

# Combining Multiple Studies Discussion

Paolo Boffetta

Icahn School of Medicine at Mount  
Sinai

# Approaches to combine epidemiologic evidence

	<u>Advantages</u>	<u>Disadvantages</u>
Meta-analysis	Quantitative, cheap	Assumption on comparability, bias
Pooled analysis	Comparability of data	Expensive, (bias)
Multicenter study	Comparability of data	Complex, expensive

# Meta-analyses of cohort studies of coffee drinking and pancreatic cancer

Study	Dong 2011	Turati 2012	
Snowdon 1984	X	X	
Jacobsen 1986	X	X	- 18 cohort, 19 papers
Nomura	1986	1981	Dong: 13 papers
Whittemore 1983		X	Turati: 14 papers
Hiatt 1988	X	X	overlap 8 papers (42%)
Mills 1988		X	- RR for 1cpd
Zheng 1993	X	X	Dong: 0.96 (0.90-1.02)
Shibata 1994		X	Turati: 1.00 (0.95-1.05)
Stensvold 1994	X	X	
Zheng 1996	X		
Michaud 2001	X		
Harnack 1997		X	
Isaksson 2002	X		
Lin 2002	X	X	
Stolzenberg-Solomon 2002	X	X	
Khan 2004	X		
Luo 2007	X	X	
Nilsson 2010		X	

# General considerations

- Few large studies are better than many small studies
- Published meta-analyses are often wrong
- Multicenter studies provide the strongest evidence, feasibility remains an issue
- Pooled analyses may represent an efficient compromise
  - opportunity to conduct ad-hoc pooled analyses