Technology Resources For Distance Learning: Regional (Tuberculosis) Training and Medical Consultation Centers (RTMCCs)

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Areas of Coverage for the RTMCCs

Note 1: The four Regional (Tuberculosis) Training and Medical Consultation Centers (RTMCCs) are funded under a five-year (2005-2009) cooperative agreement with the Centers for Disease Control and Prevention (CDC), Division of Tuberculosis Elimination (DTBE).
Training and Education Needs Assessments:

In 2005, each RTMCC developed and conducted training and education needs assessments in their respective regions using online survey tools (e.g., Zoomerang).

In the Western Region served by the Francis J. Curry National Tuberculosis Center (CNTC), respondents to the survey strongly preferred “live” stand-up trainings, yet identified four major training barriers to attending these types of trainings:

- funding (for travel)
- time
- isolated geography
- lack of local resources

CNTC also surveyed local and state health departments’ TB control programs regarding their technology capacity for participating in distance learning (both “live” web-based workshops and archived online courses).
Training:

Annually, each RTMCC is to provide at a minimum:
- **200 hours** of “live” training to **500 participants**

In 2007, the Francis J. Curry National Tuberculosis Center (CNTC) provided:
- **300 hours** of “live” training to **1,700 participants**
- **10 hours** of “live” training to **700 participants**, accounted for by “live” **web-based workshops**

Products:

Each RTMCC also develops enduring educational “products” including archived **online courses**.

In 2007, nearly **1,300 participants** completed one or more of the four **online courses** offered by CNTC.

**Note 1:** CNTC trainings and online courses are **accredited** for CME and CEU hours.
Online Courses Description:

• Enduring products that reach both nationwide and international audiences

• On the average, one hour in length

• Reviewed by medical director and three outside subject matter experts for CME/CEU accreditation

• Combination of a slide show that users navigate through, with streaming audio of presenter

• Users asked to complete evaluation and/or pre-/post-test

• CME/CEU certificates are generated and e-mailed automatically

• Highly reviewed resource: users can choose to complete in one sitting or pause and return later
Online Courses and the Number of Completers:

<table>
<thead>
<tr>
<th>Name of presentation</th>
<th># of completers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Management of TB: An Online Presentation</td>
<td>415</td>
</tr>
<tr>
<td>Pediatric Tuberculosis: An Online Presentation</td>
<td>550</td>
</tr>
<tr>
<td>Multidrug-resistant Tuberculosis: An Online Presentation (posted December 2007)</td>
<td>120</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,311</strong></td>
</tr>
</tbody>
</table>

**Note 1:** “Completion” includes viewing the entire presentation and completing the pre-/post-test and evaluation.

**Note 2:** These presentations have been used by TB Control Departments as a virtual online course for new employees.

**Note 3:** *MDR TB* has over 2,000 “hits” (not completers) so far in 2008.
“Live” Web-based Workshops (Web Conferencing Features):
• Subscription-based service
• Easy, instant training
• Available...Anytime – Anywhere – Anyone
• Reach large (or small) audiences
• Computer with Internet required (phone optional)

Computer System Requirements:
• Chairperson:
  ▪ Operating System - Windows or Mac OS
  ▪ Microsoft Outlook
  ▪ Java Script enabled
  ▪ Subscription with “webinar” hosting service (e.g. Global Crossings)
  ▪ Scheduler plug-on (if desired)

• Participants:
  ▪ Operating System – Windows or Mac OS
  ▪ Browser (such as Internet Explorer, Firefox, Mozilla)
  ▪ Java Script enabled
  ▪ Bandwidth: DSL connection or higher
  ▪ Screen resolution 1024 x 768

Note 1: Specifications provided by the Southeastern National Tuberculosis Center (SNTC), University of Florida (UF)
“Live” Web-based Workshops (CNTC experience):

- CNTC conducted our first webinar in 2005; since that time, we’ve managed to iron out some glitches (as well as discover some new ones!)

- The “webinar” vendors offer different packages of services at different prices (SNTEC is exploring the possibility of folding other RTMCCs into their contract, at significant savings for all RTMCCs)

- Primary benefit is in reaching a large, geographically diverse audience that otherwise faces training barriers of funding, time, isolated geography, and lack of local resources

- Other advantages include the ability to poll the audience in real time to assess their level of expertise (to confirm that the message being delivered is being received)
“Live” Web-based Workshops (Cost Effectiveness): 

- CNTC’s Western Region covers a vast geographical area from Wyoming/Colorado in the east to Hawaii/Pacific Islands/Alaska in the west; our RTMCC training budget limitations makes off-site (not at CNTC) trainings expensive (to us)

- As program budgets decrease, staff often face greater restrictions for travel and training; traveling to CNTC for trainings is expensive (to them)

- The “live” web-based workshops allow us to provide “remote learners” a “live” semi-interactive course featuring many of the most respected TB experts in the country

- Evaluations from our users have been universally positive (and consistent with those of our “live” stand-up courses)

- Cost comparisons (see next slide)
“Live” Web-based Workshops  
(Cost Effectiveness continued):

<table>
<thead>
<tr>
<th>Program</th>
<th>Site</th>
<th>Training Hours</th>
<th># of ptpts. (completers)</th>
<th>Total cost</th>
<th>Cost per ptpt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Live” standup, off-site course: <strong>TB Anywhere is TB Everywhere: Advances in TB Diagnosis and Management</strong></td>
<td>Las Vegas, NV</td>
<td>8</td>
<td>66 (from 2 states)</td>
<td>$11,000</td>
<td>$167</td>
</tr>
<tr>
<td>Regional Webinar: <strong>TB 101</strong></td>
<td>“live” online</td>
<td>8</td>
<td>179 (from 13 states)</td>
<td>$10,225</td>
<td>$57</td>
</tr>
</tbody>
</table>

**Note 1:** CNTC acknowledges that with “live” web-based workshops, the level of retention may not be on par with a “live” stand-up training, but the cost savings certainly make this technology a viable alternative for us.
Other Technology Resources for RTMCCs:

• *Virtual conference rooms:*
  - Similar web-based technology intended for smaller groups
  - Live cameras can be used as well as slides, radiographs, etc.
  - Brings providers from disparate locations into a virtual room to discuss cases
  - Very interactive
Other Technology Resources for RTMCCs (continued):

• **Medical Consultation Database:**

  ▪ **SNTC** has developed and is enhancing a national database that includes all the TB-related questions phoned in to the RTMCCs’ “Warmline” medical consultation services

  ▪ Callers get “real time” answers from national experts

  ▪ Experts can access other experts’ previously archived answers

  ▪ Frequently Asked Questions (FAQs) can be sorted nationally or regionally, helping RTMCCs identify training curricula needs and priorities
Other Technology Resources for RTMCCs (continued):

• Audience Response Systems:

  ▪ Used during a “live” training to poll audience members about their opinions on a case (“push A if very helpful, B if helpful, C if not helpful”) or as a way to determine the make up the audience (“push A if you’re a doctor, B if you’re a nurse, etc.”).

  ▪ Results of the poll are calculated by software and presented immediately to the audience via a PowerPoint slide; this also allows faculty to determine the knowledge level of the audience so they can adjust their presentation accordingly.
Other Technology Resources for RTMCCs (continued):

• Interactive CD:

  - **SNTC** is featuring a new Pediatrics CD-Rom that asks users to make decisions regarding a case and the program responds in different ways based on these answers.
For further information on RTMCC and CDC/DTBE trainings, products, and medical consultation contact:

<table>
<thead>
<tr>
<th>Institution</th>
<th>Website</th>
</tr>
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<tbody>
<tr>
<td>Francis J. Curry National Tuberculosis Center</td>
<td><a href="http://www.nationaltbcenter.edu">www.nationaltbcenter.edu</a></td>
</tr>
<tr>
<td>Heartland National Tuberculosis Center</td>
<td><a href="http://www.heartlandntbc.org">www.heartlandntbc.org</a></td>
</tr>
<tr>
<td>New Jersey Medical School Global Tuberculosis Institute</td>
<td><a href="http://www.umdnj.edu/globaltb">www.umdnj.edu/globaltb</a></td>
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<td><a href="http://sntc.medicine.ufl.edu">http://sntc.medicine.ufl.edu</a></td>
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<tr>
<td>RTMCC Products Page</td>
<td><a href="https://sntc.medicine.ufl.edu/rtmccproducts.aspx">https://sntc.medicine.ufl.edu/rtmccproducts.aspx</a></td>
</tr>
<tr>
<td>CDC/s Find TB Resources Website</td>
<td><a href="http://www.findtbresources.org/scripts/index.cfm">www.findtbresources.org/scripts/index.cfm</a></td>
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