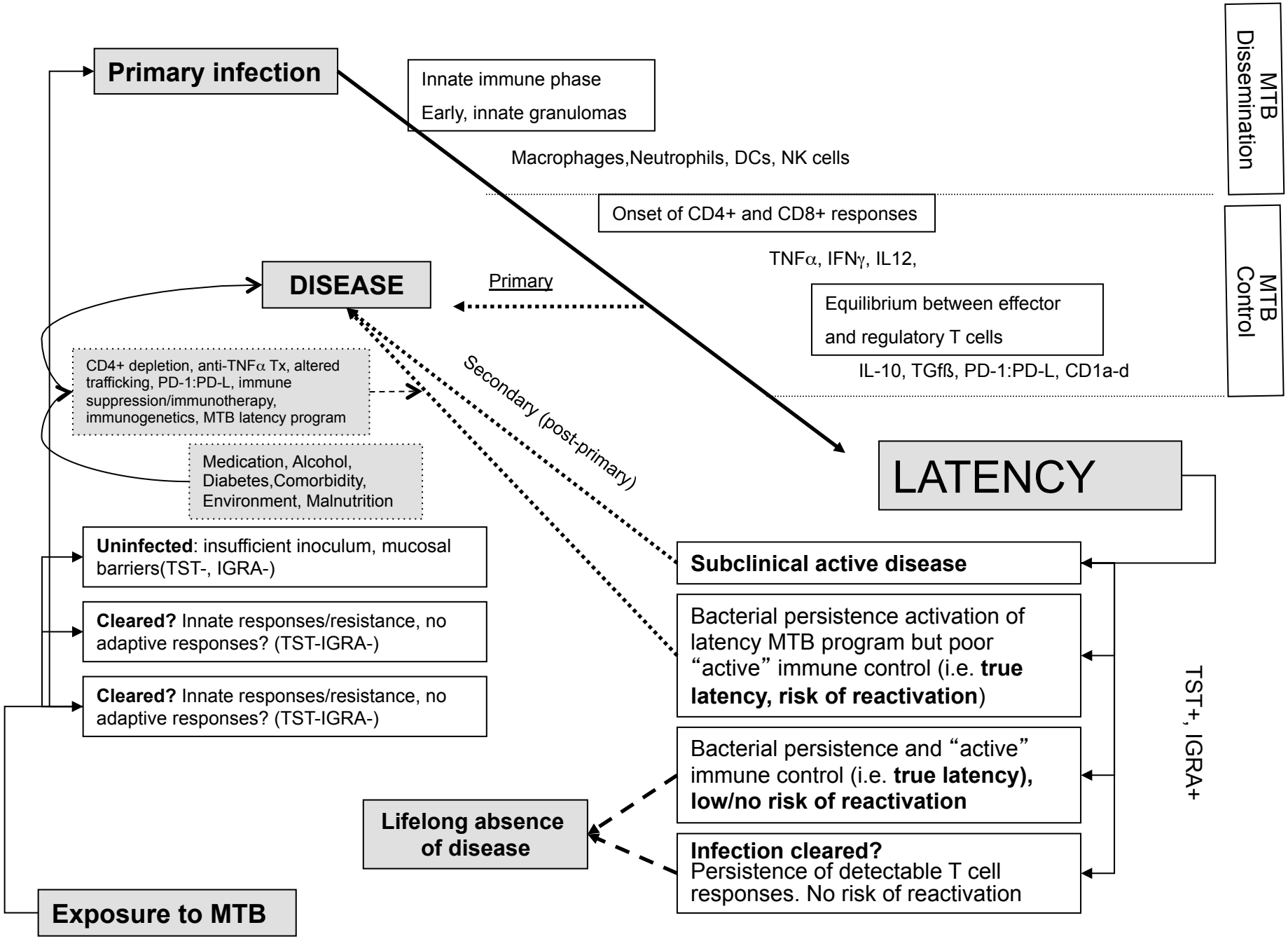
Primary infection
Innate immune phase
Early, innate granulomas
Macrophages,Neutrophils, DCs, NK cells
Onset of CD4+ and CD8+ responses
TNFα, IFNγ, IL12,
Equilibrium between effector
and regulatory T cells
IL-10, TGfß, PD-1:PD-L, CD1a-d
MTB Dissemination
MTB Control
DISEASE
Primary
Secondary (post-primary)
CD4+ depletion, anti-TNFα Tx, altered trafficking, PD-1:PD-L, immune suppression/immunotherapy, immunogenetics, MTB latency program
Medication, Alcohol, Diabetes,Comorbidity, Environment, Malnutrition
LATENCY
Uninfected: insufficient inoculum, mucosal barriers(TST-, IGRA-)
Cleared? Innate responses/resistance, no adaptive responses? (TST-IGRA-)
Cleared? Innate responses/resistance, no adaptive responses? (TST-IGRA-)
Subclinical active disease
Bacterial persistence activation of latency MTB program but poor "active" immune control (i.e. true latency, risk of reactivation)
Bacterial persistence and "active" immune control (i.e. true latency), low/no risk of reactivation
Infection cleared?
Persistence of detectable T cell responses. No risk of reactivation
Lifelong absence of disease
TST+, IGRA+
Exposure to MTB