Analysis of the implementation of the external quality assessment of smear microscopy in the laboratories of Almaty Oblast of Kazakhstan

B. Toxanbayeva, M. Joncevskat, M. Kussemisova, D. Assemgalyev
Project HOPE/KZ, Almaty Oblast TB Dispensary

Background
- Tuberculosis is one of the main public health problems in Kazakhstan.
- In order to control TB situation, Kazakhstan adopted the WHO DOTS strategy in 1998 with the political support of the President and the Government of the Republic of Kazakhstan.
- Smear microscopy is recommended by a Prikaz as a basic method for laboratory diagnosis of TB.
- In Kazakhstan external quality assurance (EQA) of smear microscopy is implemented by means of rechecking 10% of negative and 100% of positive smear sputum results.
- In 2006-2007 Project HOPE implemented a pilot project on blinded rechecking of slides based on lot quality assessment sampling (LQAS).
- Implemented in 3 laboratories of Almaty Oblast (2 laboratories of the Primary Health Care and the Oblast TB Dispensary laboratory).
- Preliminary work on EQA implementation, Situational analysis, Protocol on EQA, Reporting forms, Training on EQA.

Goal
To evaluate the impact of implementation of external quality assurance of smear microscopy using blinded rechecking of slides with LQAS methodology.

LQAS
Lot Quality Assurance Sampling (LQAS) is a method to determine an optimum sample size which when applied

Implementation process

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<td>Random sample</td>
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<td>Registration select slides</td>
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<td>Blind rechecking by 1st level controller</td>
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<td>Registration results</td>
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Case detection of positive TB cases by smear microscopy increased
- OTBD - from 18% to 23.1%
- PHC #1 - from 3.7% to 7.4%
- PHC #2 - from 2.9% to 4.4%

Conclusions
Blinded rechecking using LQAS:
- provides reliable information on the quality of sputum smear microscopy
- provides objective evaluation of microscopy laboratories according to quality of work.
- allows identification of weaknesses in laboratory performance and increase of case detection by smear microscopy.