Microsoft Tools Enhance Training and Management of Off-site Dietary Coders

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FedCASIC Workshops

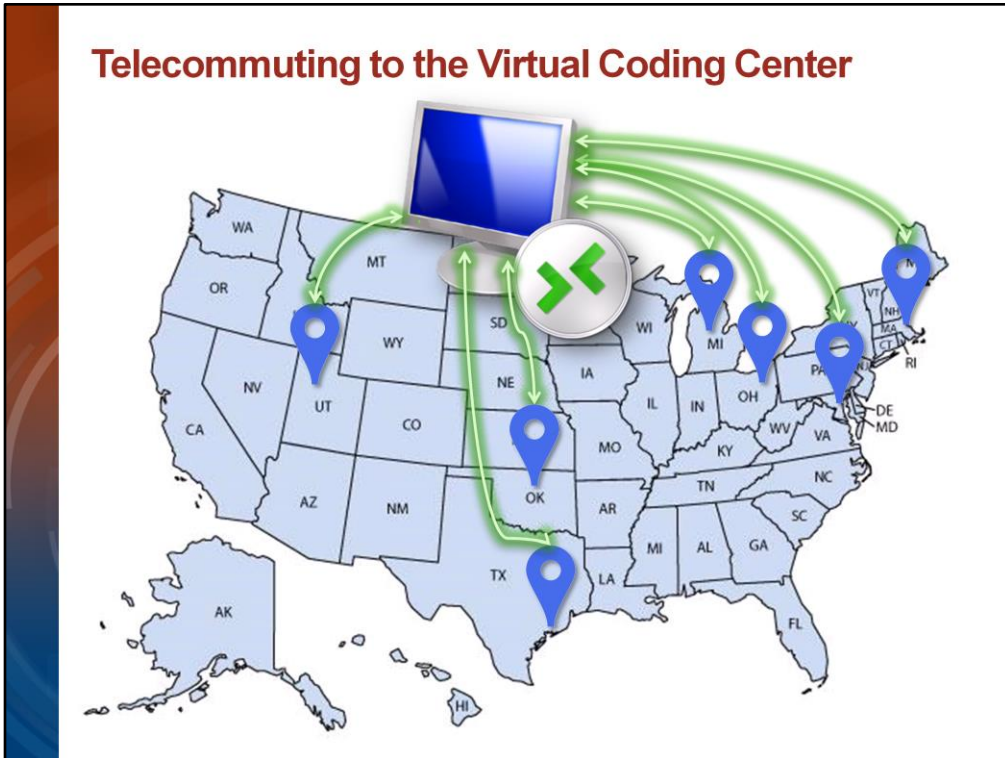US Census Bureau Headquarters, Suitland, Maryland

March 4, 2015

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Summary

I will discuss the technology we use for training and managing dietary coders who telecommute to Westat to work in our Virtual Coding Center.

Westat

Telecommuting to the Virtual Coding Center

Our company has multiple physical locations across the US. We also have a number staff who work from home or outside of a Westat office. These off-site workers connect to the Westat network using a Virtual Machine, which allows access to the majority of the applications and systems needed for their work. I am here representing the Nutrition Research Group, who are mostly off-site employees working together across the seven states highlighted on the map.

These are the computer programs we use during our daily telecommute. We use dietary coding software that was developed by the USDA, called Survey Net, as our primary dietary coding software. We use these Microsoft programs to support our dietary coding work. We rely on Lync for instant messaging, video conferencing, and voice calls and SharePoint hosts our group website. I will explain how we use these tools for training and daily coding operations.

Dietary Data Collection at Westat

- NHANES Mobile Examination Units
  - Nutritionists conduct in-person and telephone interviews

- Westat Telephone Research Center (TRC)
  - Off-site staff interview via telephone though the TRC's telephony system

First let me give you some background about Westat's history of dietary data collection. Nutritionists in the NHANES Mobile Examination Units conduct in-person and telephone interviews. Off-site interviewers conduct telephone interviews using the Telephone Research Center's telephony system. The next step in the process is dietary coding.

Dietary Coding at Westat

- NHANES Dietary Coding Center
  - Westat main campus
  - Dietary coders work in shared office space
  - Supervisors working in the same room
  - Dedicated to NHANES study

At the NHANES Dietary Coding Center at Westat's main campus, dietary coders work in shared office space with supervisors to process dietary intakes. NHANES staff are dedicated to the study and rarely work on other studies. So we knew that expanding our capacity for dietary coding would mean that we would need to hire new coders.

Why a Virtual Coding Center?

- Expand coding capabilities
- Proven model for training and supporting off-site staff
- Need staff with specialized skills
- Experience with IT resources

TRC Model
Specialized skills
IT Resources

Virtual Coding Center
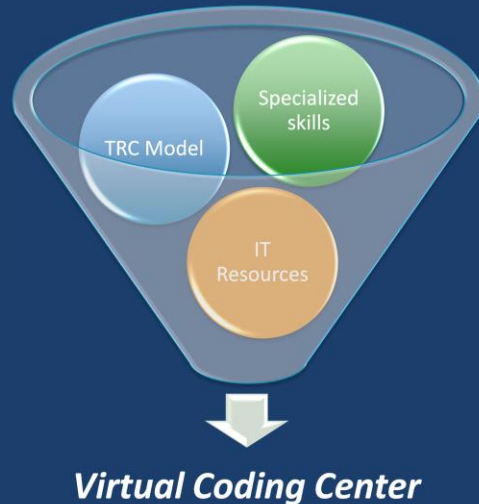
Westat's TRC hires and trains Off-site interviewers regularly, and we saw their operation as a model to deliver high quality training and support to dietary coders. Our experience with the virtual environment made us comfortable with the potential to train and support Off-site staff.   Instead of limiting ourselves to hiring only within the Rockville area, we considered creating a virtual coding center to enhance our capabilities.

Advantages of Hiring Off-site Dietary Coders

- Larger pool of potential coders with
  - Above average computer skills
  - Experience in foods, nutrition, science, and research
  - Detail-oriented, focused, able to work independently
- Cost efficient training and support
- Employee satisfaction[1]
- Less risk of attrition[1]
- Productivity[1]

[1]Global Workplace Analytics. Advantages of Telecommuting For Companies. Accessed Feb. 2015.
http://globalworkplaceanalytics.com/resources/costs-benefits

Since we were seeking specialized skills that are very hard to find for a part-time hourly position, we saw several advantages to recruiting off-site coders. We could select from a larger applicant pool and provide cost efficient training and support. Telecommuting has also improved employee satisfaction, reduced attrition, and increased productivity, so we saw telecommuting as an incentive to attract long term employees.

Enabling Off-site Dietary Coders

Internet compatibility

Computer hardware compatibility

Computer software compatibility

Adequate communication

Building working relationships
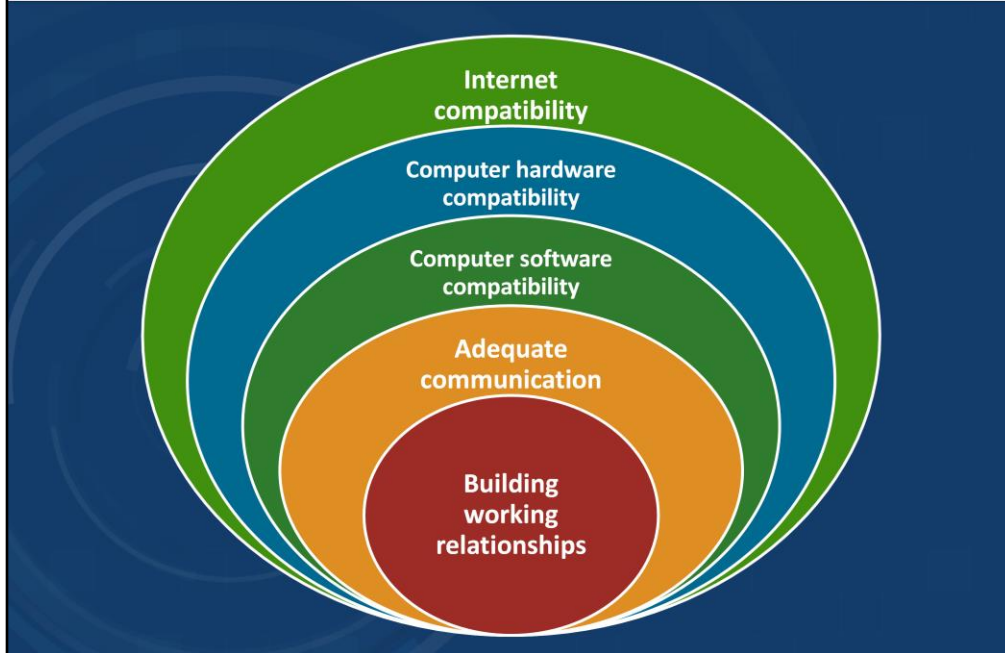
Our goal was to make sure that the virtual environment operated smoothly enough to replicate the on-site work environment. In order to do this, we needed to build effective working relationships, which required that all the systems were in place to support adequate communication, such as functioning internet and computer compatibility.

Challenges with Training Off-Site Coders

- Connecting trainees to Westat's network to engage with the training

- Converting the in-person training to Internet-based training
  – Decide on a platform to broadcast the training
  – Deliver the training materials
  – Monitor and observe progress
  – Evaluate successful completion

Training dietary coders presented two main challenges. First, we needed to ensure the coder's software and Internet were compatible to connect to Westat's virtual network to install software necessary to complete training. We also had to the convert in-person training to an internet-based training. We had to 1) Decide on a platform to broadcast the training, 2) Deliver the training materials, 3) Monitor and observe progress, and 4) Evaluate successful completion.

Modifying Training for Dietary Coders

In-Person Training   Vs.   Off-site Training

- Conference room
- PowerPoint presentation
- Printed documents

- Self-led modules
- Trainer led-modules
- Discussions
- Observation

- Lync with Webcam
- PowerPoint presentation
  - Mailed documents
  - Documents on SharePoint

  - Self-led modules
  - Trainer led-modules
  - Discussions
  - Monitored via webcam
  - Monitored with activity tracking

This slide compares in-person to off-site training. The blue text highlights features that we changed or added to the in person training. Traditionally training would occur in a conference room, but of course we could not do this with staff in multiple locations. We used Lync to replace the conference room, by broadcasting our PowerPoint presentations. During in-person training we provide paper handouts to the coders. For our offsite staff, we mailed their documents a few days before training and trained them to access the other documents on SharePoint. In both settings, they completed modules and participated in discussions. In person, we monitor by observation. For off site training, we monitored using webcams, asking for email updates, and reviewing documents.

Training with Lync, Webcam and Screen Sharing
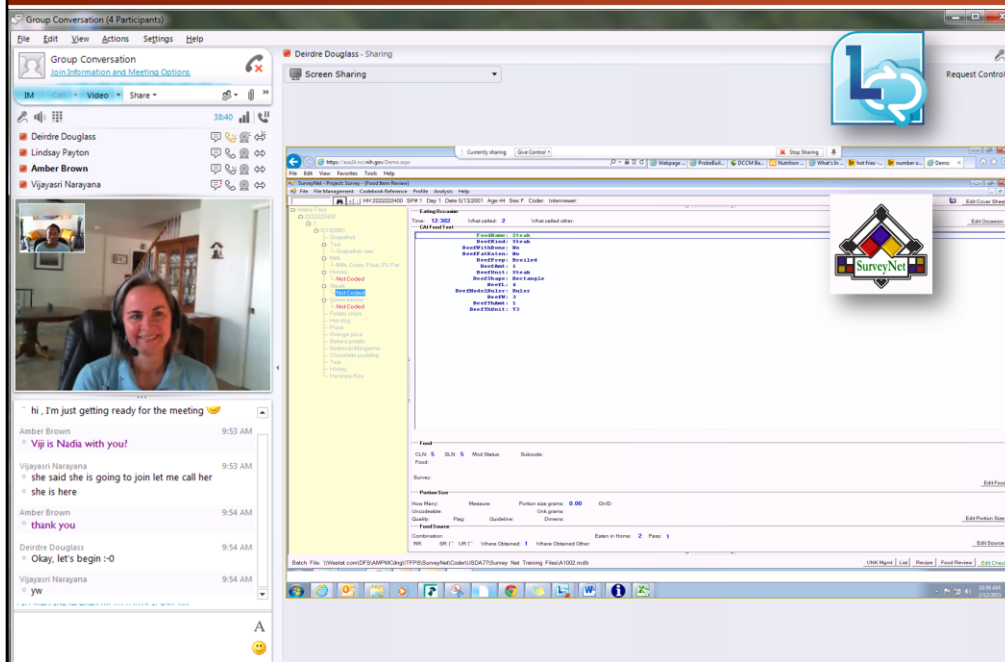
This is an example of training on Lync. The video of the person talking shows on the left side while the presentation is on the right side. The left panel also shows all of the attendees and their connection status. There is also a instant message window on the left panel.

Lessons Learned from Coder Training

- Add two days at the beginning of training for technology preparation

- Use web cams as much as possible to check for understanding

- Clearly identify independent activities from group activities

- Ask trainees questions to make sure everyone has the right work environment

This was an ambitious goal and it was very hard to achieve. After training the coders, we learned a few things:

We should include one or two days in the training schedule to make sure that all of the hardware and software is set up properly for coders. Internet and computer settings at their homes may need to be modified and this takes a lot of time.

We should use web cams as much as possible when talking to check for understanding. Body language can indicate confusion or frustration that can be easily missed in voice-only communication.

Since the training occurs in a group format, we need to emphasize when coders are to work as individuals instead of in groups.

We also learned that we should ask the trainees more questions than we would in person to ensure that that their work environment is supportive of the work they are doing. For example, "Can you see the presentation on your screen?" "Can you hear me clearly?" "We are looking at the food model booklet. Do you have yours in front of you?"

After training is completed, our goal is to replicate the in-person coding environment for our daily operations. We have had some struggles along the way, but we have been able to improve to where we are today. This screen shows an example of a Coder's desktop. On a typical day, a coder will be working in all of these programs: SurveyNet, Excel, SharePoint, Lync, and Outlook.

Organizing Daily Work with SharePoint
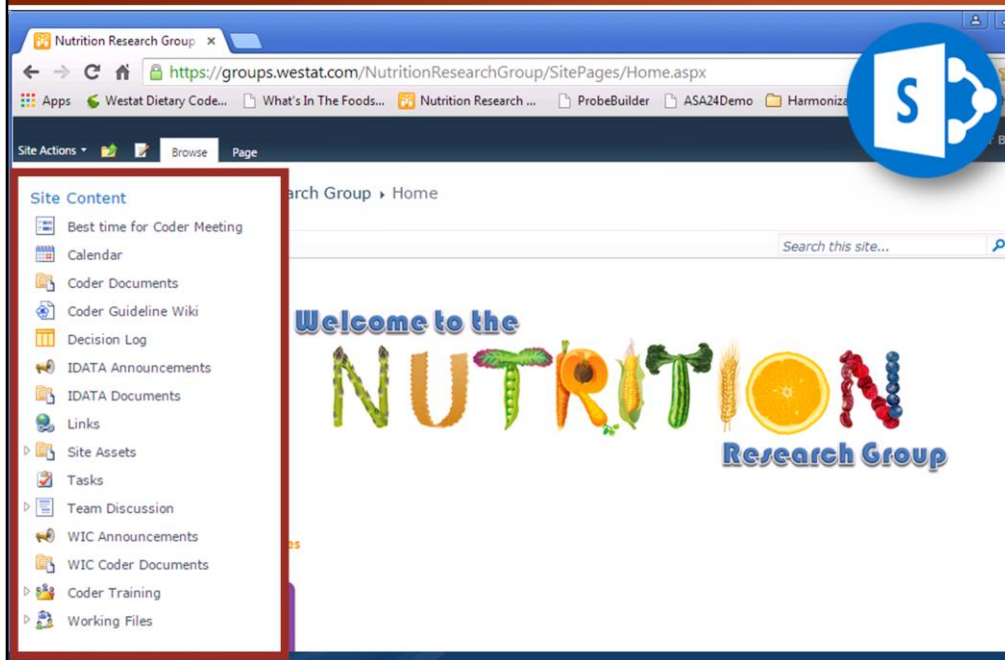
The information hub of our virtual coding center is our SharePoint Site. This website is only accessible on the Westat network in the virtual computer. Supervisors update this site for coders to access at their convenience. SharePoint also integrates with outlook calendar and sends email alerts. All of the information is searchable like a database. In general the coders keep it open while working because it allows for easy access to information to help them code.

We use many features of SharePoint to support our virtual coding center. This is a survey we use to coordinate coder meetings.

Managing Schedules with SharePoint and Outlook

We also learned very quickly that it is possible for a coder to log in, work, and log off without ever contacting us, so we use SharePoint and Outlook to manage schedules. For example, we post our schedules on a public SharePoint calendar that syncs with Microsoft Outlook. Since we do not see each other in a physical office this has become a good resource to know when to expect coders to be working so that Supervisors are always available to answer questions and provide support.

We have a coder document library where we store coder manuals, study documents, and helpful information.

For example, this Excel file, called Dietary Coder Help is in the library. Coders can open this access file which has conversion calculators they use while coding.

This is our Coder Wiki page that provides specific guidelines about coding certain foods or Survey Net tips.

Sharing Information with SharePoint

- Decision Log
  - Real time information sharing

This is our Decision Log, which is a coding decision database that is updated multiple times a day on SharePoint so coders can access new information immediately. Everyone gets a summary of the decisions that were made that is automatically emailed from SharePoint at the end of the day. We find this creates higher quality data and saves time during the cleaning effort.

This is a list of links to websites we use frequently.

This is our Team discussion page we use for daily updates.

This is the Coder Training page that separates information and documents just for trainees.

Providing Support with Lync

- Presence indicators
- Dietary Coder Chat Room
  - Daily contact
  - Connects team members
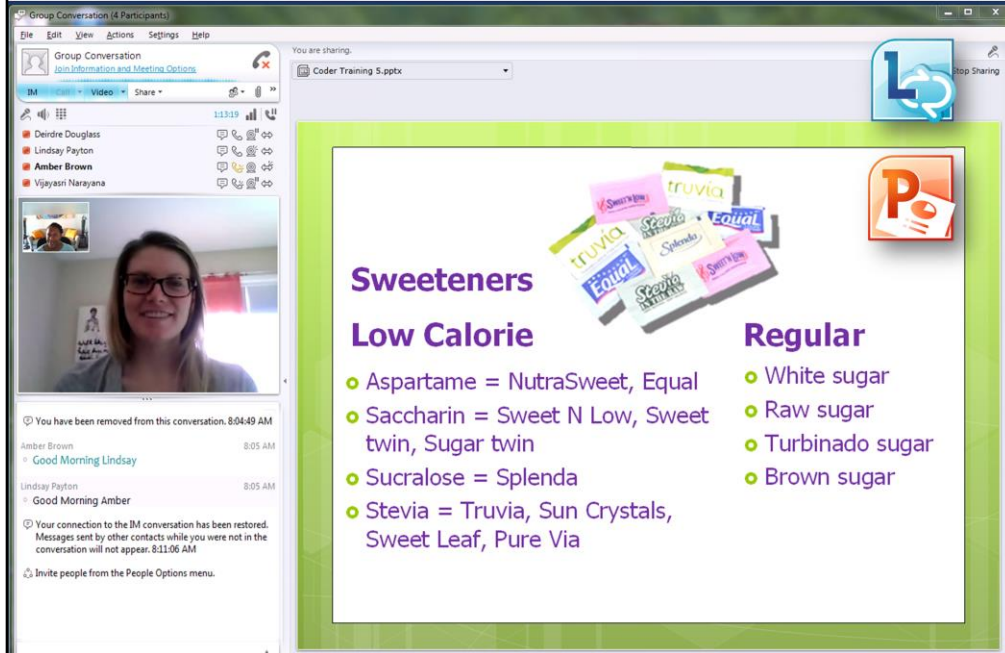 - Discussions
  - Intended to mimic the on-site coder workroom
- Monthly meetings via Lync video calls
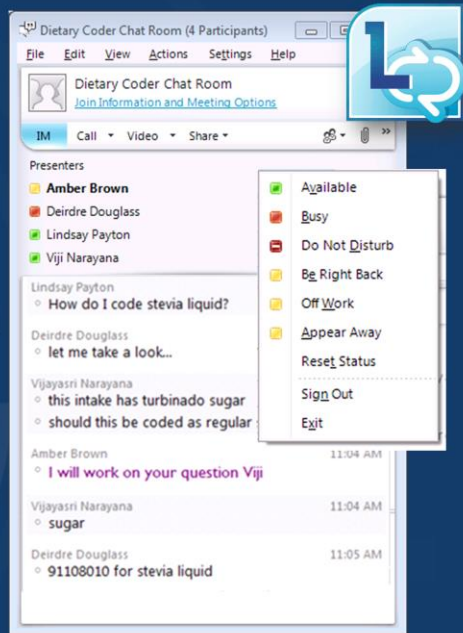
Now I will tell you more about how we use Lync to provide support. Our coders are required to log into Lync at the beginning of their workday. It has presence indicators to show their status. Lync has a number of features that track time, so we reference the time stamps regularly. For example, we allowed coders to work on weekends and evenings, so we could see the last time coders were online.

We do not want our coders to feel alone and disconnected from their colleagues, so we created a Dietary Coder Chat Room that we open every day. This chat room is only available on the Westat network, and it connects all of the coders with at least one supervisor as if we are working in the same room. We use it for problem solving and discussion. This is where coders initiate questions that everyone can see so everyone can benefit from the discussion. This also helps the supervisor manage multiple questions at the same time. We have a minimum of one meeting a month using Lync with web cams where we discuss work group issues and study issues.

Coder Meeting with Lync, Webcam and PowerPoint

This is an example of a coder meeting using Lync with the webcam and showing a PowerPoint presentation. In the course of a normal day, we use a number of Microsoft programs, in addition to the programs we use for our daily coding operations. As a result, our coders report having adequate support to complete their work.

Virtual Coding Center Production Since 2012

23,510 intakes coded in 3 years with an average of 2 coders per study.

Study (Agency)	Number of Coders	Number of Intakes Coded	Study Duration	Year
Infant Toddler Feeding Practices Study (USDA FNS)	2	18,565	17 months	2013 to present
Interactive Diet and Activity Tracking in AARP (NCI)	4	2,160	5 months	2014
Food Reporting Comparison Study (NCI)	2	1,020	7 months	2012
Food and Eating Assessment Study (NCI)	2	42	2 months	2012
Healthy Incentives Pilot (USDA FNS)	2	1,723	5 months	2012

Since 2012, we have been able to complete 4 studies and we have one in progress. We have met our production goals over the last 3 years and we have completed over 23,000 intakes with an average of 2 coders. Clearly, the virtual coding center has expanded our capabilities. We have found it to be cost efficient and highly productive. As technology continues to evolve, so do our practices. We consistently search for technology to facilitate excellent communication and the optimal work environment for our virtual coding center team. This is truly the future at Westat.

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