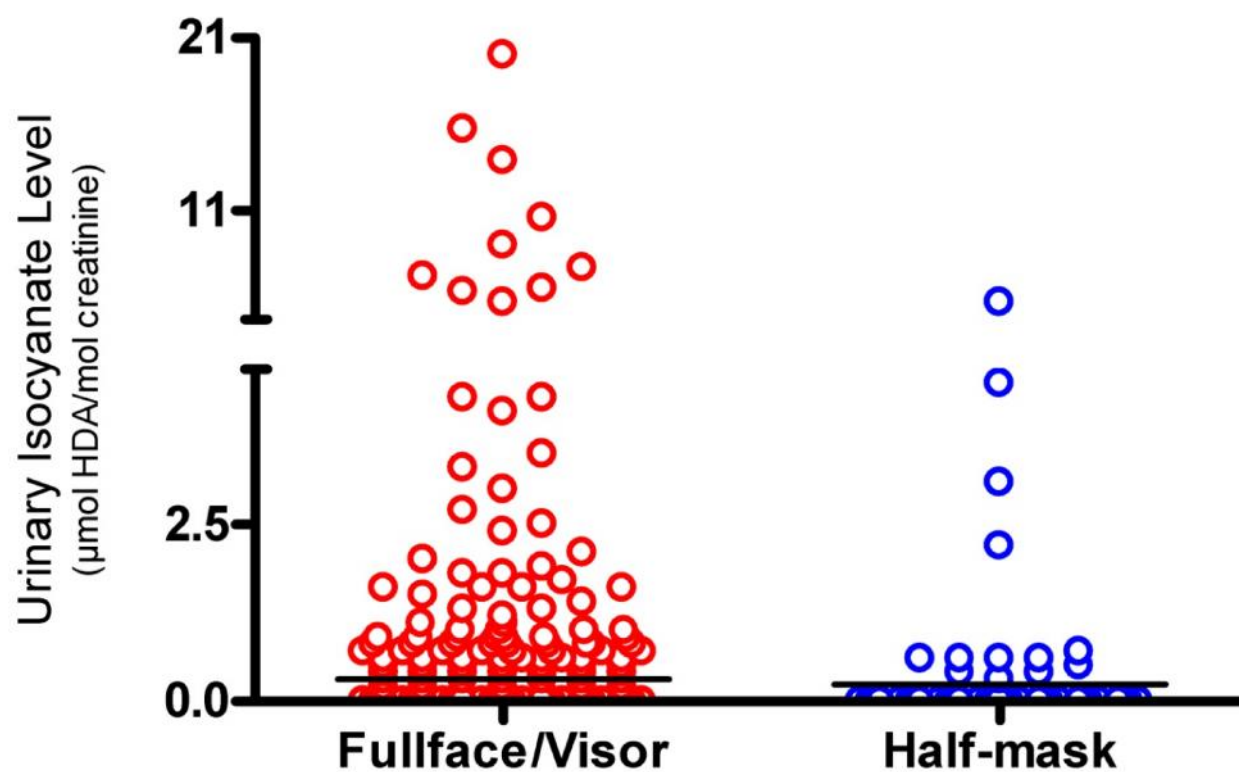


# Training works!!

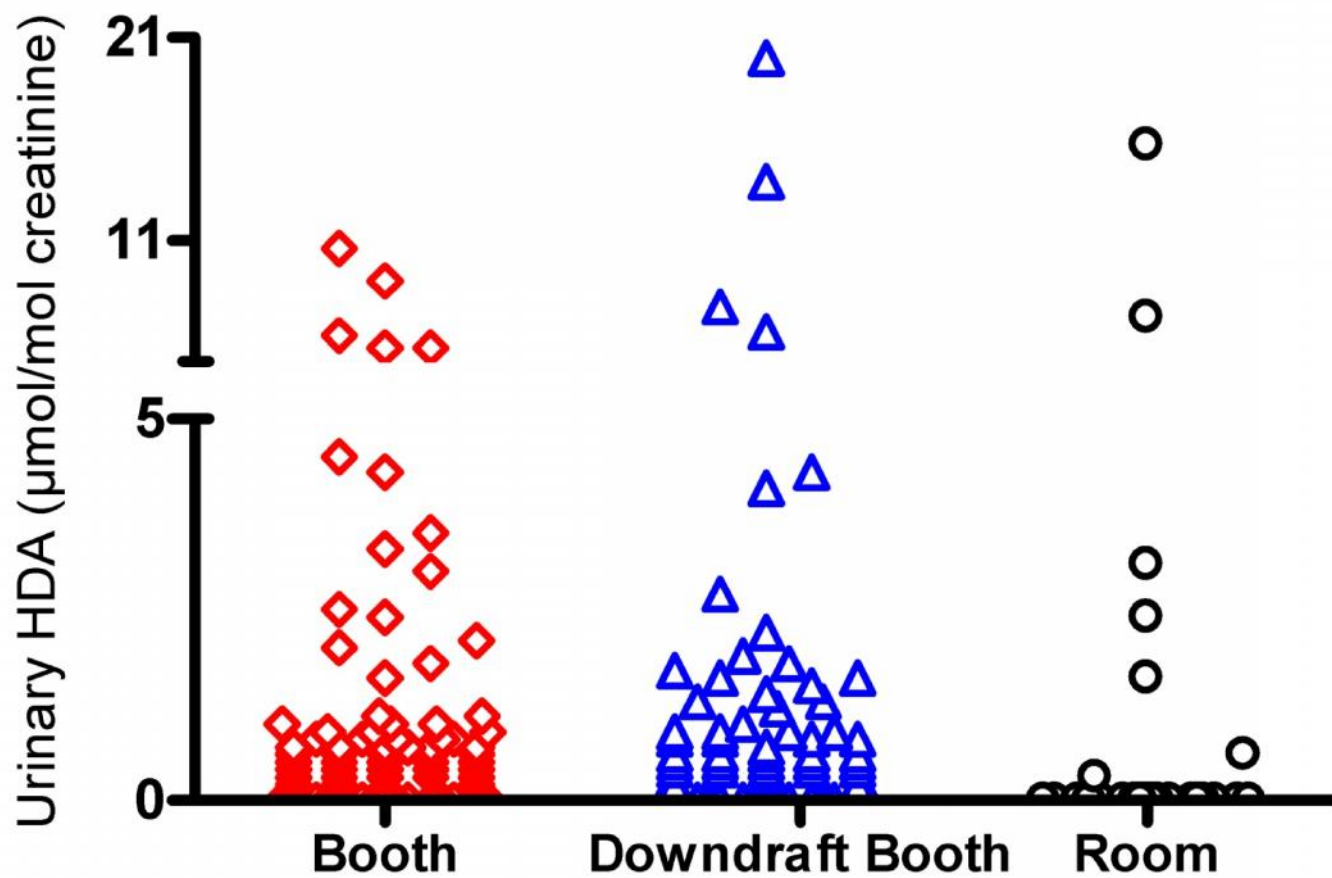




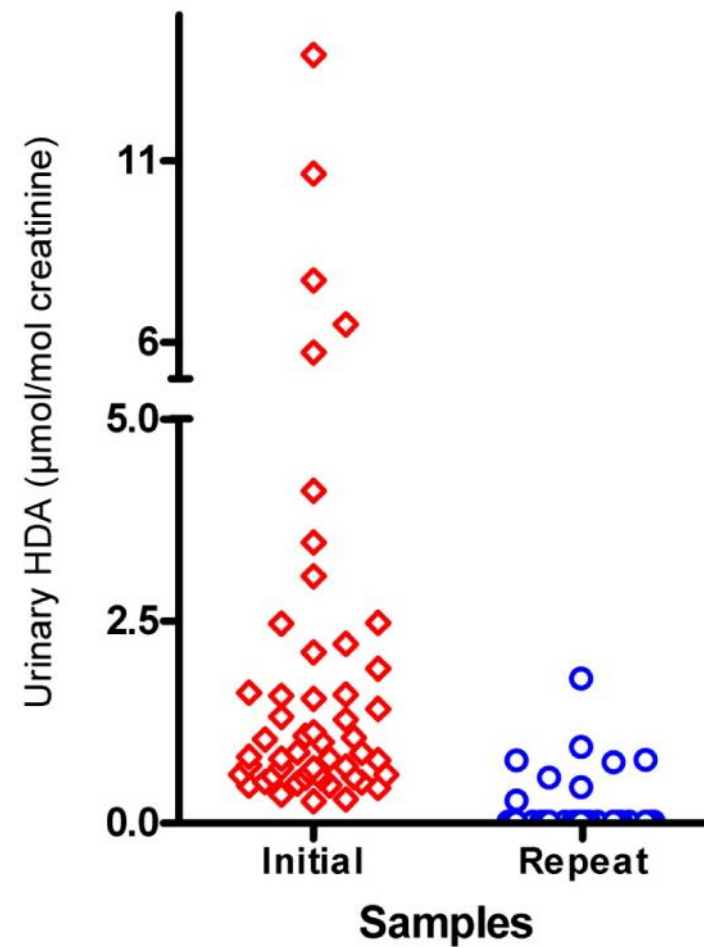
# Masks



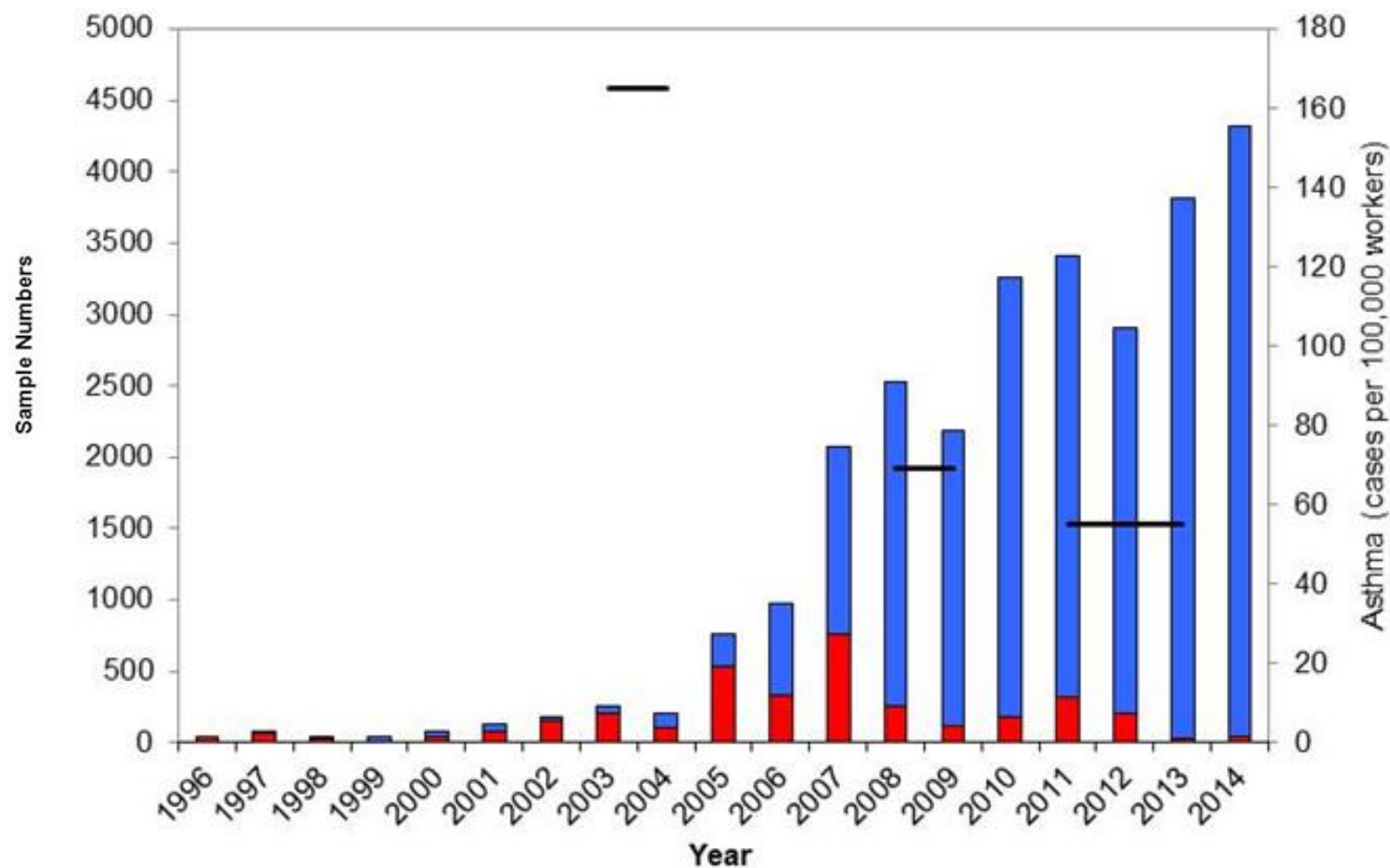
# Booths



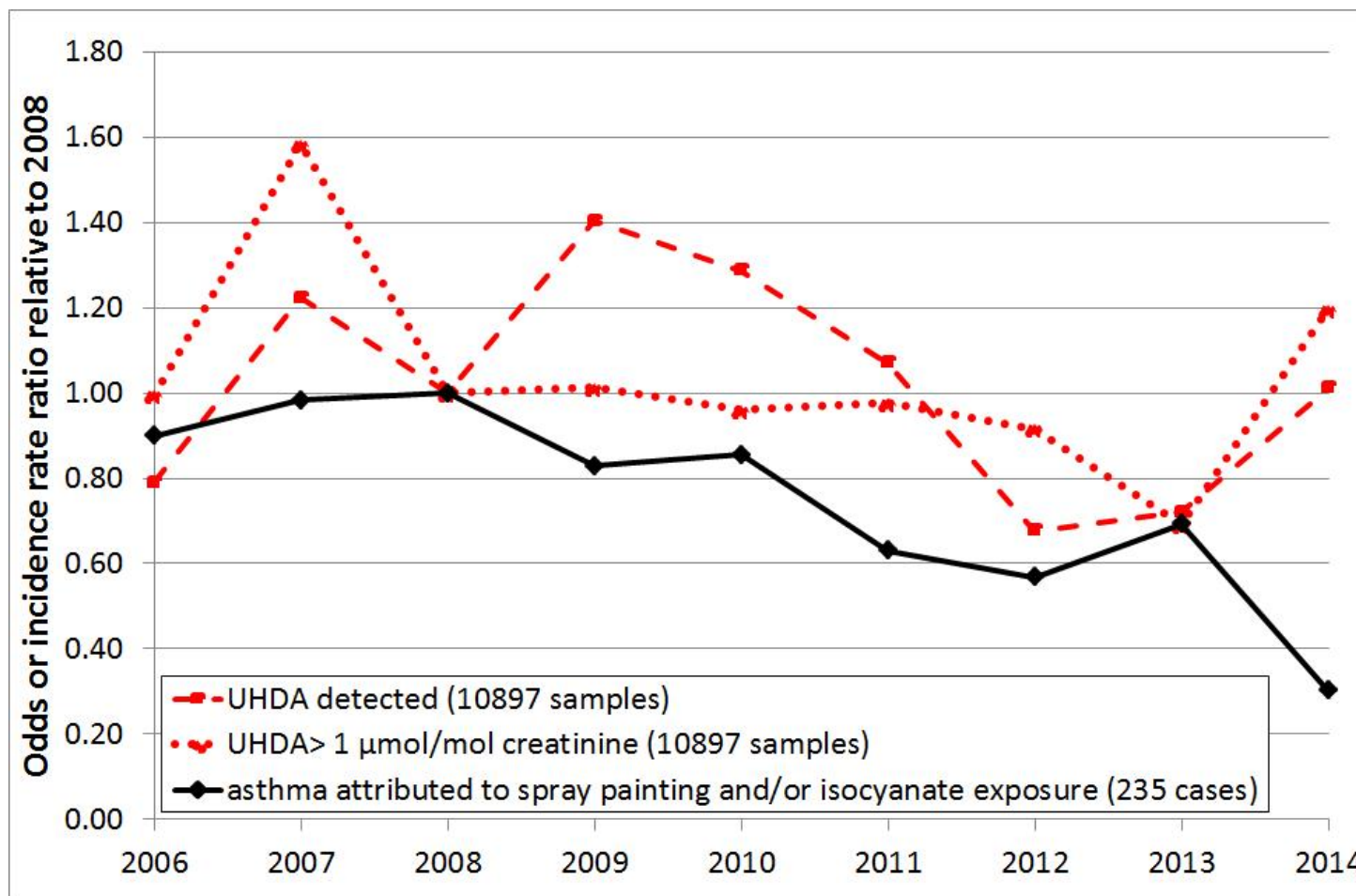
# Improvement through monitoring



## BM helps to reduce ill-health



## Maintaining the impact...



With thanks to Jill Stocks, Manchester University

## Lessons learned

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- Biomonitoring can be a simple means of:
  - Exposure assessment
  - Targeting improvements
  - Demonstrating progress
- Interventions that require human behaviour changes need to be reinforced regularly as the population renews.
- Monitoring may increase without the intervention's accompanying messages.



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