



## Genotyping Success for Idaho: Connecting the Dots

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Idaho Department of Health and Welfare

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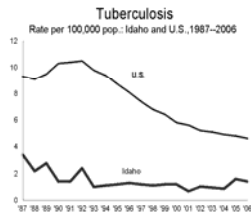
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## Idaho Statistics

- Population: 1.5 million
- State TB program:  
0.75 FTE in the Office  
of Epidemiology, plus  
lab support
- 15-20 TB cases per  
year statewide
  - 1-2 homeless
  - Usually housed in  
motel



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## Idaho and Genotyping: Making Friends with the Process

- 2004 to present, our lab submits all isolates for genotyping (“universal strategy”) – they also submitted all available 2003 isolates to get “baseline” information
- As each genotyping result comes in, we add it to a cumulative Excel spreadsheet, then sort by Spoligotype and MIRU to look for matches
- We respond to any observed matches by reviewing case files and notifying local public health staff

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# Example of Idaho Genotyping Results Line List

(names have been changed!)

	A	B	C	D	E	F	G	H
1	Submitter Number ▾	Patient Name ▾	RVCT Number ▾	Accession_no ▾	Submitting Lab ▾	state ▾	spoligotype ▾	Miru ▾
2	TB-00111	Example, Joe	2006-016	1021	Idaho Bureau of Labs	ID	00000000003731	223325173533
3	TB-00000	Doe, John	2004-001	2234	Idaho Bureau of Labs	ID	10000000000022	223325173533
4	TB-00000	Test, Bill	2004-002	40454	Idaho Bureau of Labs	ID	00000000003731	223325173277
5	TB-00000	Webinar, Guy	2004-003	22344	Idaho Bureau of Labs	ID	00000000003731	223325173599
6	TB-00000	Example, Sue	2004-004	24243	Idaho Bureau of Labs	ID	00000000003731	223325173533
7	TB-00000	Patient, Steve	2005-001	12131	Idaho Bureau of Labs	ID	00000000003731	223325173533
8	TB-00000	Testtb, Jill	2005-002	68805	Idaho Bureau of Labs	ID	104400000037312	223325173537

Currently: 56 isolates in database (2003-2007 ytd)  
– with two “matched” groups.

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## A 2005 Tuberculosis Case

- DG: diagnosed Jan 2005
- Asymptomatic 49-year-old homeless male, PPD pos at local homeless shelter (Boise: pop. 185,000, estimated 300-500 chronically homeless)
- CXR → cavitory disease; sputum AFB and culture positive
- Hx: 2 local jails in 2004. PPD negative on admit to first facility – second didn’t screen
- Jails notified of possible transmission; shelter notified and testing done; patient rx 4 drug directly observed therapy (DOT); successfully completed July 2005

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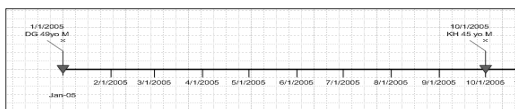
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## Another Case... No Clear Links

- KH: diagnosed October 2005
- 45-year-old homeless male, hospitalized for weight loss, cough, night sweats → sputum AFB and culture positive
- Rx DOT
- Had not stayed at same overnight shelter as DG, but used day shelter; 35 contacts tested at day shelter → 1 contact 8mm PPD




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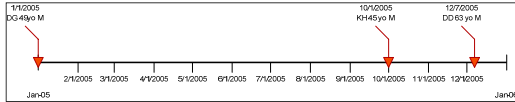
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## Dec 7– Yikes!

- Report from local hospital: suspected TB case in homeless man
- DD: 63-year-old homeless male, hospitalized in Boise VA hospital due to severe illness
- Intubated and never able to be interviewed, but was thought to have stayed in local shelter
- Rx in hospital but died




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## Dec 8: Connection Made

- Genotype report on first two cases: MATCH by Spoligotype and MIRU
- Of 27 results in our sheet at that time, this was the first match ever
- This result led to several actions
  - Request for RFLP from California genotyping lab
  - Community-wide health alert to physicians
  - Outreach to homeless shelters, day shelters, social service agencies, jails
  - Conference call with CDC to discuss control measures and request for CDC to assist with notification of neighboring states, including the Spoligotype and MIRU type

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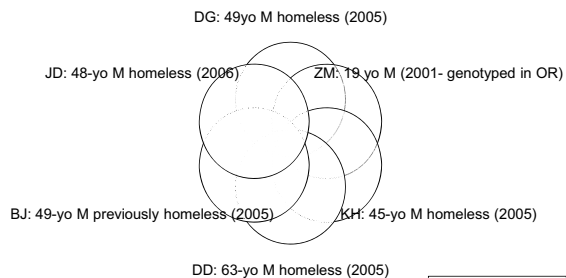
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## Idaho Connections: The Final Count



RFLP report 3/17  
on 4 isolates

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## Neighboring States: Enlarged the Picture

- Oregon first detected this pattern in a homeless shelter outbreak in 1994 and saw matched cases in 2005 and 2006
- Washington saw this pattern at a shelter outbreak in 2003
- Montana saw this pattern in 2001 and 2002 in homeless men, then again in 2005 in 2 homeless men



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