



WASHINGTON STATE UNIVERSITY
**College of Pharmacy and
Pharmaceutical Sciences**

National Academy of Sciences, Committee to Conduct a Feasibility of Assessing Veteran Health Effects of Manhattan Project (1942-1947) Related Waste meeting, public information gathering session, July 18, 2024

Military Veterans at the USTUR

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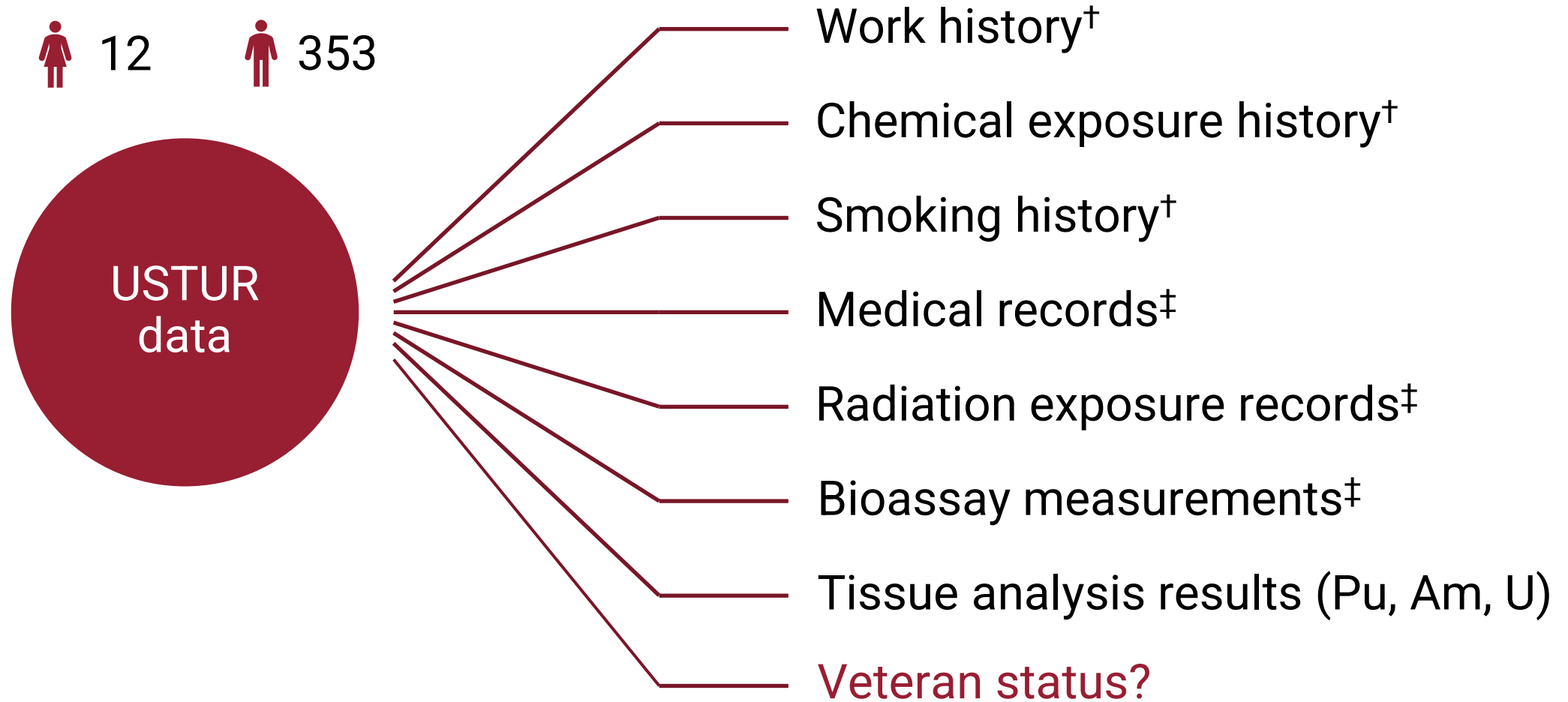
"Learning from Plutonium and Uranium Workers"

US Transuranium and Uranium Registries

- Established in 1968, a research program to follow up occupationally exposed workers by studying the biokinetics and tissue dosimetry of the actinides (mainly plutonium)
- USTUR Registrants: former nuclear workers (mostly DOE) who donate organs and tissues, or their entire bodies, for post-mortem radiochemical analysis
- Since 1992, it has been operated as a federal grant to Washington State University



Unique Data Resource



† - self-reported

‡ - Records are available for the time period when a Registrant was employed at a national laboratory



USTUR Personal/Medical History Questionnaire

- We do not systematically collect information about veteran status
- But we do know that some of our Registrants served in the military
- Self-reported work histories

PERSONAL/MEDICAL HISTORY

Personal History

Name	Social Security	Date
Street Address	City	State Zip
Birth Date	Sex <input type="checkbox"/> M <input type="checkbox"/> F	Height Weight
Physician Name	Physician Address/Phone	

Employment History

Job Title/Type of Work	Employer	Address or Location	Dates (From-To)

Radiation Exposure History

Have you ever been exposed to or worked with: (please check (✓) the appropriate boxes)							
	Yes	No	Dates (From-To)		Yes	No	Dates (From-To)
Plutonium				Americium			
Uranium				Thorium			
Radium				Other Transuranics			
Strontium-90				Other Radioactivity			

	Yes	No	Do Not Know
Do you have a documented deposition of radioactivity in your body?			
If yes, what isotope(s)?			
How Much?			
Have you ever been routinely monitored for radioactivity in urinalysis or			

4.	Pu - 238	X	1944	Los Alamos Laboratory	U.S. Army
5.	Pu - 239	X	"	"	"
6.	Am - 241	X	"	"	"



How Many USTUR Registrants were Veterans?

- 12 **self-reported** work at a national laboratory through the military
 - ✓ 11 US Army at Los Alamos
 - ✓ 1 US Army at Oak Ridge
- 7 self-reported military service, but did not associate it with employment at a national laboratory
 - ✓ Infantry, Radar, Air Corp
- We cannot confirm non-veteran status

365 Registrants



122 Employed 1942-47



19 Military service



12 Military service at a national laboratory



Identifying Veterans from Worksite Records

- If we didn't have the USTUR questionnaire, would we have been able to identify these individuals as nuclear veterans based on worksite records?
 - ✓ Source: medical records
- 1 Registrant who worked at Oak Ridge could be identified from his obituary, but not from worksite records
- Out of 11 Registrants who worked at Los Alamos while serving in the military
 - ✓ 7 could have been identified based on post-1947 records
 - ✓ 1 could have been identified based up records from 1942-1947
- The following slides focus on Los Alamos



Identification of Veterans: post-1947

- 7 Los Alamos workers could have been identified as military based on post-1947 records
 - ✓ Participation in a follow-up program: UPPU occupational histories or other summaries, audiological examinations (from the 1980s)
 - ✓ Subsequent civilian employment: Rocky Flats health history, Los Alamos job applications

AUDIOLOGICAL EXAMINATIONS						
NAME	DATE OF BIRTH	OCCUPATION	SHIFT	I.D. NO.		
Occupational History (Beginning with last previous, working back to first job.)		DEPT.				
	EMPLOYER	CITY	DUTIES	LENGTH OF SERVICE	NOISE EXPOSURE	EAR PROTECTORS
1.					YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
2.					YES <input type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>
3.					YES <input type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>
4.					YES <input type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>
MILITARY SERVICE		TIME SERVED	BRANCH		OTHER	
LOS ALAMOS		1943 - 1946	ARMY		NAVY MARINES AIR FORCE	
CHECK IF YOU HAVE OR HAD ANY OF THE FOLLOWING					EXPOSURE TO GUNFIRE & NOISE	
					YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	



Identification of Veterans: 1942-1947

- 1 Los Alamos worker could have been identified as military based upon records from 1942-1947
 - ✓ Statement in a letter that his intake exceeded limits set by Lt. Col.
 - ✓ History of exposure says “see records as GI”



Availability of Medical and Exposure Records

- Few Los Alamos records date back to the 1940s
- Medical records typically pertain to routine exams
 - ✓ X-ray record
 - ✓ Urinalysis (non-radiological)
 - ✓ Hematological report
- Exposure records
 - ✓ Contaminated accident reports
 - ✓ Hazard reports
 - ✓ Nose counts/nasal swipes
 - ✓ Plutonium in urine

<u>DATE:</u>	<u>TYPE OF HAZARD</u>	<u>EXTENT OF HAZARD</u>	<u>LOCATION</u>
Nov. 1945	49	Large	
Dec. 1945	49	Large	
Jan. 1946	49	Large	
Feb. 1946	49	Large	
March 1946	49	Large	
May 1946	49	Large	



Availability of Chemical Exposure Records

- The USTUR requested industrial hygiene records from worksites
 - ✓ Frequently, no information was available
 - ✓ Available information from Los Alamos included: copies of reports authored by the Registrant that discussed chemical methods for some of his work, non-chemical accidents (injury to wrist)
- Los Alamos medical and exposure records
 - ✓ One case mentioned chemical exposures from the 1940s
 - ✓ Possibly other information can be gleaned (e.g. plutonium acid)
- UPPU records
 - ✓ Summaries of potential or known chemical exposures



Summary

- We were able to confirm that 7 out of 11 USTUR Registrants were employed at Los Alamos through their military service
- However, this was largely based on their continued employment at a national laboratory, or participation in a follow-up program
- Possible sources of information to identify Los Alamos employees who served in the military
 - ✓ Post 1947 health histories, questionnaires, audiological exams, etc.
 - ✓ Personnel records (job applications for those who continued to work as civilians)
 - ✓ Obituaries
- Industrial hygiene records are limited





Questions

