Innovative Use of Technology in Providing Peer Reviewed, In-Time CME

January 26, 2006
Alliance for Continuing Medical Education Annual Conference
Disclosure

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No relevant financial relationships

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No relevant financial relationships
Goals

This session will focus on the principles used in developing and delivering a novel model of systematic, user-friendly CME interventions and examine its potential to become a highly effective educational resource that will impact positively on the delivery of medical care regardless of the institutional or geographic boundaries.
Educational Objectives

At the conclusion of this session, participants should be able to:

- Identify the guiding principles used in development of MedPage Today™ as a successful model for providing in-time, validated, and effective CME
- Review benefits of a collaborative model that can contribute to successful development and delivery of this type of innovative CME
- Evaluate the potential impact of this educational model based on the 9-month program evaluation data presented
Evidence-based Need

- DTC targeting of medical news challenges practicing physician on multiple levels
  - Hard to keep up with the latest medical literature and medical meetings
  - Many having difficulty competently addressing patients’ requests for newest diagnostics and treatments
  - Adverse effect on doctor-patient communication

- Recent studies indicate decreasing performance with increasing years in practice suggesting that the ability of physicians to remain current with medical practice declines with time after medical school graduation which adversely affects patient care.

Factors Considered in Designing Educational Platform to Address the Need

- Educational impact of CME activities increases with relevance to daily practice
  - Medical News
  - Systematic approach
- Web-based CME increased 700% in 4 years
  - Up to 85% of physicians use Internet for education
    - 60 years and over, the fastest growing group
  - Flexibility and ease of access contributes to increased use of Internet-based CME
- Technology provides education at or near the point-of-care; just-in-time learning
- Evidence-based and peer-reviewed CME highly valued
- Presentation of information in brief bytes contributes to interest, concentration, and better retention


Medical News + CME: New Online Resource Created

- To provide health care professionals with immediate, brief and concise, peer-reviewed and CME-certified discussion of content, background, and significance of breaking health news in the media and/or published in peer-reviewed journals or presented at major medical meetings.

- To provide physicians with a reliable resource that will enable them to competently address what their patients read in the mass media and to enhance communication between physician and patients on these topics.
Collaborative Model: Resources

- **Academic CME Provider:**
  - Physician research and clinical expertise
  - Educational design
  - CME

- **Technology and Med Ed Provider:**
  - Web design expertise
  - News specific editorial expertise
  - Project management
  - Medical writing expertise
  - Financial resources
  - Means of Distribution

- **Mass Media/Med. Journals & Soc. Meetings**
  - Breaking news source
  - Distribution network
Methodology

Journal publications (embargoed) → Medical conferences (reporters) → Media (internet news sources) → Breaking news →

Daily editorial selection of breaking news coverage → Medical writers produce review reports based on the news source →

Expert review of accuracy of content and evidence base of clinical recommendations provided by or under supervision of U of Penn SOM CME →

Epocrates MobileCME™ → Publication →

Media partners: CNN, MSNBC, Google News, MD Net Guide → Medpage Today™ Website →

E-mail listserv daily at 5AM → RSS Feed Daily on U of Penn CME Portal
Commonly Used Drug in Heart Surgery May Increase Risk of Death

SAN BRUNO, Calif. - Trasylol (aprotinin), a drug commonly given during heart surgery to control bleeding, increases the risk of serious adverse events and death, reported investigators here.

GnRH Agonists Improve Pregnancy Rates For Women With Endometriosis

01/26/06 ALEXANDRIA, Egypt - Gonadotropin-releasing hormone (GnRH) agonists can significantly increase the pregnancy rate, and perhaps the live-birth rate, for women with endometriosis getting fertility treatment, according to a review of the medical literature.

Vaginal Estrogen May Mix Poorly With Aromatase Inhibitors

01/26/06 LONDON - Vaginal estrogen preparations for atrophic vaginitis may be contraindicated in women taking aromatase inhibitors as adjuvant therapy for breast cancer, according to a small study conducted here.

Racial Differences in Smoking and Lung Cancer Filtered Out

01/26/06 LOS ANGELES - African Americans and Native Hawaiians who smoke up to 30 cigarettes per day have higher rates of lung cancer than Latinos, Japanese Americans, or white Americans who smoke an equivalent amount. The reasons are unclear. Also covered by: Forbes, LA Times, San Francisco Chronicle

Life-Saving Benefit of Dedicated Trauma Centers Confirmed

01/26/06 BALTIMORE - Severely injured patients treated at certified Level 1 trauma centers stand a 20% to 25% better chance of surviving than similar patients seen in standard emergency departments. Also covered by: Forbes, Seattle Post Intelligence, Washington Post

Ashkenazi Jews and Arabs With Parkinson's Share Same Gene Mutation

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HEALTH

Report: Obesity will reverse life expectancy gains

Wednesday, March 16, 2005 Posted: 8:47 PM EST (0147 GMT)

CHICAGO, Illinois (AP) -- U.S. life expectancy will fall dramatically in coming years because of obesity, a startling shift in a long-running trend toward longer lives, researchers contend in a report published Thursday.

By their calculations -- disputed by skeptics as shaky and overly dire -- within 50 years obesity likely will shorten the average life span of 77.8 years by at least two to five years. That's more than the impact of cancer or heart disease, said lead author S. Jay Olshansky, a longevity researcher at the University of Illinois at Chicago.

This would reverse the mostly steady increase in American life expectancy that has occurred in the past two centuries and could lead to an epidemic of diseases associated with obesity such as diabetes and heart disease.
Major Partners: Epocrates Mobile CME

![Image of a Palm m505 device showing Epocrates Mobile CME content. The content includes an article titled "Study Links Chronic Insulin Therapy and Colorectal Cancer" and a synopsis about patients with type 2 diabetes.]
Palliative Radiation for Lung Cancer May Do More Than Palliate

By Michael Smith, MedPage Today Staff Writer
Reviewed by Zalman S. Agus, MD; Emeritus Professor at the University of Pennsylvania School of Medicine.
January 23, 2006

MedPage Today Action Points

- Advise patients who ask that unless the disease is resectable the prognosis for non-small cell lung cancer (NSCLC) is extremely poor in most cases.

- Note that this study quantifies a phenomenon known to many experienced radiation oncologists -- that a small proportion of patients treated with palliative radiation will have long delays in progression and may even appear to be cured.

- The study, however, did not find any common factors that might explain why some patients have extended survival.

Review

MELBOURNE, Australia, Jan. 23 - Palliative radiation -- aimed at easing the symptoms of apparently incurable non-small cell lung cancer (NSCLC) -- may wind up curing a small proportion of patients, according to researchers here.

About 1% of 2,297 patients treated with palliative radiation at the Peter MacCallum Cancer Center here survived for five or more years after the start of therapy, reported radiation oncologist Michael Mac Manus, M.D., today in the online edition of Cancer.

The estimated median survival after radiation was less than five months, Dr. Mac Manus and colleagues noted. But 24 patients lived more than five years, 18 were free from
production by pro-inflammatory cytokines correlate with tumor stage and prognosis.

"Indirect evidence linking inflammation and cancer comes from data implicating infectious agents in the etiology of specific cancers (e.g., hepatitis B and C viruses and liver cancer), noninfectious chronic inflammatory conditions associated with the development of malignant disease (e.g., chronic inflammatory bowel disease and colorectal cancer), and the chemopreventive effect of aspirin and other nonsteroidal anti-inflammatory agents against cancer," Dr. Shankar and colleagues wrote.

The authors noted several potential limitations of the study:

- Although they excluded those with cardiovascular disease at baseline, it is possible that the observed association between WBC count and cancer mortality is explained by time-dependent confounding by comorbidities such as incident cardiovascular disease that are known to be related to WBC counts and have an impact on cancer survival.
- The mean age of the population studied in this report was 65.9. The results may not be generalizable to other age groups.
- The observed findings may be explained by undiagnosed cancer or subclinical disease at the baseline examination.

Primary source: Archives of Internal Medicine
Source reference:

Disclaimer
CME Posttest Results

You answered one or more questions incorrectly.
Please click on the correct answer and click continue.

1. The panel advises that medical treatment of menopause is best reserved for women with the most severe and prolonged symptoms. True or False?
   - a. True
   - b. False

2. Menopause treatment can be risky because:
   - a. Estrogen therapy can have serious side effects.
   - b. Alternatives to estrogen are largely unproven.
   - c. Both A and B.
   - d. Neither A nor B.

Menopause treatment can be risky because the most consistently effective therapy, estrogen, has been associated with cardiovascular events and breast cancer while alternative therapies, such as herbal remedies, are simply unproven and may carry unknown dangers, the 12-member panel said.

Review Teaching Brief  Continue
Activity Evaluation

Please take a moment to answer the following evaluation questions so that we may continue to enhance our programs. You can view Your Certificate now or after completing these questions.

1. To what degree did participation in this activity enhance your ability to discuss the results of this study?
   - Not at all
   - To a lesser degree
   - Average
   - To a greater degree
   - Completely

2. To what degree did participation in this activity enhance your ability to review the relevance and significance of the study in the broader context of clinical care?
   - Not at all
   - To a lesser degree
   - Average
   - To a greater degree
   - Completely

3. To what degree was this educational activity relevant to your practice needs?
   - Not at all
   - To a lesser degree
   - Average
   - To a greater degree
   - Completely

4. To what degree was this activity objective, scientifically rigorous, and free of commercial bias?
   - Not at all
   - To a lesser degree
   - Average
   - To a greater degree
   - Completely

[Continue button]
AMA PRA Category 1 Credit Certificate

The University of Pennsylvania School of Medicine certifies that

ANDREW M. JASTREMSKI

has participated in the educational activity titled

MEDPAGE TODAY CME TEACHING BRIEF™
PALLIATIVE RADIATION FOR LUNG CANCER MAY DO MORE THAN PALLIATE

or

JANUARY 24, 2006

and is awarded 0.25 category 1 credits toward the AMA Physician’s Recognition Award

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the University of Pennsylvania School of Medicine and MedPage Today. The University of Pennsylvania School of Medicine is accredited by the ACCME to provide continuing medical education for physicians.

The University of Pennsylvania School of Medicine designates this educational activity for a maximum of 0.25 category 1 credits toward the AMA Physician’s Recognition Award. Each physician should claim only those credits that he/she actually spent in the activity.

Zahnaa S. Ague, MD
Associate Dean, Continuing Medical Education
CME Tracker: Zalman Agus

The following is a record of your successfully completed Category 1 CME activities completed on MedPage Today. You may view/print a certificate for each program individually or you may print an itemized list of all your complete programs.

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Completion Date</th>
<th>Credit</th>
<th>Certificates</th>
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<tbody>
<tr>
<td>Menopause May Be Over-Treated</td>
<td>03/28/05</td>
<td>0.25</td>
<td>View</td>
</tr>
<tr>
<td>Straightening the Stubbornly Crooked Noses</td>
<td>03/23/05</td>
<td>0.25</td>
<td>View</td>
</tr>
<tr>
<td>Lung Cancer Screening Debate Bubbles Up</td>
<td>03/24/05</td>
<td>0.25</td>
<td>View</td>
</tr>
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<td>Heart Failure Drug Natrecor May Contribute to Renal Function Decline</td>
<td>03/23/05</td>
<td>0.25</td>
<td>View</td>
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<td>CONFERENCE REPORT: New Breast Cancer Guidelines Take Tamoxifen Off Radar Screen</td>
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<td>Biomarkers Could Lead to Blood Test for MS Diagnosis</td>
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<td>View</td>
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<td>CONFERENCE REPORT: Green Tea Shows Anti-Acne Properties</td>
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<td>Carotid Artery Thickness Linked to Gum Disease-Causing Bacteria</td>
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<tr>
<td>New Drug Discount Cards Aimed at Uninsured</td>
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<td>0.25</td>
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<tr>
<td>Higher Folate Intake Associated with Decreased Risk of Incident Hypertension in Women</td>
<td>01/10/05</td>
<td>0.25</td>
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<tr>
<td>New Evidence Confirms Efficacy of Radiosurgery Procedure</td>
<td>01/16/05</td>
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<td>View</td>
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<td>Long Work Shifts for Medical Interns Linked to Increased Motor Vehicle Accidents</td>
<td>01/16/05</td>
<td>0.25</td>
<td>View</td>
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<tr>
<td>Study Documents Link Between Pyelonephritis and Cystitis</td>
<td>01/15/05</td>
<td>0.25</td>
<td>View</td>
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<tr>
<td>Temporary Artificial Heart Approved</td>
<td>01/14/05</td>
<td>0.25</td>
<td>View</td>
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<tr>
<td>Dogs Detect Bladder Cancer</td>
<td>01/14/05</td>
<td>0.25</td>
<td>View</td>
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</tbody>
</table>

Total credit for 2005: 3.50
DAILY HEADLINES FROM MEDPAGE TODAY

MONDAY MARCH 28, 2005

Schiavo Neurologist Calls Frist a Fool and Shameful
MINNEAPOLIS—Seven years of work with the Terri Schiavo case have convinced neurologist Ronald Cranford, MD, that there is no doubt about the diagnosis of persistent vegetative state. He has sharp words for physicians and physician-politicians who say otherwise.
http://www.medpagetoday.com/tbin/dcm?tbid=779

Once-Monthly Oral Bisphosphonate Okayed
ROCKVILLE, Md.-The FDA approved the bisphosphonate Boniva (ibandronate) today for treatment and prevention of osteoporosis. Boniva is the first once-a-month oral agent the FDA has ever approved for a chronic disease.
http://www.medpagetoday.com/tbin/dcm?tbid=780

Demand for Cyler’s Ban
WASHINGTON—Although Abbott Laboratories has indicated it will take its 30-year-old hypervigil drug Cyler (salmeterol) off the market in the next several months, that is not fast enough for Public Citizen’s Health Research Group.
http://www.medpagetoday.com/tbin/dcm?tbid=778

Adrenal Suppression From Topical Corticosteroids Surprisingly High
GATHTERSBURG, Md.-Adrenal suppression affects 30% to 80% of users of prescription topical corticosteroids, according to data presented at an FDA advisory panel meeting. The session was convened to discuss taking prescription topical corticosteroids over the counter.
http://www.medpagetoday.com/tbin/dcm?tbid=777

CONFERENCE REPORT: Investigational Smallpox Vaccine Shows Fewer Adverse Events
Baltimore—An investigational smallpox vaccine offers a “kinder, gentler” alternative to current vaccines against the disease, say researchers who conducted the first U.S. studies. The vaccine has been licensed in Japan for 25 years.
http://www.medpagetoday.com/tbin/dcm?tbid=776

Straightening the Stubbornly Crooked Noses
SYDNEY, Australia—There’s news for the unhappy possessors of a crooked nose, and it’s good.
http://www.medpagetoday.com/tbin/dcm?tbid=775
Unique Approach

- MedPage Today™ is a new venture providing expert-reviewed, CME certified activities with several unique characteristics:
  - Teaching Briefs™ are brief – 400-600 word bytes -- and contain clinical recommendations as action points
  - Briefs are provided at the rate of 6-10/day and then archived
  - In contrast to usual online programs, choice of material presented is based upon breaking news – highly relevant to most users
  - Content areas can be customized for individualized educational needs
  - Teaching briefs are published in real time, every day, sustained growth of activity over 12 month period
  - News-driven content provides for balanced approach and absence of influence from any commercial interest
Results to Date

- U of Penn SOM certified and designated for credit 1,632 Teaching Briefs and Meeting Reports as CME activities in 2005
- 166,000 certificates each worth 0.25 AMA PRA Cat.1 credits issued for a total of 41,500 credits
- Epocrates certificates account for roughly 35% of the total number of certificates issued
2005 CME Certificates/Credits Issued on MPT Cumulative*

Total Certificates = Total CME Activities Taken on MPT = 166,000 @ 0.25 AMA PRA Category 1 Credits (41,500)

*Data provided by MPT™ and Epocrates
2005 CME Certificates Issued on MPT Monthly*

*Data provided by MPT™
## Reach by Specialty*

<table>
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<tr>
<th>Specialty</th>
<th>Estimated Uniques</th>
<th>Specialty</th>
<th>Estimated Uniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergy &amp; Immunology</td>
<td>1,800</td>
<td>Orthopedics</td>
<td>2,500</td>
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<tr>
<td>Anesthesiology</td>
<td>11,000</td>
<td>Pediatrics</td>
<td>24,900</td>
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<tr>
<td>Cardiology</td>
<td>12,600</td>
<td>Psychiatry</td>
<td>21,500</td>
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<tr>
<td>Dermatology</td>
<td>3,500</td>
<td>Primary Care</td>
<td>97,700</td>
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<tr>
<td>Emergency Medicine</td>
<td>13,000</td>
<td>Pulmonary Medicine</td>
<td>5,900</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>3,500</td>
<td>Radiology</td>
<td>3,000</td>
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<tr>
<td>Gastroenterology</td>
<td>7,000</td>
<td>Rheumatology</td>
<td>2,100</td>
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<tr>
<td>Hematology/Oncology</td>
<td>6,700</td>
<td>Surgery (All)</td>
<td>14,300</td>
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<tr>
<td>Infectious Disease</td>
<td>3,200</td>
<td>Urology</td>
<td>4,200</td>
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<tr>
<td>Nephrology</td>
<td>4,500</td>
<td>Nurses</td>
<td>139,500</td>
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<tr>
<td>Neurology</td>
<td>11,100</td>
<td>Nurse Practitioners</td>
<td>69,800</td>
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<tr>
<td>OBGYN</td>
<td>13,700</td>
<td>Pharmacists</td>
<td>31,000</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>4,900</td>
<td>Physician Assistants</td>
<td>46,500</td>
</tr>
</tbody>
</table>

*Data provided by MPT™*
Learner Distribution*

*Based on overall numbers for healthcare professional who earned credit for reviewing TBs
In Time CME

- The program provides in-time learning as data shows that users choose to read breaking stories more frequently on weekdays rather than weekends suggesting a form of “at the point of care” education.
- Over 50% of users come back on a regular basis (at least once a week).
- Self-reported (756 surveyed users)
  - 64% use it every day
  - 21% use it weekly
Early Daily Use by Physicians

Daily completed post tests

1/14 1/28 2/11 2/25 3/11
Early Use by Physicians: Weekdays only

Daily completed post-tests

1/14 1/28 2/11 2/25 3/11
Evaluation Results

- Most valuable to healthcare users perceived to be:
  - Daily News for 71%
  - CME with the news 85%
  - Daily Headlines delivered by e-mail 70%
  - Service overall 88%

- Relevance to practice
  - 52% of MDs find Teaching Briefs to be relevant to their practice needs "to a greater degree" or "completely"

- Future Need Related Interests:
  - More CME
  - Longer CME
  - PDF downloads of original source journal articles
  - Integrated (all health plans) drug formulary resource
Participants’ Feedback

- “As a risk manager for a malpractice insurance company, it keeps me up-to-date with issues that our physicians may need to be alerted on. As an RN, it is very interesting to know keeping up health issues.”

- “Concise synopses of breaking medical news and excellent "pearls" of info that are useful in daily practice.”

- “Important timely updates done with a concise but comprehensive flair. CME availability to facilitate a busy practitioner's educational and professional requirements.”
Participants’ Feedback, cont’d

“Keeping up-to-date on what is happening in the real world. Getting the lo-down on the latest information BEFORE the patient asks about trials, newsbreaks etc. Love also the CME's – awesome....”

“Relevant & up-to-date summaries of important news is very helpful and allows me to more easily identify which topics I need to review in more detail. Direct link to abstract has been very useful!!”

“Timely news info, especially about items in the lay press, with reference to the source, and further explanation; this makes it easy to discuss the issues when patients ask about the information.”
Coming Soon:

- Internet Point-of-Care: newly approved CME type of activity
- Designation of specific state-based required CME topic
- Expert audio and video interviews
- Performance-based design of evaluation of outcomes
Our Place in System Thinking: Collaboration

Drives Development and Delivery of High Quality and Effective CME

Medical Journals

Government Agencies

Med Ed Provider

CPD Regulators

Technology Provider

News Media

Funding for CME

Publishers

Specialty Society

Delivery Platform

Academic CME Provider

Practicing Physicians
Questions and Discussion

Thank You
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