Queensland | Good jobs
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Hygiene is Grey
Get the best out of your hygienist

John Padgham COH®

RoadTek

22nd August 2023

Queensland Government

Acknowledgement of Traditional Owners and Elders

I'd like to begin by acknowledging the Traditional Owners of the land where we meet today. I would also like to pay my respects to the Elders both past and present.

I also extend that respect to the Aboriginal and Torres Strait Islander people here today.

'Travelling' by Gilimbaa

Industry Context (Silica)

Legislation

New QLD CoP

Potential reduction in workplace exposure standard

Focus of public and regulator

Known Hazard

Carcinogenic

No known safe concentration

$0.05mg/m^3$ ~ 10% risk of silicosis (15 years)

Source: National Institute for Occupational Safety and Health (USA)

Requirements to Assess

Legislative Specific and General Requirement

No other way to quantitively evaluate health risk and control effectiveness

What is the workers' exposure risk?

Worker health

Control validation

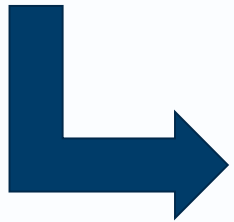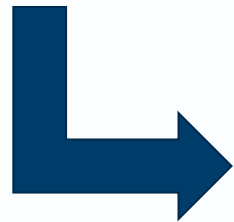Legislation compliance

SAMPLER
(sampling head)

SAMPLING PUMP

Source: Resources Safety & Health Queensland
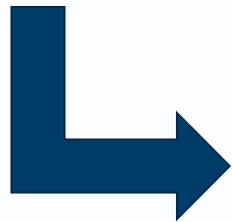
Standard Approaches

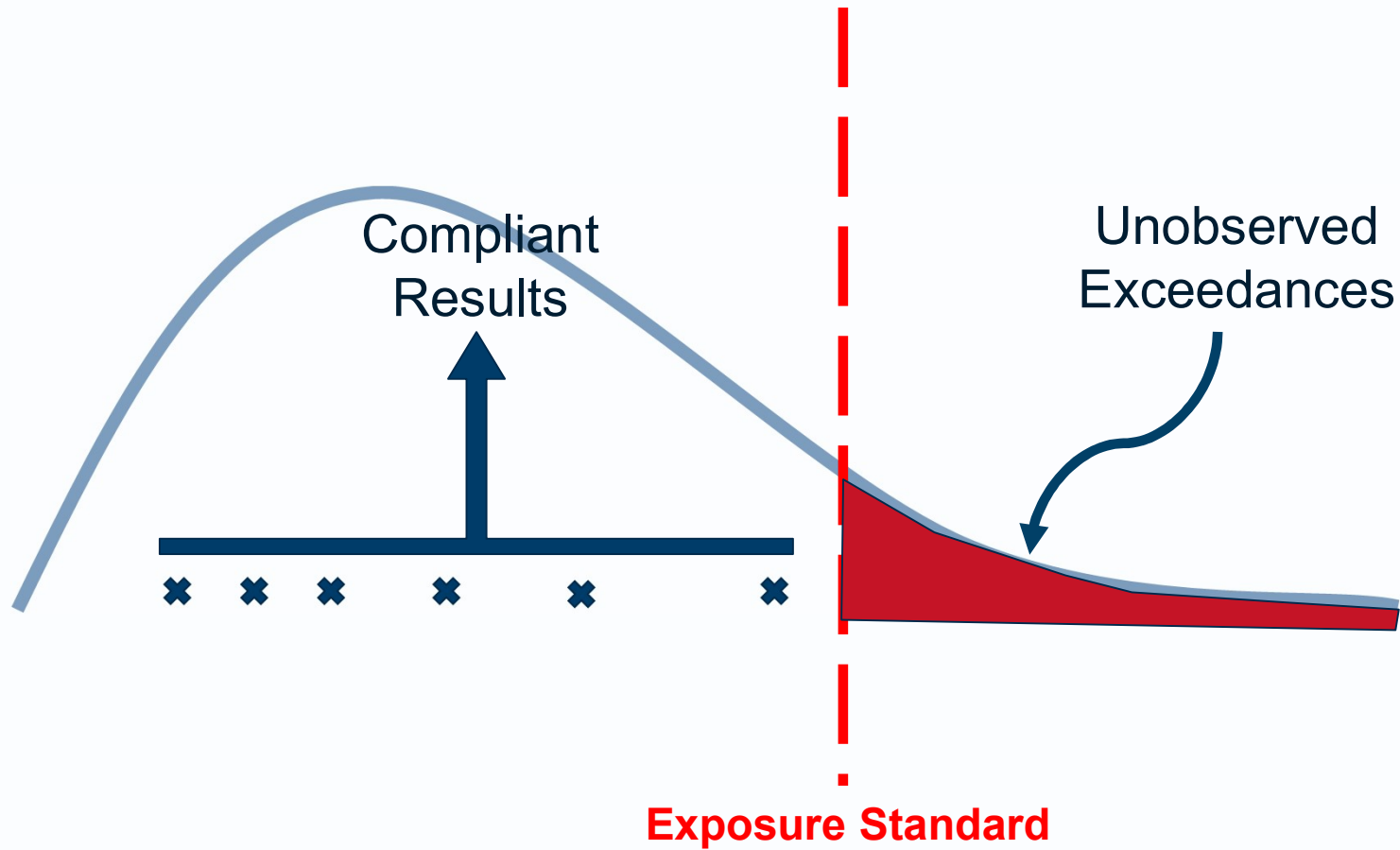Create similar exposure groups

One-off / short term campaigns

Full shift monitoring

Direct comparison to standard

Issues with Standard Approach

Compliant Results

Unobserved Exceedances

Exposure Standard

Issues with Variance

Day to Day

Day 1

Day X

Worker 1

SEG

Worker 2

Worker 3

Person to Person
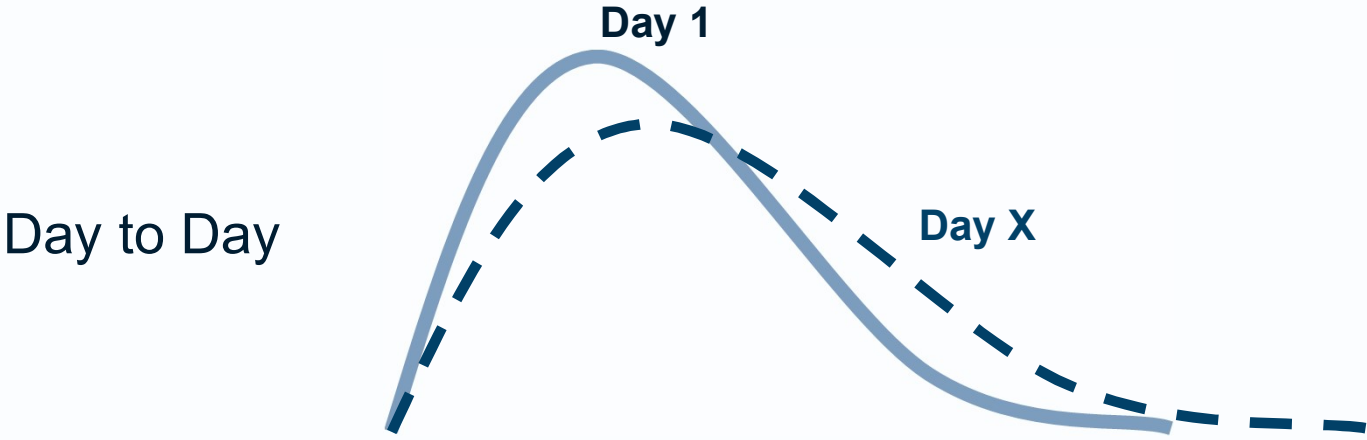
One-off sampling

Source: John Padgham (TMR)

Same Business – Same Activity – Same Controls

RoadTek's Situation

+ 1000 workers across QLD

Changing Location / Activity Daily
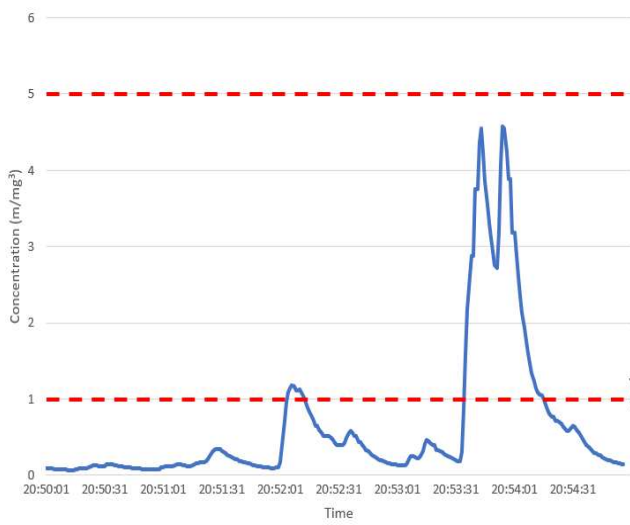
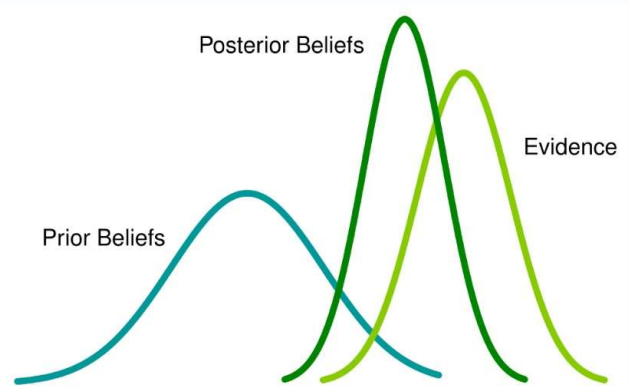**Similar Exposure Groups don't work**

Equipment focused controls

RoadTek Strategy

Task-based Assessment

Real-Time Monitoring

On-Going Verification

Task Evaluation Summary

Table 2. Model posterior statistics for TVOC for selected cleaning and disinfecting tasks

#		Task means (α)					Task SDs (σ_e)		
		Mean	Std	Med	2.5%	97.5%	Med	2.5%	97.5%
Buff floor	135	4.78	0.15	4.78	4.50	5.06	0.559	0.475	0.656
Clean bathroom	187	4.77	0.14	4.77	4.51	5.05	0.338	0.283	0.405
Cleaning	1022	4.74	0.13	4.74	4.48	5.01	0.621	0.588	0.660
Clean spill	69	4.52	0.21	4.53	4.12	4.93	1.000	0.806	1.273
Clean window	48	4.72	0.16	4.73	4.40	5.02	0.318	0.241	0.434
Disinfect machine	22	5.01	0.25	5.01	4.53	5.50	0.723	0.515	1.072
Floor strip	32	4.66	0.25	4.66	4.16	5.14	0.944	0.727	1.337
Hand wash	38	4.76	0.14	4.75	4.49	5.04	0.084	0.049	0.200
Mix product	33	4.77	0.17	4.78	4.43	5.11	0.349	0.214	0.578
Mop floor	599	4.72	0.13	4.72	4.47	4.98	0.575	0.536	0.620
Pour/mix product	77	4.79	0.14	4.79	4.52	5.08	0.317	0.249	0.407
Scope clean	51	4.68	0.28	4.67	4.12	5.24	0.961	0.752	1.293
Sterilize disinfect	172	4.77	0.15	4.77	4.49	5.06	0.814	0.718	0.933
Sweep/vacuum/dust	152	4.70	0.14	4.69	4.42	4.98	0.455	0.379	0.554
Wash equipment	220	4.70	0.15	4.70	4.42	4.99	0.285	0.249	0.327
Wipe with alcohol	19	4.29	0.26	4.28	3.77	4.82	0.877	0.650	1.246
Spline SD (σ_ζ)							1.68	1.65	1.72
Random effect SD (σ_a)							0.82	0.67	1.03

Effective Engagement

Allow for sufficient scoping for the assessment!

Are they aware of exposure variables?

Will the data be representative (not just of that shift)?

What is the exposure risk not directly monitored?

What are the potential outcomes?

Easy Answers are Usually Unreliable

Thank you and stay connected

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