A Multidiscipline Team Approach to Prospectively Co-Manage ICE Detainees with Tuberculosis: Challenges and Successes

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BACKGROUND

- The complexities associated with tuberculosis (TB) care, including drug-drug interactions, adverse events, appropriate drug selection and continuity of care referrals, may be daunting to primary care providers in a detention setting.
- Individual providers may have inadvertently adopted suboptimal practices which would not be apparent without expert, multidisciplinary review.
- In May 2017, ICE Health Service Corps (IHSC) established the Tuberculosis Coordination and Care Team, (TBCCT) to prospectively follow patients with suspected and confirmed TB disease to improve patient outcomes through systematic record review, provider mentoring, clinical consultation, and transnational referrals.
- The TBCCT consists of an infection prevention nurse, an epidemiologist, two pharmacists, and an infectious disease specialist. Team members are geographically dispersed across the U.S. (**See Figure 1**).
- The TBCCT reviews records of all detainees with abnormal screening chest radiographs (SCXRs) and those entering IHSC facilities on TB treatment (**See Figure 2**).

OBJECTIVE

- Summarize the composition, strategy, workflow, challenges, and successes of the newly established IHSC Tuberculosis Coordination and Care Team.

METHODS

- From May 1 – December 31st, 2017, metrics related to consultations, therapeutic interventions, facility practices, referrals for care after release from custody, and challenges encountered by TBCCT members were collected prospectively.
- The Team reviewed metrics and discussed ongoing challenges and successes on a monthly teleconference.

Figure 1. The Tuberculosis Coordination and Care Team members work as a cohesive unit despite being located in four states and three time zones.

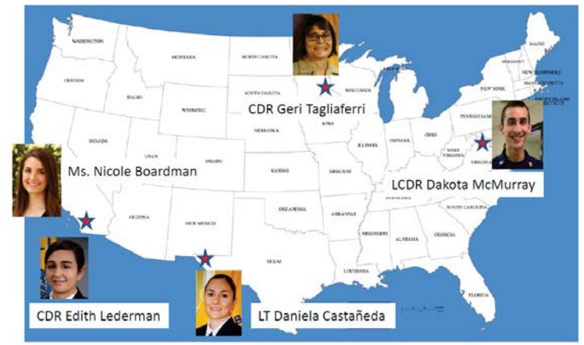
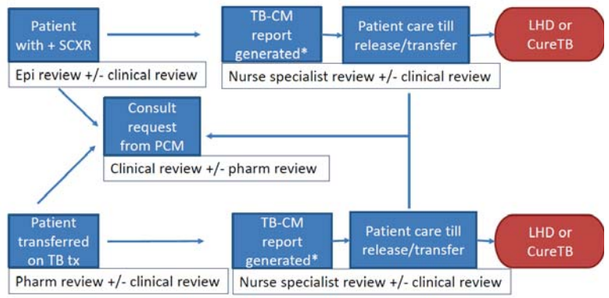


Figure 2. The Tuberculosis Coordination and Care Team's Workflow.



*Staff report to local health department and CureTB concomitantly

Acronyms defined - SCR: screening chest x-ray; TB-CM: TB case management; LHD: local health department; PCM: primary care management; tx: treatment

Table 1. TB surveillance metrics, May 1, 2017 through December 31, 2017

Metric	Frequency
Positive screening chest radiographs (CXRs)	869
True-positive screening CXRs[a]	588
False-positive screening CXRs[b]	281
Unique CXRs obtained	69,795
Patients with new TB treatment[c]	549
Patients on rifampin (new or ongoing), weekly mean[c]	149
Patients being evaluated for TB disease identified by rifampin report[d] and not by abnormal CXR	31
Records reviewed due to failure to act on abnormal CXR	35
Treatment issues identified[c,e]	174
Records reviewed due to request from site providers[c]	918
New TB-CM reports[f] generated	570
HIV status not assessed[g]	40
M. tuberculosis immune response not assessed (no TST[h] or IGRA[i])[g]	80

[a]Radiographic true-positive: positive single-view chest X-ray (CXR) followed by a 2-3 view study that confirms the initial findings.
[b]Radiographic false-positive: positive single-view chest X-ray (CXR) followed by a 2-3 view study that does not confirm the initial findings. Patients in this category were excluded from further evaluation for TB disease.
[c]Calculated from weekly metrics: 5/1/17-12/31/17.
[d]Query of electronic health record system for patients prescribed rifampin, which is reviewed weekly by pharmacists to identify patients on treatment for TB disease.
[e]Treatment issues identified were recorded based on standard pharmacy intervention practice: one intervention was counted for each issue identified. Additionally, if an issue was not mediated within one week and required repeat follow-up, this met the criteria for an additional intervention.
[f]Tuberculosis case management reports. Electronic reports generated by facilities to formally report patients meeting IHSC TB reporting criteria.
[g]Excludes patients with false-positive CXRs.
[h]Tuberculin skin test.
[i]Interferon gamma release assay.

KEY FINDINGS

- From May 2017 through December 2017 the TBCCT reviewed records from 401 patients undergoing TB treatment (**See Table 1**).
  - Provided 918 full clinical consultations
  - Recommended 174 regimen modifications
  - Submitted 570 suspected/confirmed TB case management reports
  - Documented 449 transnational referrals (76% prior to release)
- Identified 14 facilities where split dosing was routinely practiced
  - All facilities subsequently modified their practices
- Identified errors in calculating weight-based dosing, especially for obese patients
  - Educated providers on appropriate dosing recommendations

CONCLUSIONS

- The IHSC TBCCT is an intensive, multidisciplinary TB care team and represents a best practice.
- Since May 2017, the IHSC TBCCT has provided hundreds of recommendations to optimize care and transnational referrals for continuity and completion of therapy, thereby mitigating the risk of transmission and acquired drug resistance.
- Future goals include improving compliance with HIV and immune response testing
- Through consistent, respectfully and professional mentoring, the team was able to negotiate for more optimal practices in most situations.

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