Total workload \( T_{TB} = T_{clin} + T_{lab} \)

\begin{align*}
T_{TB} &= \text{Total workload: clinical and laboratory service time required for diagnosis, treatment and follow-up of all tuberculosis (TB) cases by year} \\
T_{clin} &= \text{Clinical Workload: clinical service time required for diagnosis and follow-up of all diagnosed TB cases by year} \\
T_{lab} &= \text{Laboratory Workload: laboratory service time required for diagnosis and follow-up of all TB cases} \\
\end{align*}

1. Clinical workload \( T_{clin} = T_{clin-Dx} + T_{clin-Tx} + T_{clin-Indirect} \)

\begin{align*}
T_{clin-Dx} &= \text{Clinical diagnostic workload: service time required for diagnosis of all TB cases in a year} \\
T_{clin-Tx} &= \text{Clinical treatment workload: service time required for treatment and follow-up of all diagnosed TB cases in a year} \\
T_{clin-Indirect} &= \text{Clinical indirect workload: Average time spent by HW’s on a year basis on TB related administration, meetings, training, supervision, recording & reporting and quality assurance} \\
\end{align*}

\begin{align*}
\text{Clinical diagnostic workload} \quad & T_{clin-Dx} = T_{clin-Dx-cons} \times N_{Dx-cons/susp} \times N_{Susp} \\
T_{clin-Dx-cons} &= \text{Clinical service time required for a diagnostic consultation of a patient with complaints consistent with TB} \\
N_{Dx-cons/susp} &= \text{Average number of diagnostic consultations needed to reach a diagnosis for patient with complaints consistent with TB} \\
N_{Susp} &= \text{Total number TB suspect cases seen in a district during a full year} \\
\end{align*}

\begin{align*}
\text{Clinical treatment workload} \quad & T_{clin-Tx} = T_{clin-Tx-new} + T_{clin-Tx-retr} \\
T_{clin-Tx-new} &= (T_{Tx-cons-1} + (T_{Tx-cons-fu} \times N_{Tx-cons-fu/new})) \times N_{new} \\
T_{clin-Tx-retr} &= (T_{Tx-cons-1} + (T_{Tx-cons-fu} \times N_{Tx-cons-fu/retr})) \times N_{retr} \\
T_{Tx-cons-1} &= \text{Average time spent on 1st treatment consultation of a TB case} \\
T_{Tx-cons-fu} &= \text{Average time spent on follow up consultation of a TB case} \\
N_{Tx-cons-fu/new} &= \text{Average number of follow up consultations for a new TB case} \\
N_{Tx-cons-fu/retr} &= \text{Average number of follow up consultations for a TB retreatment case} \\
N_{new} &= \text{Total number of new TB cases during a full year} \\
N_{retr} &= \text{Total number of retreatment TB cases during a full year} \\
\end{align*}

2 Laboratory workload \( T_{lab} = T_{lab-Dx} + T_{lab-Tx} + T_{lab-Indirect} \)

\begin{align*}
T_{lab-Dx} &= \text{Laboratory diagnostic workload: service time required for diagnosis of all TB cases in a year} \\
T_{lab-Tx} &= \text{Laboratory treatment workload: service time required for follow-up of all diagnosed TB cases during treatment in a year} \\
T_{lab-Indirect} &= \text{Laboratory indirect workload: Average time spent by laboratory personnel on a year basis on TB related administration, meetings, training, recording & reporting and quality assurance} \\
\end{align*}

\begin{align*}
\text{Laboratory diagnostic workload} \quad & T_{lab-Dx} = T_{sm} \times N_{Susp} \times N_{Dx-sm} \\
T_{sm} &= \text{Average time spent on a performing one sputum} \\
N_{Susp} &= \text{Total number TB suspect cases seen during a full year} \\
N_{Dx-sm} &= \text{Number of diagnostic smears performed per TB suspect (here n=2)} \\
\end{align*}

\begin{align*}
\text{Laboratory treatment workload} \quad & T_{lab-Tx} = T_{lab-Tx-new} + T_{lab-Tx-retr} \\
T_{lab-Tx-new} &= T_{sm} \times N_{Tx-sm/newpat} \times N_{New} \\
T_{lab-Tx-retr} &= T_{sm} \times N_{Tx-sm/retrpat} \times N_{Retr} \\
T_{lab-Tx-new} &= \text{Time required to perform smears for treatment follow up of all diagnosed new TB cases} \\
T_{lab-Tx-retr} &= \text{Time required to perform smears for treatment follow up of all retreatment TB cases} \\
N_{Tx-sm/new} &= \text{Average number of follow up smears for a new TB case} \\
N_{Tx-sm/retr} &= \text{Average number of follow up smears for a retreatment TB case} \\
N_{Retr-sm} &= \text{Total number of retreatment, sputum smear positive TB cases during a year} \\
\end{align*}