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Workshop on Genetics and Environmental Regulation
Arizona State University
Tempe, AZ

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GENETICS: Genes and the Environment, New Education to Involve Communities

- R25 (ELSI) five-year outreach grant funded in November, 2002. Goals include:
 - Community outreach
 - Create a two-way dialogue between the labor and scientific communities
 - Initiate a discussion in the labor community about the appropriate use of genetic information of workers
- Main partners include:
 - University of Pennsylvania lead agency (Linda McCauley, Ph.D.)
 - University of Oregon (LERC)
 - Oregon State University (SMILE)



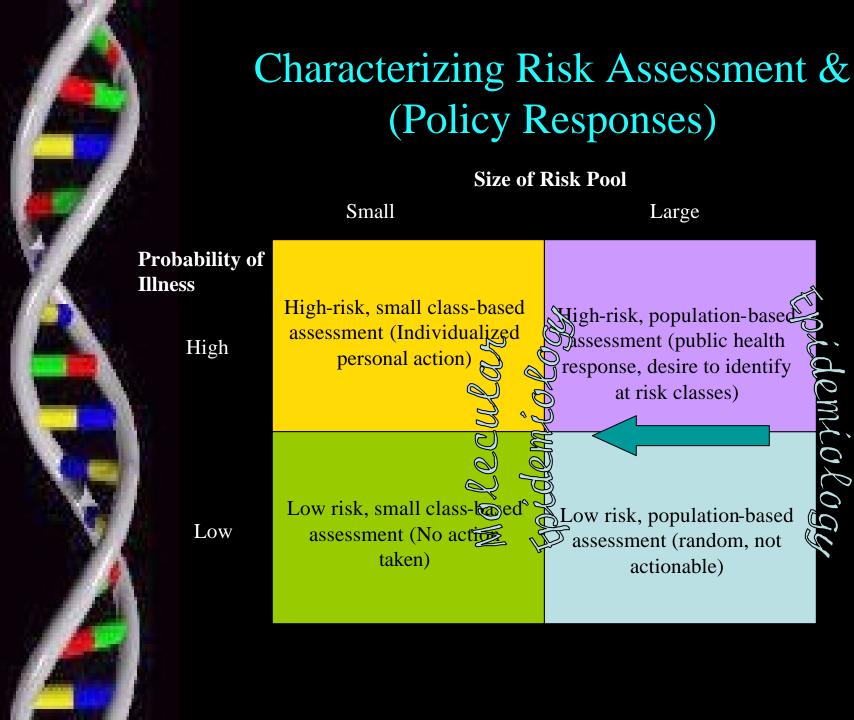
Initial Findings of Community Outreach

- Limited knowledge about toxicogenomics research among labor safety & health specialists
- Those familiar with toxicogenomics:
 - Know of BNSF case and beryllium
 - Generally dismissive of impact of advances in toxicogenomics
- Concern with:
 - Misinterpretation of research
 - Tendency to fix the worker
 - Basis for distrust lies in history of occupational health in the United States
- Priority for 2005 is to help labor leaders develop a deeper understanding of toxicogenomics research

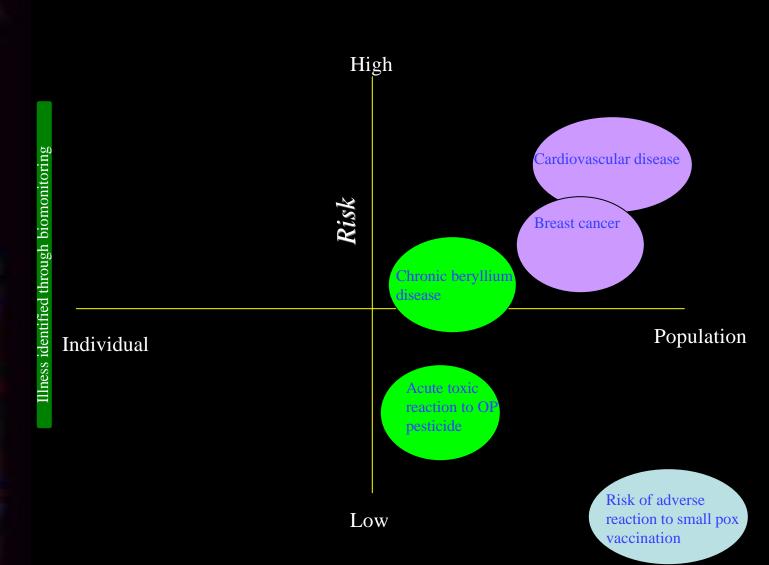


The Need to Consider New Policy Choices

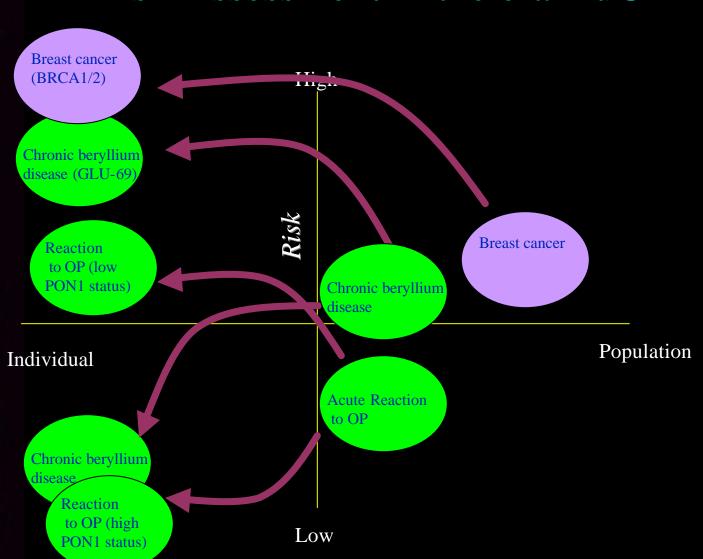
- Advances in toxicogenomics constitutes a paradigm shift in environmental risk assessment
- New difficult choices may be preferential to ad hoc solutions to individual adverse reaction to occupational exposure



Risk Assessment before the era of HuGE



Risk Assessment in the era HuGE





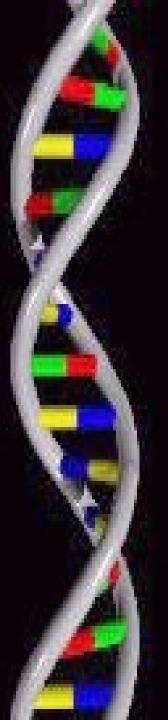
How Might Labor Respond to Advances in HuGE?

- Just say "no"
- Deal with these programs in ad hoc fashion
 - DOE beryllium program
 - DOL medical removal programs
- Promote institutional changes that might allow application of HuGE
 - Employment guarantees
 - Social insurance fund



What are the Possible Roles for Social Scientists in ELSI Research in Toxicogenomics?

- Conceptualize how shift in epidemiology paradigm might impact current institutions and regulatory environment
- Document current occupational health practices in pre-employment screening and medical monitoring
- Characterize and assess policy options



Policy Challenges and Choices

- What options should be available to workers as new biomarkers are uncovered revealing individual susceptibility to workplace toxicants?
- How can knowledge gained through toxicogenomics be translated into new workplace standards?
- What safeguards should be in place for workers when participating in workplace toxicogenomic research?
- How can employees become informed stakeholders in these decisions?