



Ongoing PFOA Worker Study

Ammonium Perfluorooctanoate: Cross-Sectional Surveillance of Clinical Measures of General Health Status Related to a Serum Biomarker of Exposure and Retrospective Cohort Analyses in a Polymer Production Plant



What...

- An occupational health study that uses two approaches—
 - Cross-sectional survey of health-related endpoints and a serum biomarker of exposure (PFOA)
 - Retrospective cohort mortality analyses of all workers at the plant from 1948-2002.
 - Reference populations include U.S. DuPont; U.S. general; Wood Cty, WV; state of WV; and Washington Cty, Ohio



Who...

- ... are the subjects?
 - **1025** volunteer current active workers (males and females) at the DuPont Washington Works site
- ... are the investigators?
 - DuPont Epidemiology Program staff
 - Haskell Laboratory toxicologists and statisticians, analytical chemists, information services staff
 - Professional Health Services (occupational clinical services provider)
- ...provides oversight and review?
 - Epidemiology Review Board
 - Dr. David Wegman, Chairman
 - West Virginia Univ. Institutional Review Board
 - Dr. Robert Craig, Chairman



Why?

- Primary objectives :
 - Develop statistical models that describe the relationship of serum PFOA to health outcome variables suggested by previous animal and worker studies, taking into account potential confounders and effect modifiers.
 - Conduct retrospective cohort mortality analyses using appropriate stratification based on job/task descriptions and estimated past exposures to PFOA.



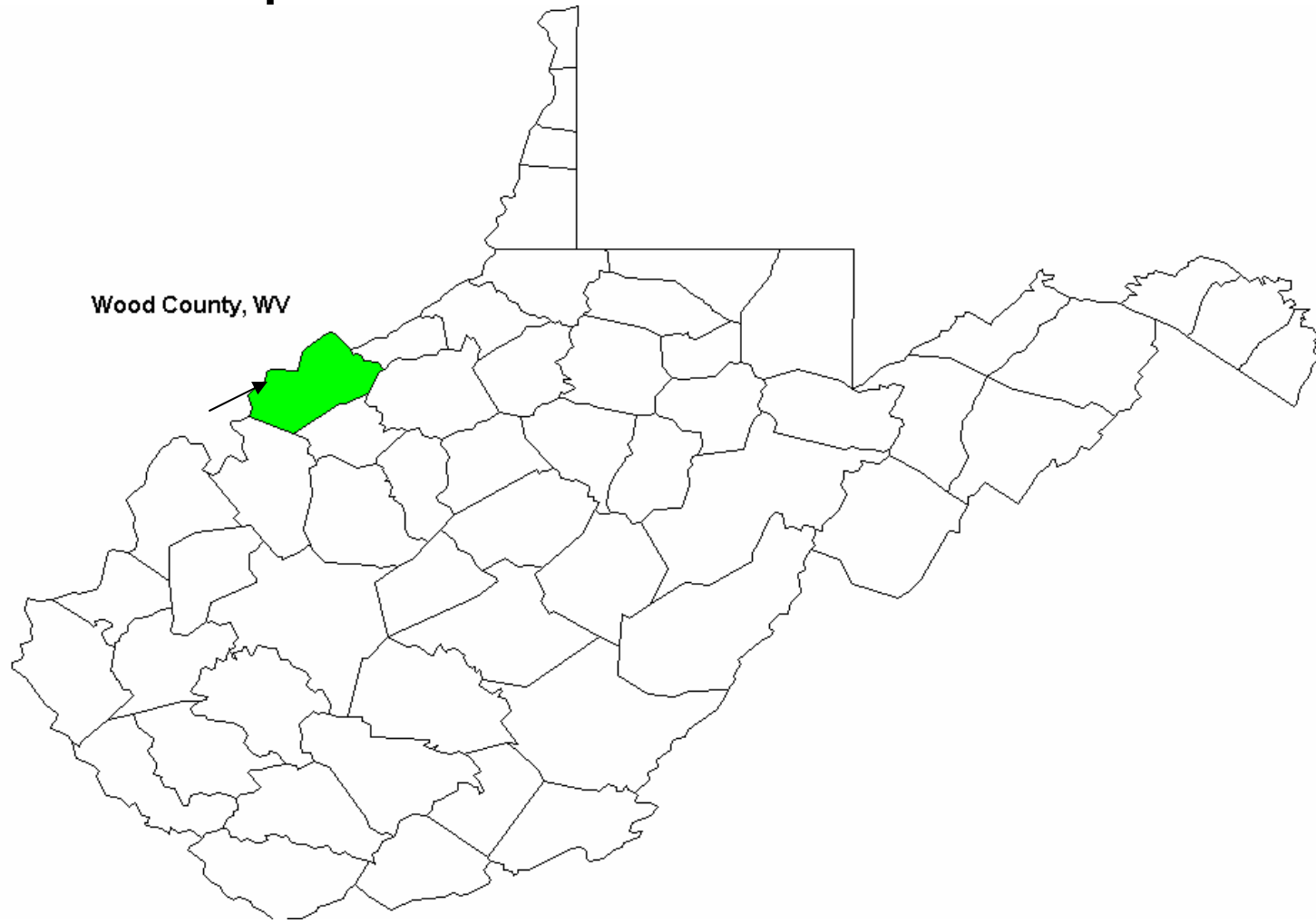
Why?

- Secondary objectives:
 - Develop a statistical model that describes the variability in the biomarker of exposure (serum PFOA) in terms of the traditional occupational epidemiological descriptors, e.g., job, task, duration of work in PFOA areas, etc. in order to stratify historical cohorts by potential exposure to PFOA for mortality analyses.
 - Identify appropriate markers of effect (if any) to allow proper follow-up through continued improved surveillance.



Where...

- ...is the plant?





Where...

- ...are the laboratories doing the analyses?
 - Haskell Laboratory, Newark, DE
 - Professional Health Services, Havertown, PA
 - Exxygen Laboratories, State College, PA
 - Quest Diagnostics, PA



When?

2004

<u>Epidemiology Study Timeline</u>	A p r	M a y	J u n	J u l	A u g	S e p	O c t	N o v	D e c	J a n
Design, identification of contractors, approvals from review boards										
Operations and logistics planning, employee communications										
Clinical examinations, blood draw										
Electronic data capture/transfer/QA										
Initiate statistical analyses, draft methods, outline results section, meet with ERB										
Draft Final Report										

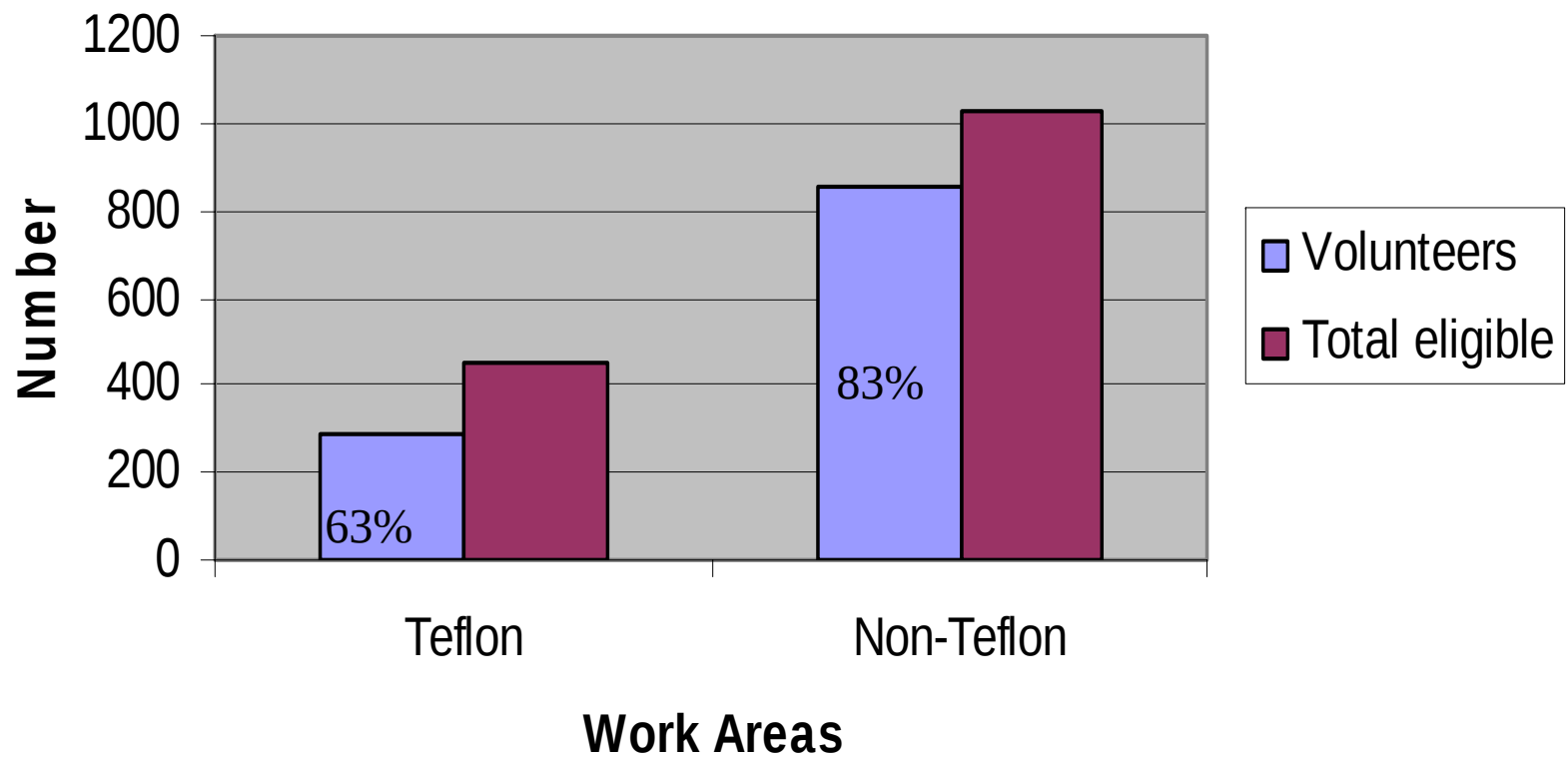


Participation

- 1,863 letters of invitation sent to all current active DuPont employees at the site (no contractors)
- 1,147 volunteer forms returned
- 1,025 workers kept clinical exam appointments

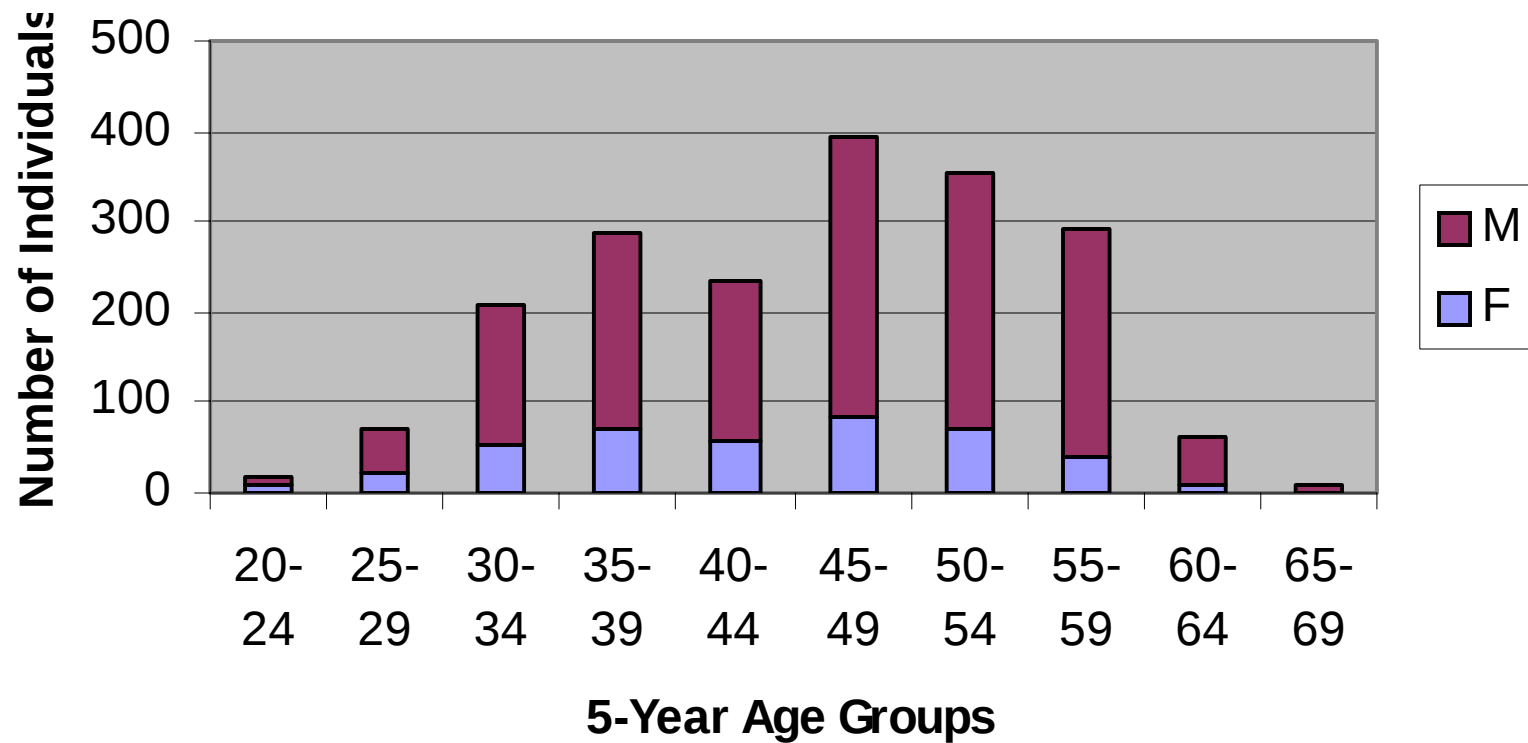


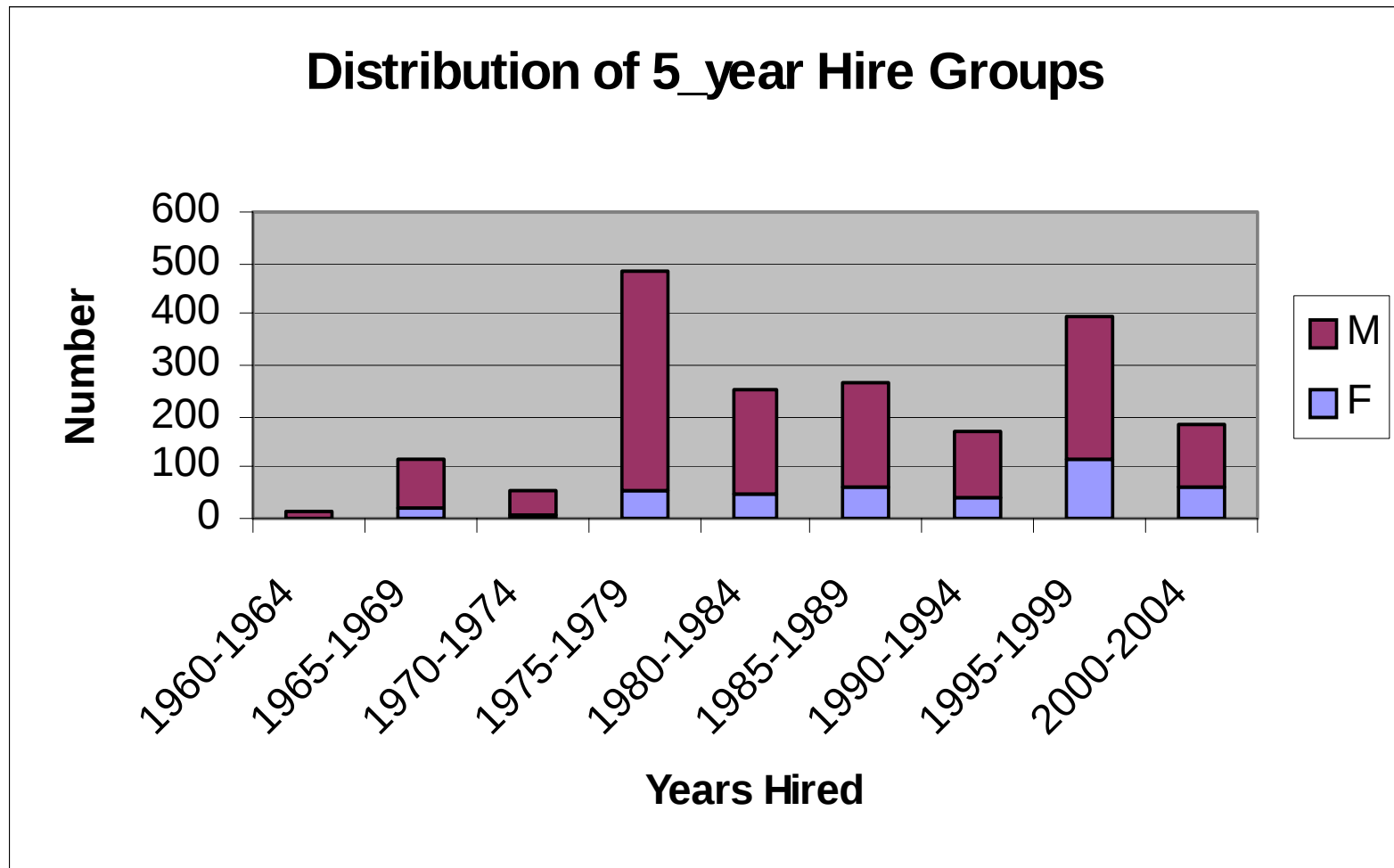
Proportion of Work Areas Volunteering





Distribution of Males, Females among Active Employees







Distribution of Serum PFOA Levels By Current Work Assignment

Work Assignment	Serum PFOA (ppm)			
	Number in Group	Median	Min	Max
Teflon®	259	0.494	0.0174	9.55
Research/Technical	160	0.176	0.0081	2.07
Never assigned to Teflon®	342	0.114	0.0046	0.963
Assigned to Teflon® at some point	264	0.195	0.0086	2.59
Total Participants	1025			