

Statistical Power

Purely Temporal Scan Statistic

vs

Space-Time Scan Statistic

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New York City Simulated Outbreaks

- 176 Zip codes
- No Outbreaks April 1-30
- Outbreak May 1-3
- Number of cases: 3100, 3200 and 3300 respectively
- Alpha level = 0.05, on each of May 1, 2, 3
- Goal: Estimate power on May 1, 2, 3

Parameter Settings

	<u>Temporal</u>	<u>Space-Time</u>
Max Temporal	3 Days	3 Days
Max Spatial	n/a	50%
Inlcude Purely Temp	yes	yes

Power: One Zip-Code Outbreak

- Location: 11211 (Williamsburg, Brooklyn)
- Relative Risk: 9.91

	Temp	Space-Time
May 1	0.19	0.86
May 2	0.30	0.996
May 3	0.42	0.999

Power: Five Zip-Code Outbreak

- Location: 11206, 11211, 11221, 11222, 11237 (Brooklyn)
- Relative Risk: 4.47

	Temp	Space-Time
May 1	0.29	0.85
May 2	0.50	0.996
May 3	0.63	1.000

Power: Manhattan Outbreak

- Location: Manhattan
- Relative Risk: 2.47

	Temp	Space-Time
May 1	0.75	0.92
May 2	0.96	1.000
May 3	0.99	1.000

Power: City-Wide Outbreak

- Location: Whole City
- Relative Risk: 1.5

	Temp	Space-Time
May 1	0.996	0.86
May 2	1.000	0.99
May 3	1.000	1.000