

# Support for Selection of a Cleanup Level for Methamphetamine at Clandestine Drug Laboratories



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☼ Methamphetamine

# Background - House Bill 04-1182

- Section 25-18.5-103, C.R.S. establishes a health-based civil liability shield if property owners clean up methamphetamine labs in accordance with standards set by the Board of Health.
- Although numerous states have adopted technology based cleanup standards for methamphetamine, none have tried to correlate these levels to known health-effect-based concentrations.

# Estimating a corresponding dose from a wipe sample

- No consistent, established national guidance
- 3 concentrations modeled
  - 0.05 ug/100cm<sup>2</sup>
  - 0.1 ug/100cm<sup>2</sup>
  - 0.5 ug/100cm<sup>2</sup>
- 3 populations of receptors

# Infant – Age 1



- Distinct exposure patterns
  - Crawling
  - Mouthing
- Higher potential for exposure

# Child – Age 6



- Exposure factors are better defined
- Knowledge of therapeutic usage of methamphetamine to treat ADD

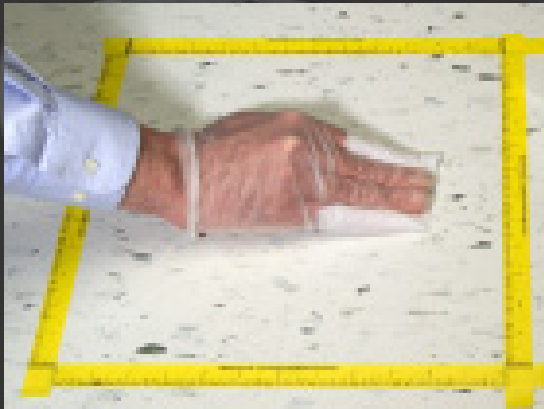
# Female – Childbearing Age



- Exposure to methamphetamine has been correlated with adverse reproductive outcomes

# Exposure Parameters

- Identify input parameters to reflect upper end exposures
- Oral & Dermal
- Professional Judgment



# Daily Doses

- Using these input parameters, daily doses of methamphetamine were estimated
- Infant received the highest dose on a body weight basis
- Estimated doses from residential exposure could then be compared to known health effects

# Toxicity Assessment

- No currently established reference dose
- Review available information
  - Therapeutic
  - Illicit Use
  - Laboratory Studies



# Therapeutic Use

- DESOXYN
  - Methamphetamine hydrochloride tablets, USP
- Treatment of ADD, narcolepsy and obesity
- Initial dosing = 5 mg daily
- Not for children under 6 years old



# Illicit Use



- Abusers = 150 mg/day
- Positive drug effect noted at doses as low as 5 mg
- Information on health effects to drug users often linked to more than one substance

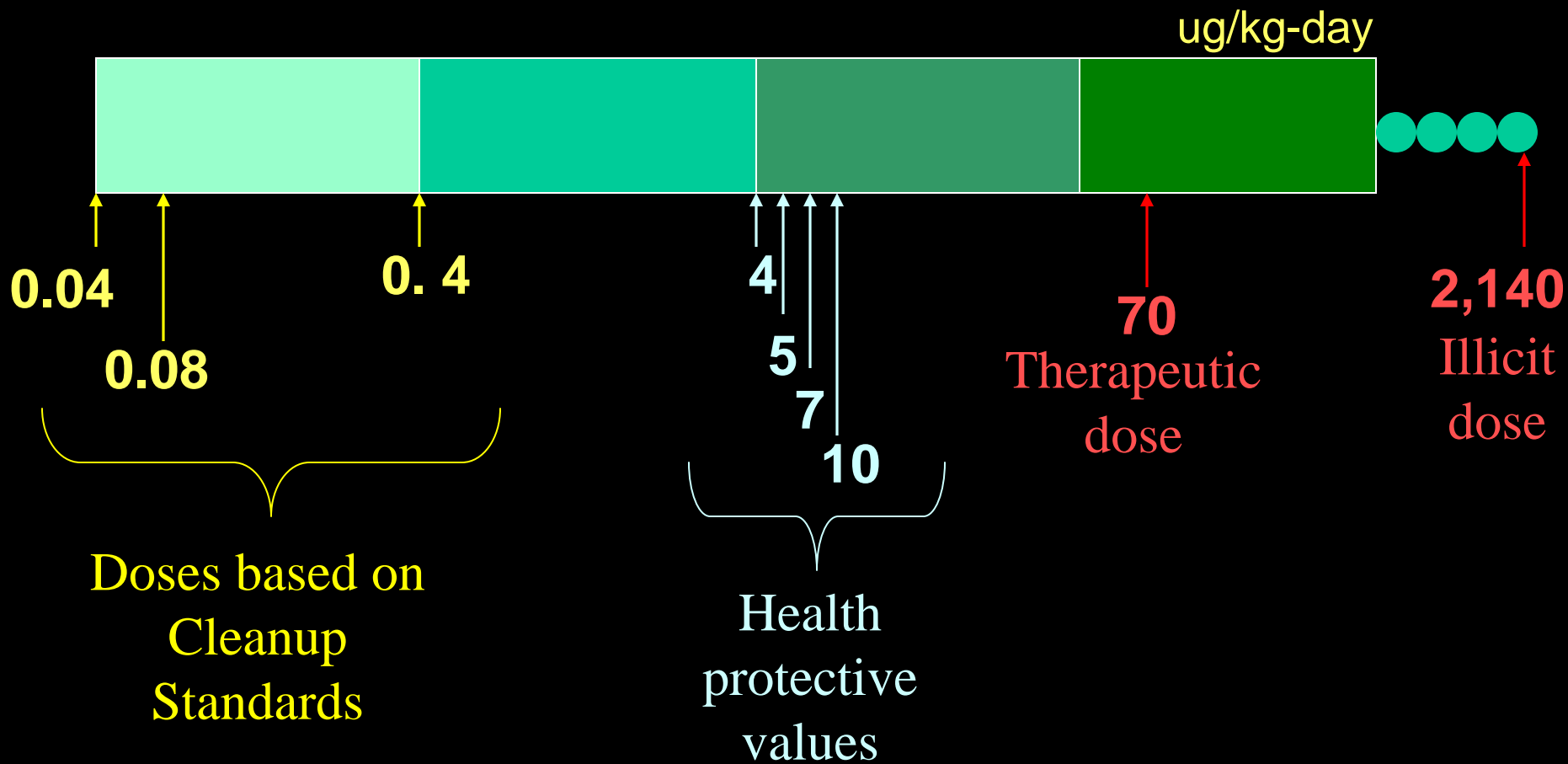
# Laboratory Studies

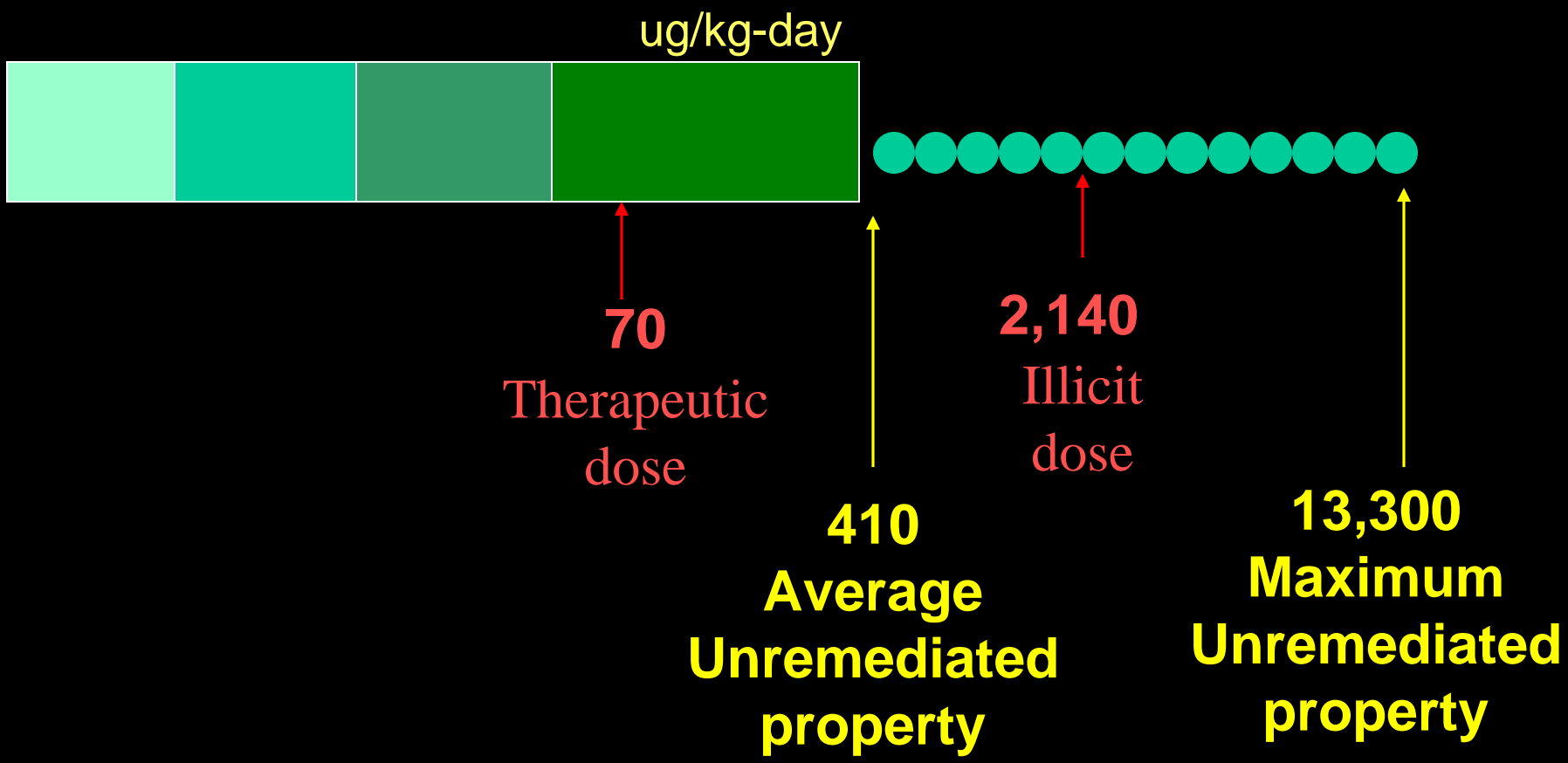


- Used to derive “health protective” doses of methamphetamine
  - Determine No Effects Levels
  - Apply Uncertainty Factors
- Target Endpoints
  - Neurotoxicity
  - Developmental Toxicity
  - Reproductive Toxicity

# Comparison

- Perform a comparison of predicted doses to “health-protective” doses
- Determined that each of the three evaluated cleanup standards would be protective of the health-based endpoints





# Uncertainties



- Evaluate Uncertainties
  - Concentration
  - Exposure Parameters
  - Additional Pathways
  - Toxicity Values

# Additional Information

## Cleanup Regulation

<http://www.cdphe.state.co.us/op/regs/boardofhealth/101403methlabrules.pdf>

## Support for Cleanup Level

<http://www.cdphe.state.co.us/hm/methlabcleanuplevelsupport.pdf>