ISIAT: Innovative Socioeconomic Interventions Against TB, Peru

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IFHAD: Innovation For Health And Development research group in collaboration with:

Peru: Universidad Peruana Cayetano Heredia
    Asociacion Benefica PRISMA
    Ministry of Health & National TB Control Strategy

UK: London School of Hygiene & Tropical Medicine
    Imperial College London

USA: The World Bank
    Johns Hopkins University Bloomberg School of Public Health

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1. Tests & pills are not an adequate response to TB poverty & despair

2. TB programs are least accessed by those who need them most

![Graph showing children completing chemoprophylaxis](image_url)
3. “TB programs have averted millions of deaths but their effects on transmission & incidence rates are not yet widely detectable.”

National changes in TB rates are associated with socioeconomic development not ‘control’ TB programs.

Despite an acclaimed TB program, including strong social support, Peru:

has a lot of TB -

& drug-resistant TB -
**TB control evidence - 4. no direct evidence for/against socioeconomic interventions**

- **TB contacts biomedical prevention**
- **Socioeconomic interventions**
  - Seek care
  - Timely diagnosis
  - Complete treatment
  - Sustain cure
  - Administer preventive therapy
  - Prevent transmission
  - Reduce TB susceptibility

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**TB diagnosis in vulnerable people**

- Improved TB & MDR-TB tests
  - R Chow, C Caldwell, SG Schumacher, RH Gilman, J Shermann... CA Evans
  - Dearing, D Shishin, R Gilman, F Arenas, C Caviedes, V Khajj... CA Evans
  - P. Shena, M Mendez, R Gilman, J Call, E Jaramillo... CA Evans
  - L. Grandjean, D Boccia, J Hargreaves, K Lonnroth, J Weiss... CA Evans

**Socioeconomic interventions**

- **Preventing TB transmission**
  - A Excombe, D Moore... CA Evans
  - UV light and air ionization for the prevention of airborne TB Evans.
  - Plm Medicine 2009 6(3):[pdf]

- **Strengthening TB immunity**
  - K Zevallos, G Sandhu, K Sukkot... CA Evans
  - Immunity against TB is augmented by deworming
  - International J TB & Lung Disease 2010;83 319-25

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**TB contact control**

- **TB contact medical prevention**
  - K Zevallos, KC Vergara, A Vergara... CA Evans
  - Tuberculosis skin test reactions unaffected by helminths
  - Am J Tropical Med Hygiene 2010;83 319-25

- **TB contact socioeconomics**
  - D Eza, G Cerrillo, D Moore... CA Evans
  - Post-mortem findings and opportunistic infections in Peruvian TB patients
  - PLoS Medicine 2009 6(3):[pdf]

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**TB contact biomedical care**

- **TB diagnosis in vulnerable people**
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Aim: evaluate socioeconomic interventions for TB-affected households in 8/16 shantytowns
ISIAT – Uptake

2,050 people enrolled to socioeconomic interventions 12/2007-9/2010

ISIAT increased access to TB care

ISIAT increased equitable TB prevention

**Graph:**
- **Children completing chemoprophylaxis (% +95%CI):**
  - Control TB-affected families (without intervention):
    - Poorer: 17% (75/437)
    - Less poor: 28% (121/440)
  - TB-affected families receiving socio-economic intervention:
    - Poorer: 41% (63/154)
    - Less poor: 38% (45/118)

**Statistical Tests:**
- P=0.0002
- P=0.6
Conclusions

• Tests & pills are not an adequate response to TB poverty & despair
• TB programs are least accessed by those who need them most
• TB programs are curing TB, not controlling TB & we need evidence evaluating social protection
• Socioeconomic interventions for TB-affected households
  • increased access to TB care
  • ISIAT increased equitable TB prevention
• Biomedical care better controls TB if strengthened by socio-economic interventions