SMS Text Messaging in Managing Attendance at Academic RSS

T25, Breakout
Thursday, 1/27/11
Alliance for CME Annual Conference
San Francisco, CA

• Jeremy C. Lundberg, MSSW. DLC Solutions and EthosCE
• Zalman S Agus, MD, Mila Kostic, Rodman Campbell. University of Pennsylvania School of Medicine Office of Continuing Medical Education
Agenda

Background – Zalman S Agus, MD; Associate Dean for CME, UPenn SOM
Software – Jeremy Lundberg, MS; CEO, DLC Solutions, LLC
Pilot Project – Rodman Campbell; Senior IT Specialist, CME UPenn SOM
Summary – Mila Kostic; Director of CME, UPenn SOM
Questions and Answers
Disclosure

Zalman Agus, Rodman Campbell, and Mila Kostic have no interest in selling a technology, program, product or service to CME professionals.

Jeremy Lundberg has an interest in selling a technology, product or service to CME professionals.
Setting the Stage: 2002

STAGE ONE — Dr. Agus and Mila Kostic join the office of CME, School of Medicine, University of Pennsylvania

- Five FTEs
- No online presence
- Barely functional database
- 45 RSSs administered manually with attendance records collected and entered into a database manually
Setting the Stage: 2003-2010

STAGE TWO — Program Growth

- Ten FTEs
- Developed large online presence with programs housed in a separate CMS
- Total number of activities in 2009 = 5,431
- Issued 734,815 certificates in 2009, many offsite
- Leased a new database – subsequently replaced with another as program grew
- Total number of RSSs grew to 89 by 2010
  - Administered manually
  - Attendance records collected and names entered into a database using barcode scanning
Setting the Stage: 2010

STAGE THREE — The “breaking point” and our response.

The large number of online programs housed offsite, the major increase in users with data in offsite databases and not included in main database, and desire for state-of-the-art LMS/CMS stimulated us to begin development of a customized LMS/CMS.

The growth of RSSs and need for training, monitoring and recording was creating increased labor costs and an administrative nightmare which needed a solution in the new LMS/CMS.
The RSS Problem

PROBLEM
• Number of weekly sessions = 90
• Number of attendees to be recorded = (50)X(90)X(25) = 112,500
• Time required to enter attendance data into database= 28 weeks
• Available manpower = One FTE to review applications, monitor disclosures and handouts, make onsite visits, and enter attendees into database in addition to training, approvals, and monitoring peer-review

RESULT
Entering attendance data began to fall behind reaching a backlog of 6 months despite adding a full-time temp, leading to increased time spent on the phone explaining to users needing data for re-licensure or renewal of privileges why transcripts were not up-to-date.
The Solution (we hoped)

Create in our new LMS/CMS a more efficient, time saving, accurate method to manage RSSs including entry of attendance data
Development Process

- EthosCE Learning Management System for CME
- Modified Drupal SMS module, Mobivity.
- Modified EthosCE attendance tracking module.
- Created custom API between SMS Module and Attendance Module.
Mobile SMS Attendance Tracking Workflow

1. Course Reviewed and Approved by CME RSS Coordinator
2. RSS Session created by Departmental RSS Coordinator
3. ACCME PARS Reporting
4. CME Transcript and Reporting Updated
5. Registered vs. Non-Registered Participant Workflow Enabled
6. SMS short code generated and posted at RSS session
7. Physicians send short-code from mobile phone
8. Registered vs. Non-Registered Participant Workflow Enabled
9. CME Transcript and Reporting Updated
10. ACCME PARS Reporting

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RSS Attendee Workflow

1. HCP attends RSS session
2. Receives SMS shortcode
3. Physicians send SMS short-code from mobile phone
4. Attendee transcript marked as “Attended” and updated
5. Registered vs. Non-Registered Participant Workflow Enabled
6. ACCME PARS

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Grand Rounds Activity Coordinator (GRAC) creates a new “Grand Rounds Event” from Series Dashboard
Sessions are moved through each step in the online CME approval process by clicking the “Workflow” button and advancing to the next state (can also leave Comments at each state change).
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If NO, the process ends now and NO CME CREDIT can be provided for the presentation.

If YES, please proceed to review the presentation.

Presentation Review

**PLEASE ANSWER THE FOLLOWING QUESTIONS:**

- This presentation is based on acceptable scientific principles that are generally accepted as valid by the profession.
- This presentation's content and clinical recommendations are based on the highest available levels of evidence that are accepted in the general medical community.
- Scientific research referred to in this presentation conforms to generally accepted standards of experimental design, data collection and analysis.
- The content of this presentation does not promulgate recommendations, treatments, or manners of practicing medicine that are (1) not within the ACCME Definition of CME, (2) known to have risks or dangers that outweigh benefits, or (3) known to be ineffective.

**ACCME Definition of CME**

"Continuing medical education consists of educational activities which serve to maintain, develop, or increase the knowledge, skills, and professional performance and relationships that a physician uses to provide services for patients, the public, or the profession. The content of CME is that body of knowledge and skills generally recognized and accepted by the profession as within the basic medical sciences, the discipline of clinical medicine, and the provision of health care to the public."

**PLEASE RATE THE LEVEL OF YOUR AGREEMENT WITH THE FOLLOWING STATEMENT:**

- This presentation was free from commercial bias

If you "DISAGREE" or "STRONGLY DISAGREE," please explain.
Once session has reached Final Approval, “Print SMS Instructions” button becomes visible to GRAC.
Video: SMS Demonstration
Penn CME SMS Attendance Pilot: Fall 2010

September – December 2010

- 736 Total Attendance Records
- 78.5% of these attendances recorded via SMS


**SMS Attendance Pilot: Learner Feedback**

Survey sent to Pilot Series attendees

- **75.5%** of respondents reported using SMS (in line with actual results)

Remainder of responses primarily fell into the following groups:

- **2.4%** do not have a mobile/smart phone.
- **17.2%** have a mobile/smart phone but do not have a text messaging plan enabled on the device.

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Respondents asked to rate the following aspects of their experience on a 5-point Likert scale (1=Poor, 2=Fair, 3=Average, 4=Good, 5=Excellent)

- Ease of Use: average rating of 4.45
- Clarity of Instructions: average rating of 4.45
- Credit Monitoring: average rating of 4.61
Hello,

The upcoming session, Morbidity & Mortality, has been posted.

Please visit the link below to download the event's handout.

Title: Morbidity & Mortality
Series: Perinatal Medicine Clinical Conference
Date: 1-18-2011
URL: http://pennmeonline.com/node/717

Penn CME
http://pennmeonline.com
Morbidity & Mortality

DR. TAWIA APENTENG AND DR. MARIA FRAGA

CHOP-HUP Neonatology and Maternal Fetal Medicine

Sponsored by:

Continuing Medical Education

Penn Medicine

Learning Objectives:

- Review management issues related to the care of high-risk pregnancies
- Review management issues involved in the care of critically ill newborns
- Discuss the risks and benefits of maternal treatments to the fetus and the effect upon the newborn.

The University of Pennsylvania School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The University of Pennsylvania School of Medicine designates this educational activity for a maximum of 1 AMA PRA Category 1 Credit™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Please note: If you are unable to attend this conference, please email Susan Rane at: rane@email.chop.edu

LOCATION: HUP - Raphin 7 Conference Room
3400 Spruce Street
Philadelphia, PA. 19104


CREDIT HOURS: 1.00

HANDBOOK: CME_Handout_Morbidity_and_Mortality_1_18_11.pdf
Session Handout (continued)

Perinatal Medicine Clinical Conference Academic Year 2010-2011

Morbidity & Mortality
January 18, 2011
12:15 p.m. - 1:15 p.m.
Kavlin 7 - OB Peds Conference Room
Dr. Tawia Apanse and Dr. Maria Praga
CHOP/HUP Neonatology

Target Audience
This program has been designed for physicians in obstetrics, maternal-fetal medicine, neonatology and newborn pediatrics.

Educational Objectives
After completing this activity, participants should be able to:
- Review management issues related to the care of high-risk pregnancies
- Review management issues related to the care of newborns
- Review the outcomes of perinatal care in our Intensive Care Unit and derive strategies to improve care

Accreditation
The University of Pennsylvania School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Designation of Credit
The University of Pennsylvania School of Medicine designates this educational activity for a maximum of 1 Accreditation Category 1 Credit™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

For more information, please contact:
Adela L. Long
adelal@uphs.upenn.edu

Check your CME online at www.med.upenn.edu/cme

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PRESENTER NAME
PRODUCT
INVESTIGATIONAL AND/or OFF-LABEL USE

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Overall feedback from learners is positive, but what about Coordinators’ feedback?
SMS Attendance Feedback: CME Office Coordinator

Online Workflow screen very useful as central dashboard for reviewing upcoming Sessions’ documentation:

- Easier than tracking large number of paper files received in the office, and necessary review/approval documents can still be printed from online system and filed as needed
- Worked with CME Office Coordinators during pilot to streamline Workflow Dashboard for efficient review/approval of sessions
• Workflow Emails:
  • Worked with CME Office Coordinators during pilot to streamline automated workflow notification emails for efficient identification of sessions that required review and approval
Session in Pre Approved State

From: pennme@mail.med.upenn.edu on behalf of pennme@mail.med.upenn.edu
To: grandroundscoordinator@pennme.com
Received: 01-10-2011 10:13 AM

Dear Grand Rounds Coordinator,

A new grand rounds session is in the Pre Approved state and is ready for you to approve.

Here are the details:

Title: The Duhring Dermatology Quality of Care Clinical Case Conference
Series: Duhring Dermatology Case Conference
URL: http://pennmeonline.com/node/1102

**Make sure that you are logged into the site in order to see the relevant session fields.**
Event date: 1-20-2011

Regards,

Penn CME
http://pennmeonline.com
SMS Attendance Feedback: Series Coordinator

- Personalized (Series-Specific) Online Workflow screens very useful as central dashboard for submitting upcoming Sessions/Documentation
- Based on discussions involving Series-Level Coordinators and CME Office Staff, agreed on Time Validation settings which have been implemented:
  - All sessions have a default start/end time for SMS window, and code will only be accepted if sent within this window (Can override this setting at session level if desired)
SMS Attendance Feedback: Series Coordinator (cont’d)

- Session Attendance Reports can be viewed on demand by Series Coordinators (Adjusted look/functionality during pilot based on Coordinator feedback)
## Sample Session Attendance Report

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SMS Attendance Feedback: Series Coordinator (cont’d)

• Primary Concern:
  • Need efficient method for manually entering attendance for learners who do not use SMS process
  • Should be user-friendly interface to make process quick and easy for Series Coordinators to manage their own group attendance
Solution: Attendance Admin Interface

- Attendance Admin Interface--improved during pilot based on Coordinator feedback
- Goals:
  A) Series Coordinators can track names of any attendees who did not complete SMS attendance process at session
  B) Provide interface where Coordinator can quickly locate and add these additional attendees to the session
Attendance Admin Interface (cont’d)

• Implementation
  • Each Series instance filtered to display only members of that Series Group
  • User accounts are joined to a Series Group in one of the following ways
    1) When creating new user account, learner can choose to join specific Series Group(s) on the user registration form
    2) Learner is automatically added to Series Group the first time he/she uses SMS at any session in that series
    3) Automatically added to Series Group the first time Series Coordinator manually marks user as attended
Attendance Admin Interface (cont’d)

- **Implementation (cont’d):**
  - Each form further filtered to display only group members who did not already use SMS attendance for the session
  - Coordinator checks off any additional attendees from this filtered list
  - Finally, coordinator clicks “Mark user as attended” to manually add selected user(s) to attendance list for the session
  - In addition, coordinator can add new user accounts directly from this interface and join these accounts to the group (useful for first-time attendees who have not yet used the system)
Sample Attendance Admin Interface

- Check boxes for attendees who did not use SMS
- Mark selected users as attended
- Create user accounts for attendees without existing accounts in system (for example, first-time attendees)

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Pilot Summary

• Positive adoption rates and feedback from Learners regarding new system
• Allows for instant RSS attendance credit on Learner Transcripts
• CME Office Staff and Series-Level Coordinators see Online Workflow screens as very useful for managing all Sessions CME Documentation
• SMS attendance allows for complete attendance management at the Series Level with straightforward interface for manually adding non-SMS attendees
Lessons We Learned

• After many pathways......decided to build an integrated system
  • Website
    • One point of entry for all activities, all users, and links to internal and external resources
  • Content Management System
    • One integrated CME administrative process
      • Activity application, disclosures, approval submissions and documentation approvals prospective for all types of activities including RSS, easy access to multiple users
  • Learning Management System
    • All educational formats built by staff and faculty, displayed uniformly to learners
  • User Database
    • Allows learners easy access from registration to certificate /transcript
    • Easy data collection and reporting to ACCME, annual program and mission reviews
Lessons We Learned (cont’d)

- Significant Savings
  - Automated attendance records controlled by learners
    - Less room for error
    - Instant availability of records on transcript
    - Instant reporting capabilities for administrators and coordinators
    - Value added to other regulatory bodies at departments and institution-level
- Less issues with session documentation approval timelines
  - Time and effort savings
  - Can provide limited administrative privileges to internal and external collaborators
  - Peer-review process
  - CME Coordinator
- Easy assessment and evaluation data collection, analysis and reporting – will be appreciated during the ACCME reaccreditation process and annual reports
Suggested Resources

- Tools for implementation.
  - Proprietary or open source LMS or conference software
    - EthosCE, Cvent, Expologic
  - Ability to integrate SMS via Web services or API
  - SMS short-text service
    - EX:
Discussion and Q&A
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