Studies on Base Stations and other Telecommunications Towers

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Rationale for research?

• Exposure from transmitters is weak:

  Perhaps more logic to look at situations with higher exposure levels [phones]?

• However,
  – Exposure is whole body and long term,
  – And there is public concern
Studies

• Scopes
  – TV, radio transmitters and cancer
  – Base stations and cancer
  – Base stations and symptoms

• Methodologically difficult research area

• Literature reviewed repeatedly
  [E.g., Ahlbom et al. EHP 2004]
Transmitters and cancer

Selvin 1992          San Francisco
Maskarinec 1994      Hawaii
Hocking 1996        Sydney
Dolk I 1997          Sutton Coldfield
Dolk II 1997        All UK
McKenzie 1998       Sydney
Cooper 2001         Sutton Coldfield
Michelozzi 2002     Vatican
Park 2004           Korea
Wolf 2004           Israel [base station]
Comments

• All studies based on proximity, rather than RF exposure [although exposure has been assessed in some]

• Several studies suggest risk elevations

• However, uncertainties regarding:
  – "Texas sharp shooting"
  – Selection bias [matching of cases and study base]
  – Inadequate demographic data
  – Random variability
  – RF exposure
Transmitters [base stations] and symptoms

Santini 2002  France
Navarro 2003  Murcia, Spain

Comments:

Uncertainties with respect to definition of study population and response rates

Reporting bias and selection bias potential problems
Conclusions

• Research gives no evidence of increased risk near transmitters or from RF exposure from transmitters

• However, available studies give weak test of the possibility of risk increase

• Basis for hypothesis of association is weak
Requirements for informative studies

• Well defined study population and mechanism to identify appropriate cases

• Large enough to secure acceptable precision in risk estimates [highly exposed is critical number]

• If aim is risk estimate for RF exposed, rather than for those living in proximity to transmitters, relevant exposure assessment must be developed