**The Social Determinants Underlying Tuberculosis Diagnostic Delay: A Mixed Methods Study**

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**Background:** Early detection and diagnosis of TB remains a major priority for global TB control. Few studies have used a mixed methods approach to investigate the social determinants contributing to diagnostic delay and none have compared qualitative data collected from individual, community, and health-system levels. We aimed to characterize the social determinants that contribute to diagnostic delay among persons diagnosed with TB (PDTB) living in resource-constrained districts of Lima, Peru.

**Methods:** Data were collected in 19 districts of Lima between May and October 2015. Semi-structured interviews with PDTB (n=105) and their family members (n=61) explored health-seeking behaviors, community perceptions of TB and socio-demographic circumstances. Focus groups (n=7) were conducted with healthcare personnel working in the National TB Program (NTP) and explored the relationships and attitudes between staff, PDTB and the NTP. All interview data were transcribed and analyzed using a grounded theory approach. Factors associated with diagnostic delay were analyzed.

**Results:** The median delay between symptom onset and the clinic visit that led to the first positive diagnostic sample was 57 days (interquartile range 28-126). In negative binomial regression adjusted for age and sex, increased delay was associated with older age; female sex; lower personal income prior to diagnosis; living with fewer people; having more visits to health posts prior to diagnosis; and initially visiting a private clinic as opposed to a public or employer insured health facility (all p<0.05). In qualitative analysis, the great majority of PDTB distrusted the public health care system and sought care at public health posts only after exhausting all other options. It was universally agreed that PDTB faced discrimination by both the public and healthcare personnel. Self-medication was reported as the most common initial health-seeking behavior due to the speed and relatively low-cost of treatment in pharmacies. Most PDTB perceived their illness as a simple cold that would pass.

**Conclusion:** Diagnostic delay is common, prolonged and greatest among older, low income, socially isolated women. More and improved human and material resources are required to promote TB case-finding initiatives, reduce TB-associated stigma and address the social determinants of diagnostic delay.

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**Figure**: Box-plots of factors associated with diagnostic delay significant in multivariable analysis

