Measuring the Impact of PM Reductions by EH Indicators

Minnesota Department of Health

Jean Johnson, Chuck Stroebel, Allan Williams, Paula Lindgren and Wendy Brunner

Minnesota Pollution Control Agency

Gregory Pratt, Lisa Herschberger, Kari Palmer, Margaret McCourtney

Olmsted Medical Center, Rochester, MN

Barbara Yawn



MDH EH Indicators Project

* Study Area: Minneapolis/St. Paul Metro (seven counties), Olmsted





- Funding 2007-2010 (US EPA)
- Data analysis 2000-2009



PM Reduction Initiatives In Minnesota

- ★ Minnesota Emissions Reduction Project (MERP)
 - Coal to gas coversion of 2 power plants in MSP
 - Technology upgrades in MSP and Rochester
- ★ Project Green Fleet
 - Retrofitting buses in MSP
 - And in Rochester
- ★ National Initiatives
 - Diesel Fuels
 - Heavy Duty Diesel Regulations
 - Clean Air Interstate Rule (CAIR)



Measuring Impacts & Accountability



Regulatory or Policy Changes

Reductions in Population Exposures

- •PM10
- •PM2.5
- •PM2.5 species
- •Co-variates: ozone, pollen

Reductions in Population Health Outcomes

(Attributable Fraction)

- Hospitalizations
- •ER Visits
- •EMS Runs
- Clinic Visits
- Prescriptions



Who's Involved

- *MDH
- **★Olmstead County Medical Center**
- *MPCA
- **★UMN** (School of Public Health)
- *Clean Air Minnesota
- **★US EPA**



Expected Results

- ★Quantifiable outputs to demonstrate the impact of local and national PM reduction projects
- ★ Development of EH outcome indicators that can be tracked over time
- *Informed environmental policy decision-making; accountability for public health interventions

