Today's webinar is:

Clinical Use of Mobile Apps in Behavioral Health Treatment

Nov. 15, 2012, 1-2:30 p.m. (EST)

Presenters:
Julie Kinn, Ph.D.
Deputy Director, Mobile Health Program, National Center for Telehealth and Technology
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Licensed Clinical Psychologist, National Center for Telehealth and Technology

Moderator:
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Deputy Director, National Capital Region National Center for Telehealth and Technology

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Additional Webinar Details

- Webinar audio is **not** provided through Adobe Connect or Defense Connect Online

  - Dial: **888-455-4265**

  - Use participant pass code: **9415208#**

- Webinar information

  - Visit dcoe.health.mil/webinars

- Question-and-answer session

  - Submit questions via the Adobe Connect or Defense Connect Online question box

Webinar Overview – Intro

Clinical Use of Mobile Apps in Behavioral Health Treatment

With new technological developments occurring every day, health care providers are in a unique position to interact with patients using different modalities, such as:

- Mobile phones
- Websites
- Tablets

For example, behavioral health clinicians may use mobile apps to reinforce skills learned during the therapeutic process.

Webinar Overview – T2

The [National Center for Telehealth and Technology](#) (T2) leads the Defense Department's efforts to advance the use of technology for the prevention, assessment and treatment of a broad range of health conditions for service members, veterans and their families.

Using the latest technology, T2:

- Creates virtual reality mental health applications
- Oversees suicide surveillance/automation programs across the Defense Department
- Facilitates telehealth and Web-based care for psychological health/traumatic brain injury (i.e., video teleconferencing, interactive media and at afterdeployment.org)
- Develops mobile applications to support 24/7 access to behavioral health tools and critical support systems

Webinar Goal

The goal of this webinar is to inform individuals about T2's technological resources for use in psychological health and TBI care with a special emphasis on mobile apps that may be used to supplement psychological health treatment.

Specifically, this webinar will:

- Discuss the T2 Mood Tracker, a mobile application that helps users to self-monitor, track and reference their emotional experience over a period of days, weeks and months using a visual analogue rating scale.
- Discuss the PE Coach, a mobile application designed to support the tasks associated with prolonged exposure treatment for posttraumatic stress disorder (PTSD). This mobile application helps users to self-monitor behavior and provides education about PTSD as well as resources for coping with PTSD.

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Clinical Use of Mobile Apps in Behavioral Health Treatment

Julie Kinn, Ph.D.

Deputy Director, Mobile Health Program

National Center for Telehealth and Technology

15 Nov. 2012

Disclaimer

The opinions or assertions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the Department of the Army or the Department of Defense.

Agenda

- Definitions
- Why mobile technologies for military health promotion?
- T2's approach to developing mobile apps
- Do mobile apps work?
- Introducing mobile apps to your patients
- The future of mHealth apps

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Defining Mobile Health (mHealth)

- Any or all of the following:
  - Communication between providers and patients using mobile devices
  - Researching symptoms on a website
  - Ordering prescription refills from a mobile phone
  - Viewing patient records from afar
- Essentially, any health promotion using a mobile device or computer

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Defining Mobile Apps

- An application (computer program) made for:
    - Smartphones (e.g., Blackberry, iPhone, Android, Windows phones)
    - Tablet computers (e.g., iPad, Kindle Fire)
    - Generally available via app stores (e.g., Google Play, iTunes, Amazon Appstore)
    - T2 mobile apps available at http://t2health.org/mobile-apps

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Industry Forecasting

- Mobile broadband subscriptions: 200 million in 2008 to 1.2 billion in 2011; projected to reach 3.8 billion by 2015

- 2011: U.S. mobile health market valued at $718 million

- March 2012: 46% of American adults own smartphones – up from 35% in May 2011

- By 2013, more users will connect to the Internet via mobile devices than PCs

- By 2013, 500 million people will use mHealth apps

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Health Care Survey

- 2011-12 survey of U.S. and Int'l Health IT
  - 85% support use of personal devices by physicians and hospital staff
  - 83% report their hospital supports clinician use of iPads in next 24 months
  - 60% reported their hospital supports electronic medical record mobile apps
  - 50% of hospitals to upgrade mobile health capabilities

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Mobile Devices

- 73% of active-duty service members have smart phones

- 70% of people sleep with their cell phone; 90% of "digital natives" (under 30)

- There are more mobile phones in the world than toothbrushes

Current Uses in Behavioral Health

- Web and mobile applications for behavioral health disorders (e.g., depression, anxiety, sleep)

- Informational, assessment, track/graph, interactive tools, self-monitoring prompts

- Mobile apps offer many other capabilities:
  - Contact lists
  - Phone, email and texting
  - Videoconferencing
  - Calendars, file-sharing, therapist audio-recordings, date-stamp homework assignments
  - Real-time audio/video coaches (telehealth)
  - Global positioning system (GPS)
  - Wearable sensors (biofeedback)

Luxton et al. – mHealth for Mental Health: Integrating Smartphone Technology in Behavioral Healthcare. Professional Psychology: Research and Practice. 2011, Vol.42, No. 6, 505-512.

Military Behavioral Health

- Needs
  - Care for service members and families
  - Access to resources for providers
  - Agility to respond to emergent crises
- Challenges
  - Costs
  - Distance

Why Use Technology in Military Health Care?

- Overcome barriers to care (e.g., Hoge et al, 2004)
  - Stigma:
    - Web-based and mobile apps are anonymous
    - User interfaces/platforms familiar to service members
  - Logistics:
    - "Hip pocket" availability
    - 24/7 access to care, 365 days a year

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T2 Approach to Development

- Assessment at every stage
  - Focus group
  - Usability
  - Efficacy
  - Effectiveness
- Collaborations
  - Department of Veterans Affairs (VA)
  - Non-profit organizations
  - Universities

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Mobile Application Development

T2 Mood Tracker

Self-monitor, track and reference emotional experiences over a period of days, weeks and months.

Features:

- Self-rating on pre-populated categories
- Full note adding
- Graphed results
- Fully customizable categories
- User-set reminders for self-rating
- Send results to providers

T2 Mood Tracker
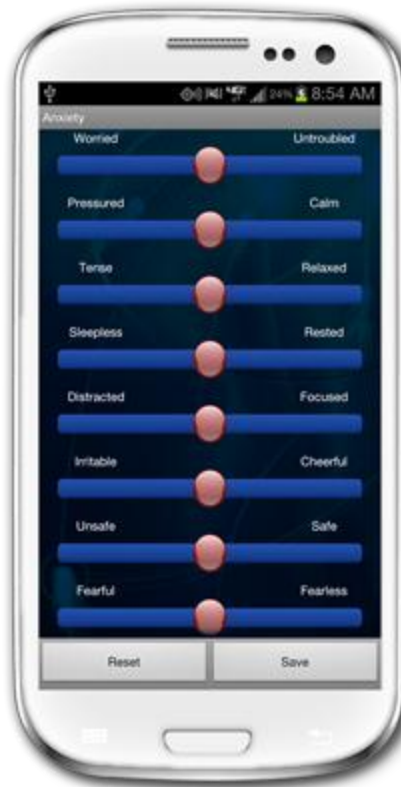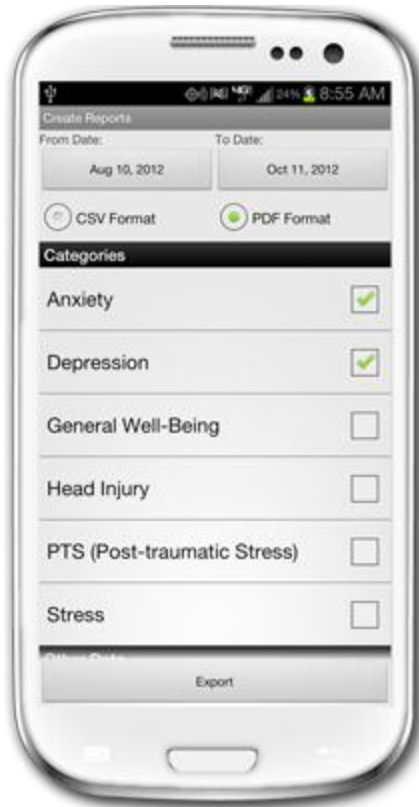
"Anytime, Anywhere, Any Device"

Evaluating Mobile Apps

- The bad news:
  - Current dearth of outcomes research
  - Tension between producing fast and thoroughly testing
  - No current review process for public-facing apps

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Evaluating Mobile Apps

- The good news:
  - Most government apps based on evidence-based practices
  - Outcome research is in progress
  - Metric/user data looks good
  - T2's research enrollment module

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Using Apps with Patients

- Set clear boundaries
- Do not assume patients are tech-savvy
- Use as you would any other resource
  - Do not overwhelm with too many options
  - Do not push
  - Pick apps you trust

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The Future of Mobile Apps*

- Mobile websites will be more common than mobile apps

- Improved access to data

- Increased need for security

- mHealth will be as natural as calling a consulting nurse by phone

* Julie Kinn not to be held responsible for any gambling based on these predictions

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Thank You – Questions?

Polling Question

- When working with patients, have you used mobile apps as part of their treatment?

    – Please select:

    o Yes

    o No

    o Not applicable

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Collaborators

- Julia Hoffman
- David Riggs
- Barbara Rothbaum
- Joe Ruzek
- Eric Kuhn
- Kevin Holloway

Acknowledgements

- DCoE
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- Drs. Barbara Rothbaum, Edna Foa, Elizabeth Hembree
- Oxford University Press

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Prolonged Exposure (PE)

- Manualized psychotherapy
- 8 to 15 individual sessions
- 90-minute sessions
- Three main components:
  - Psychoeducation
  - Imaginal exposure to trauma memory
  - In vivo exposure
- Two audio recordings
- Subjective Units of Discomfort (SUDs)
- Symptoms monitored throughout treatment
- Homework: audio recording of exposure and in vivo exposure

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Scientific Literature on Exposure Therapy

- *"...the evidence from many well-controlled studies across a wide range of trauma survivors is very compelling…no other specific CBT program has such strong evidence for its efficacy…"*
  - Practice Guidelines from the International Society for Traumatic Stress Studies (2009)

- *"…strongly recommended…"*
  - VA/DoD Clinical Practice Guidelines for PTSD

- *"…the evidence is sufficient to conclude the efficacy of exposure therapies in the treatment of PTSD…"*
  - Institute of Medicine, Treatment of Posttraumatic Stress Disorder: An Assessment of the Evidence (2007)

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Barriers to Provider Implementation

- Limited provider use (Becker, Zayfert & Anderson, 2004; Rosen et al, 2004)
  - Accordingly, large scale roll outs of PE are underway in VA (Karlin et al; Ruzek & Rosen, 2009) and DoD (Copland, Domenici & Schulz, 2011)

- Audio recording of PE sessions and imaginal exposure
  - Cassette recorders are rare
  - Digital audio recording software may not be approved on network
  - Time-consuming and inconvenient burn of audio CDs

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Barriers to Patient Adherence

- Patient attendance of treatment sessions
  - Deployment and PTSD linked with cognitive decline (Samuelson et al, 2006; Vasterling et al, 2006; Vasterling, Brailey, Constans & Sutker, 1998)
  - Avoidance symptoms of PTSD can negatively impact attendance
    - Up to 30% of patients drop out of exposure therapy treatment (Hembree et al, 2003)
    - Slightly higher drop-out rates among veterans and active duty (Schnurr et al, 2007)

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Barriers to Patient Homework Adherence in PE

- Homework compliance is a significant predictor of treatment outcome (Kazantzis, Deane & Ronan, 2000)

- PE includes up to two hours of homework a day

- Inconveniences can provide "invitations for avoidance"
  - Limited access to CD players
  - Forgetting paper homework logs at home
  - Stigma

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Smartphone Solution

- Survey research (n=331) found that most active-duty service members (52–65%) have a personal smartphone (Bush et al, 2012)

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A Thoughtful Process… Collaborators

- Center for Deployment Psychology
  - Trains behavioral health providers to provide high-quality deployment-related behavioral health services to military personnel and their families

- National Center for PTSD Dissemination Division

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A Thoughtful Process…

- Concept validation in survey research with PE-trained VA clinicians (n=162)

- Formal usability testing with soldiers

- Formal usability testing with DoD providers

- Feedback on beta version of PE Coach from 94 VA/DoD providers trained in PE
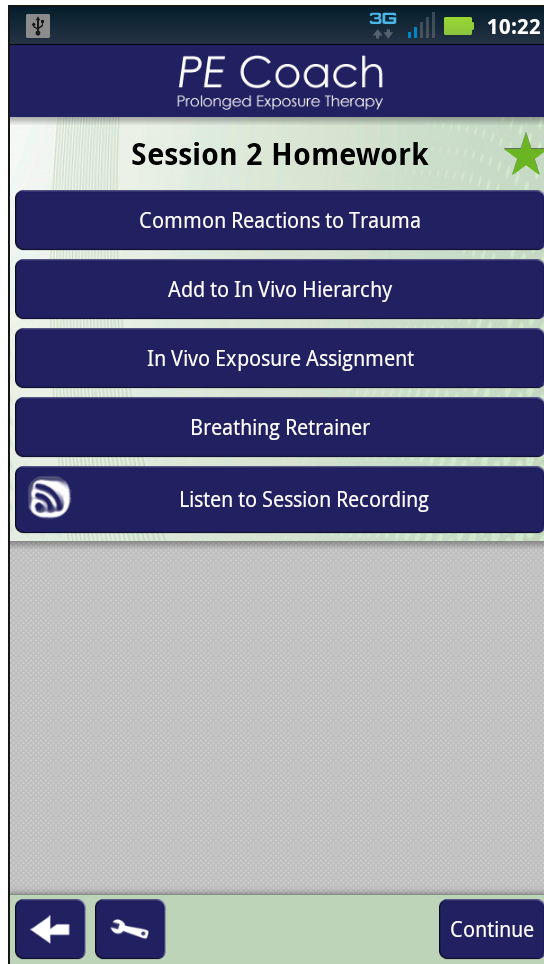
- Feedback from PE protocol authors

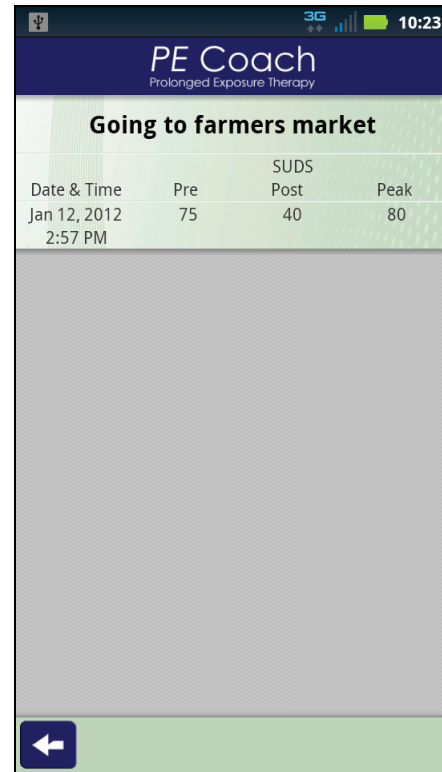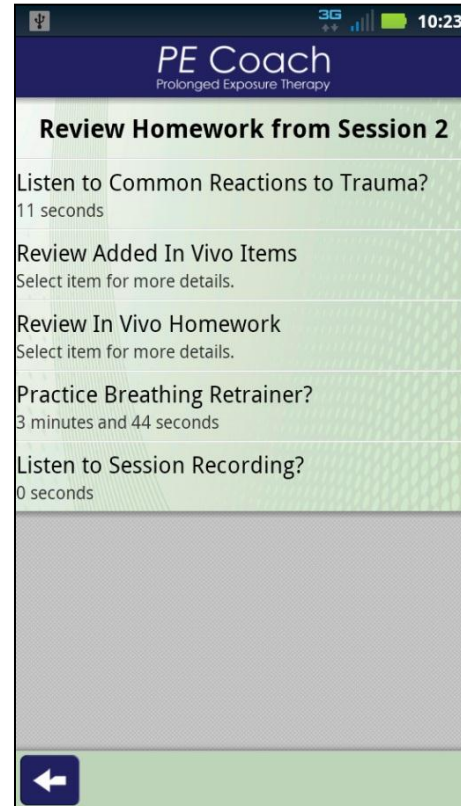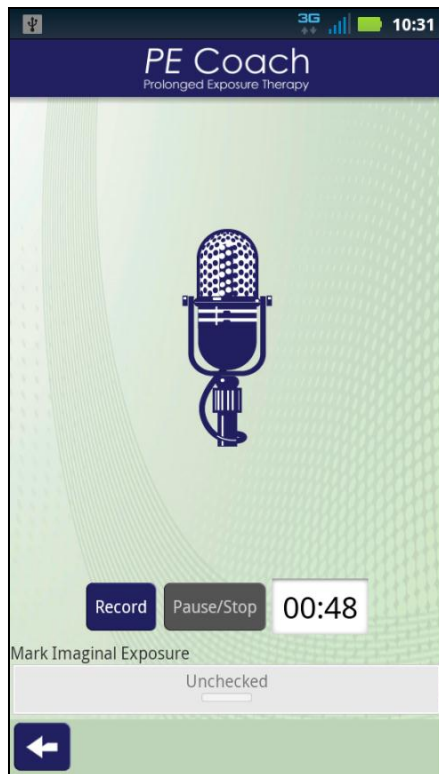National Center for TELEHEALTH & TECHNOLOGY
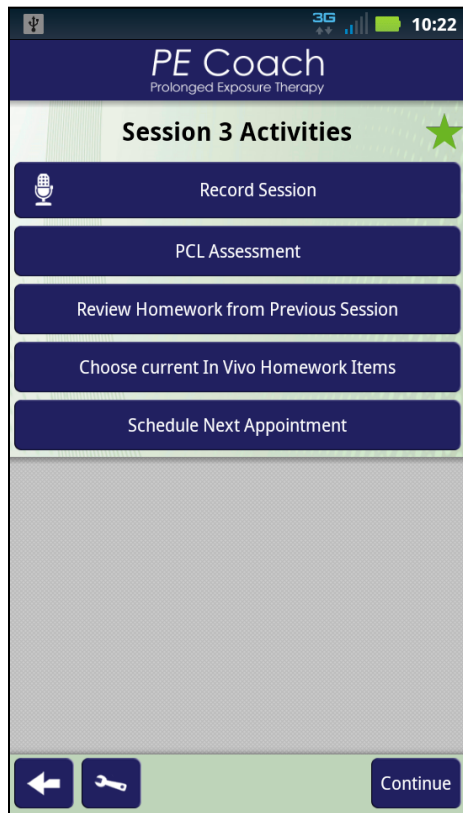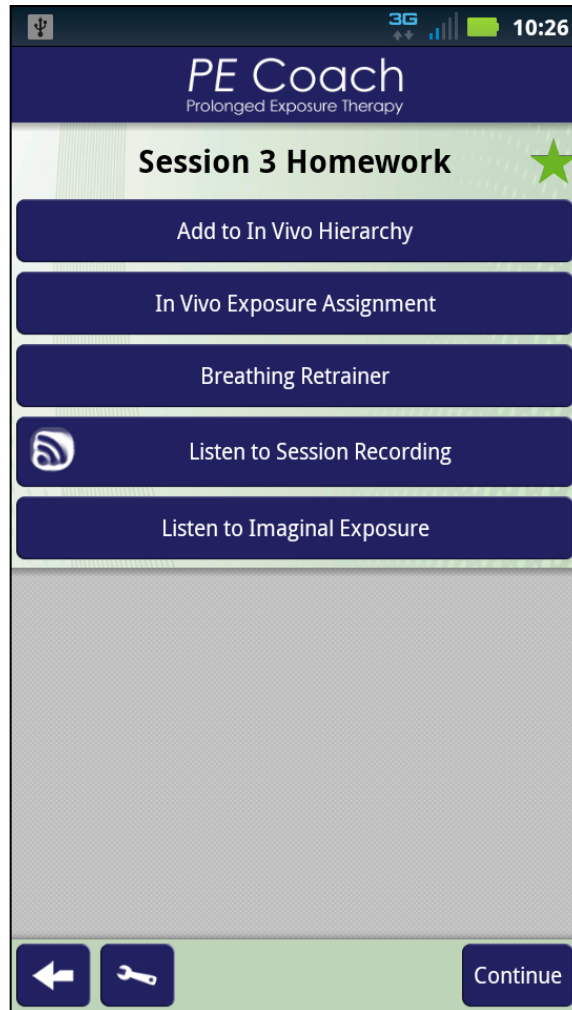
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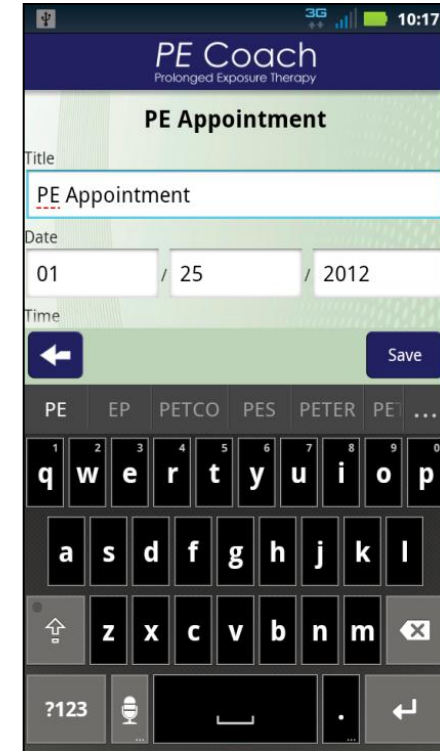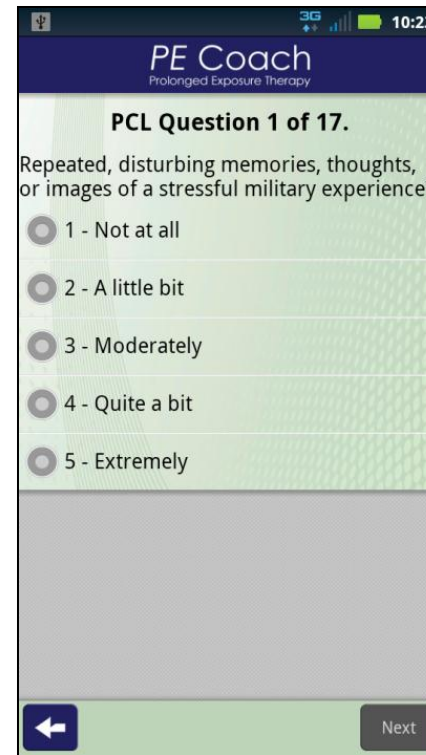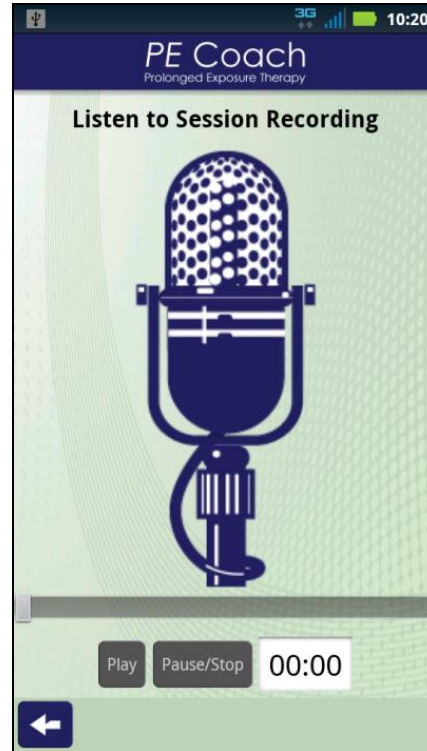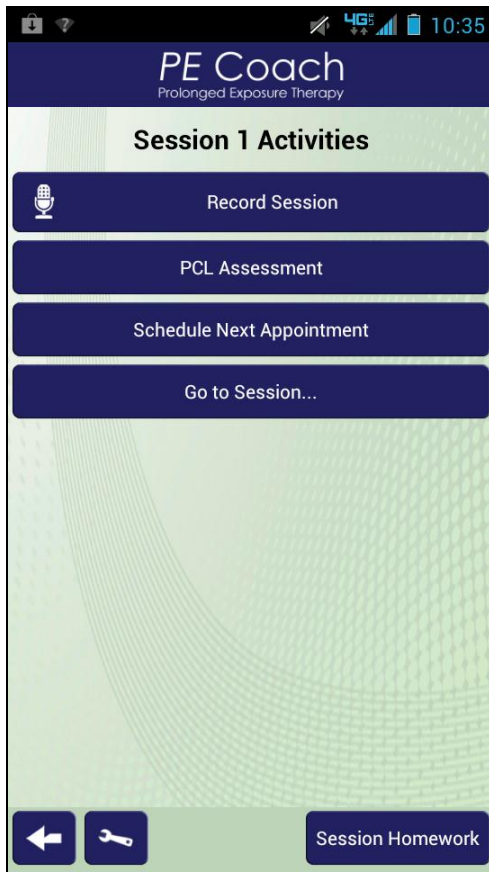
Session 1 Homework
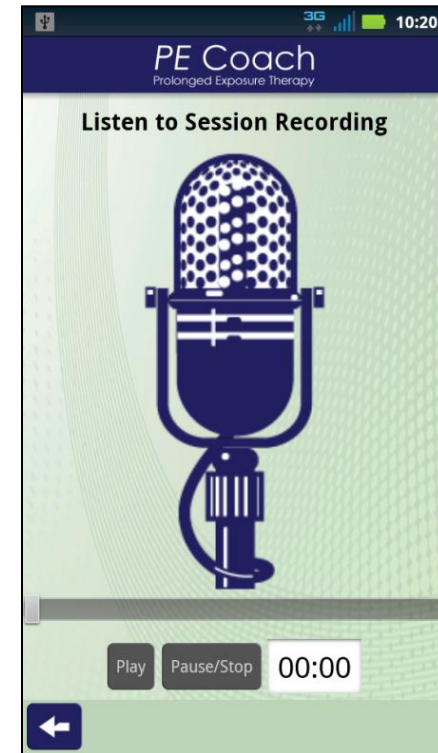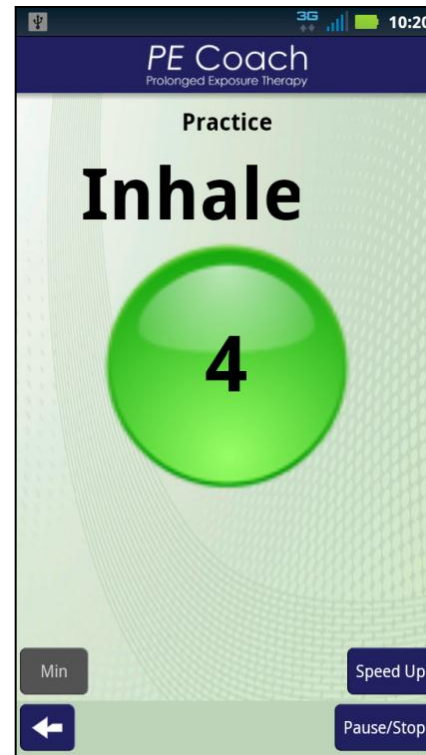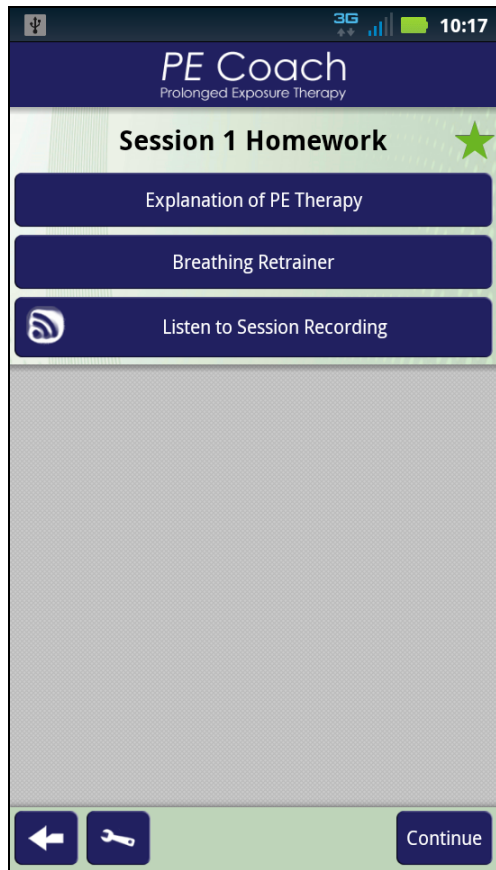
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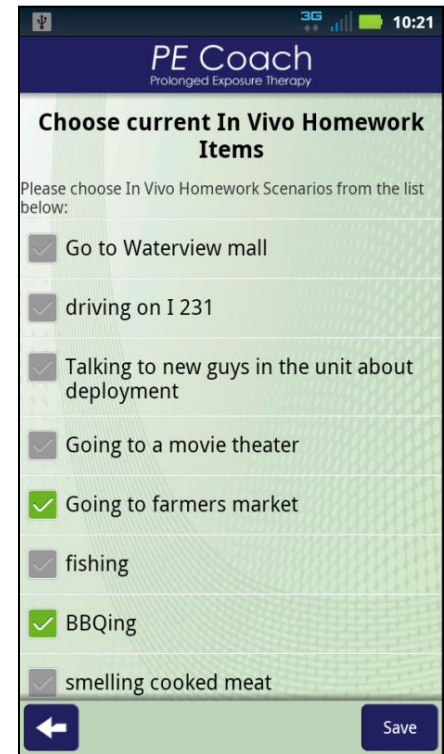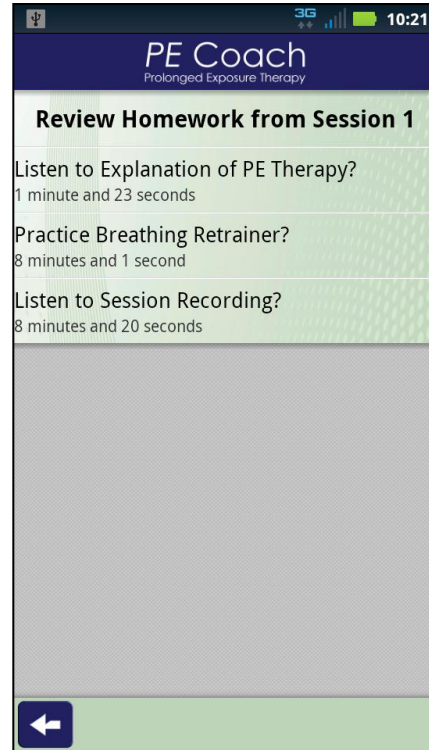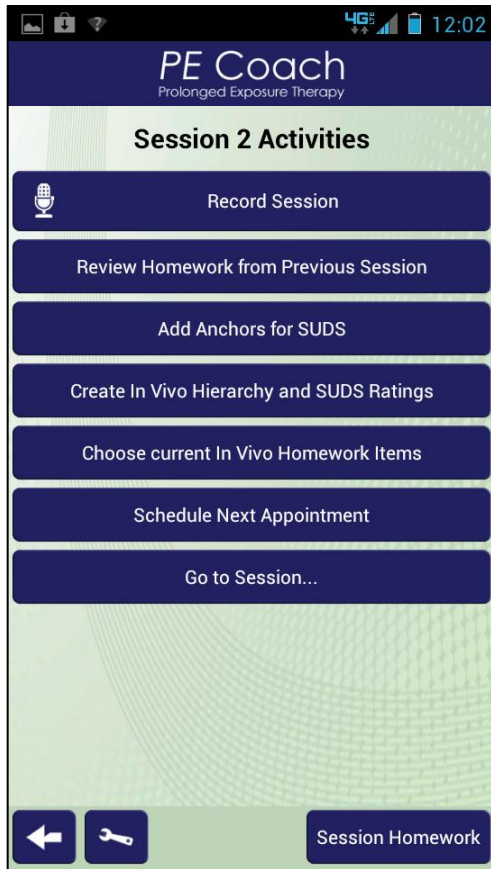
Session 2 Homework

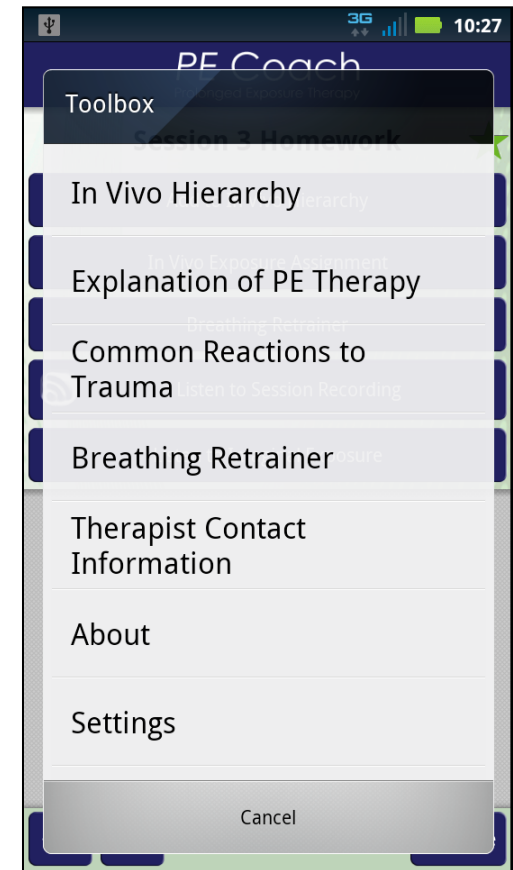# Session 3 Activities

Session 3 Homework

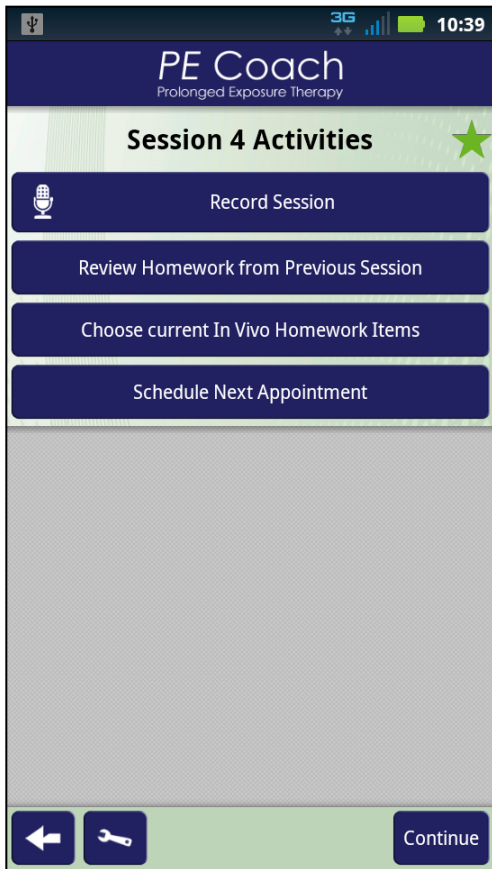# Session 4 Activities
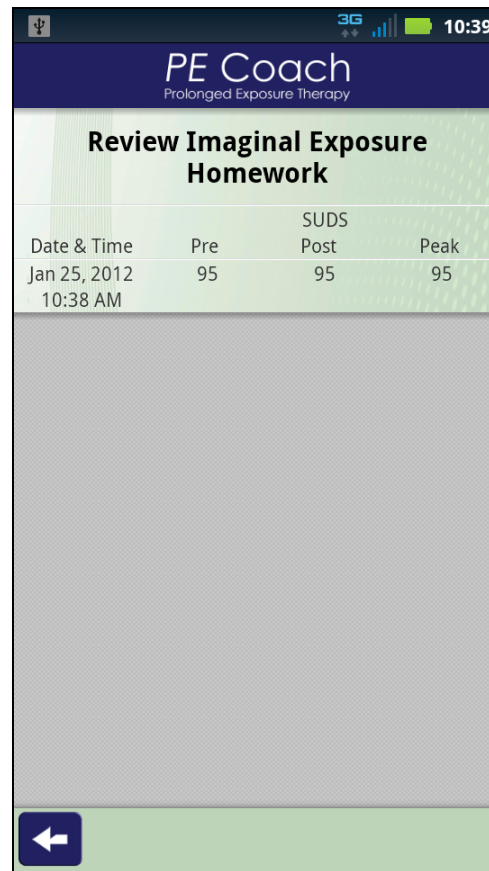
Final Session
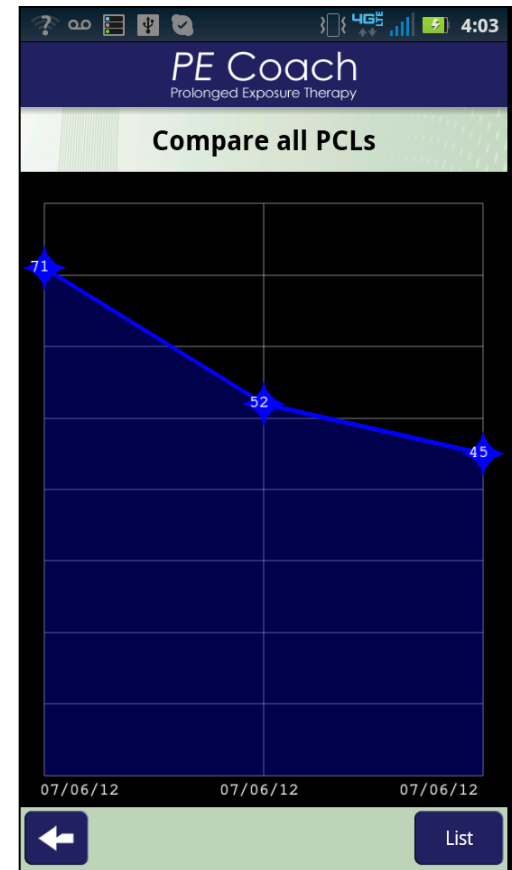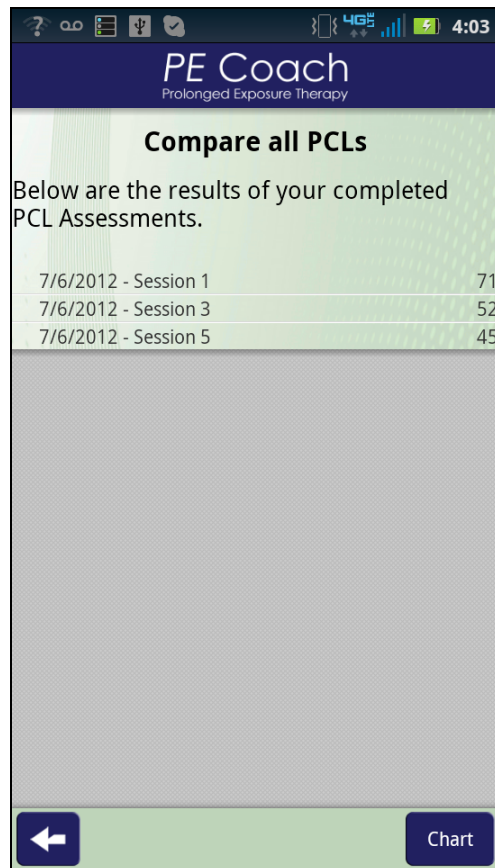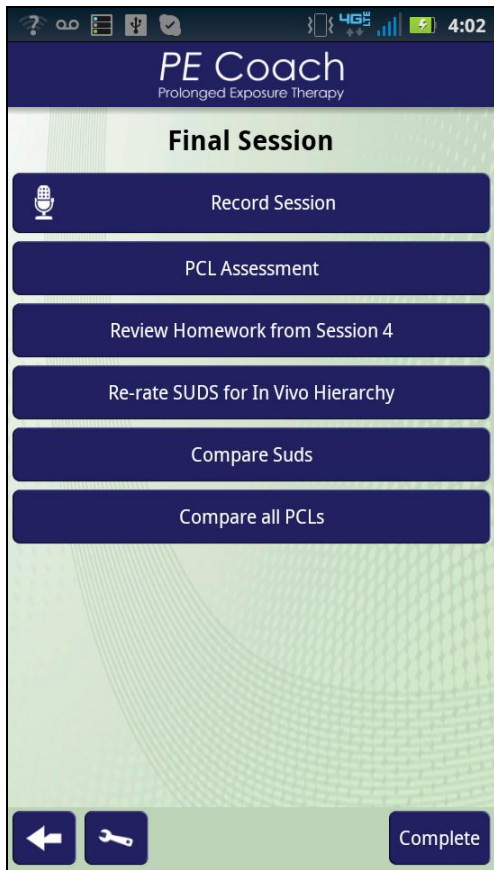
Security
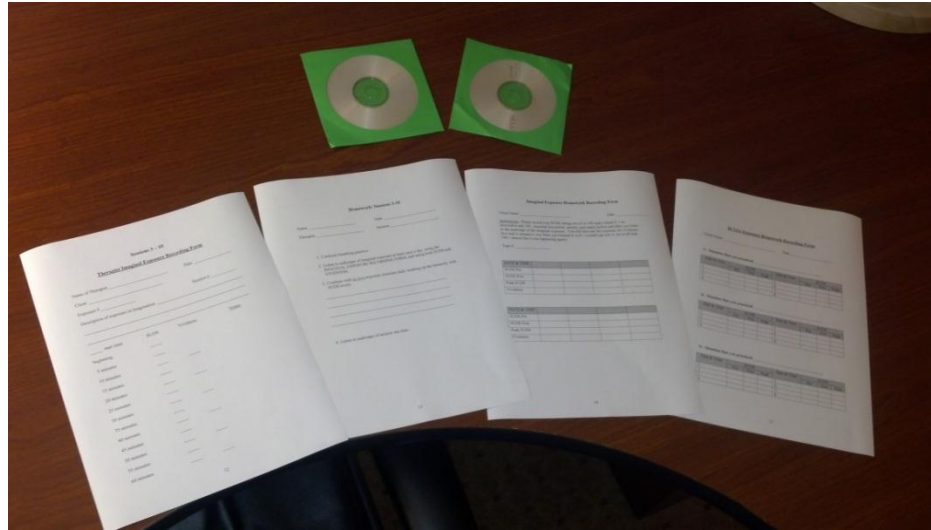
- Device can be password protected
- PE Coach can be password protected
- PE Coach data maintained in the "sandbox" of the app
- Uninstall the app, data deleted

Next Steps

- Transfer of data to providers

- Research and evaluation

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Conclusion

- New support for provider implementation of, and fidelity to, evidence-based treatment for PTSD

- New patient support for adherence to treatment

- New opportunities to support research

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To Get PE Coach

- Visit www.t2health.org/apps/pe-coach

  – Download the Clinician's Guides

  or

- Visit Google Play and Apple App Store

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Thank You – Questions?

A Thoughtful Process… Is this a good idea?

Responses of 162 PE-trained VA providers treating an average of 21 PTSD patients per week

The PE app will make it easier for veterans to complete PE homework

6%

8%

86%

■ Disagree to Strongly Disagree

■ Neither agree nor disagree

■ Agree to strongly agree

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A Thoughtful Process… Is this a good idea?

Responses of 162 PE-trained VA providers treating an average of 21 PTSD patients per week

The PE app will make it easier to record sessions.

10%

14%

76%

- Disagree to Strongly Disagree
- Neither agree nor disagree
- Agree to strongly agree
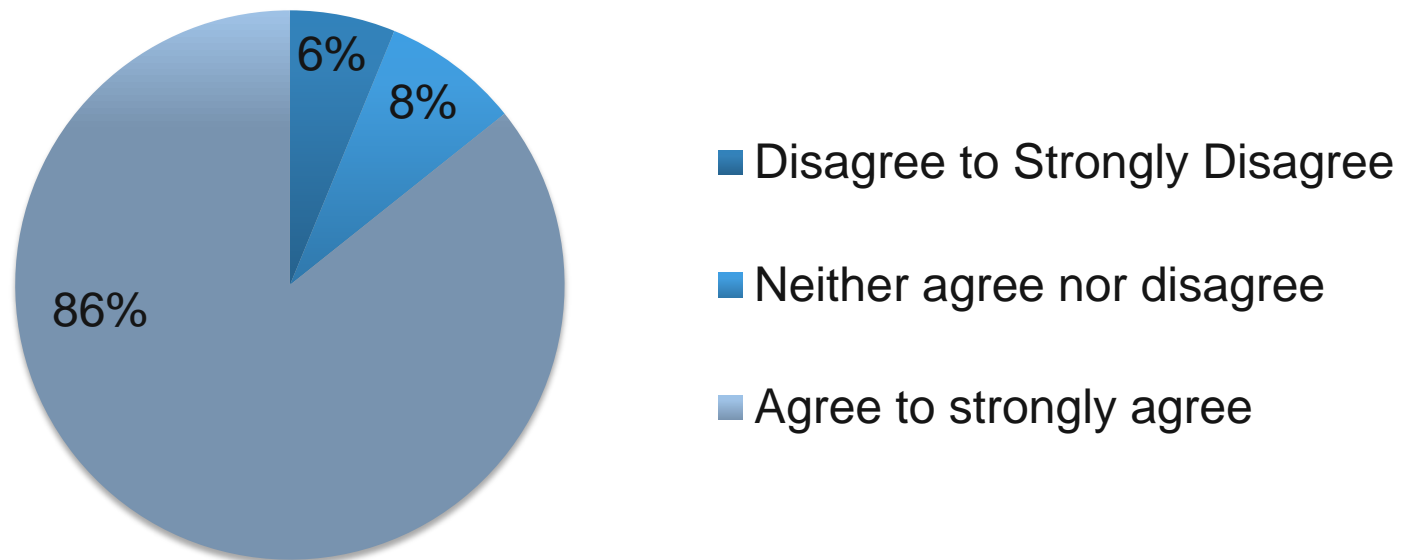
A Thoughtful Process… Is this a good idea?

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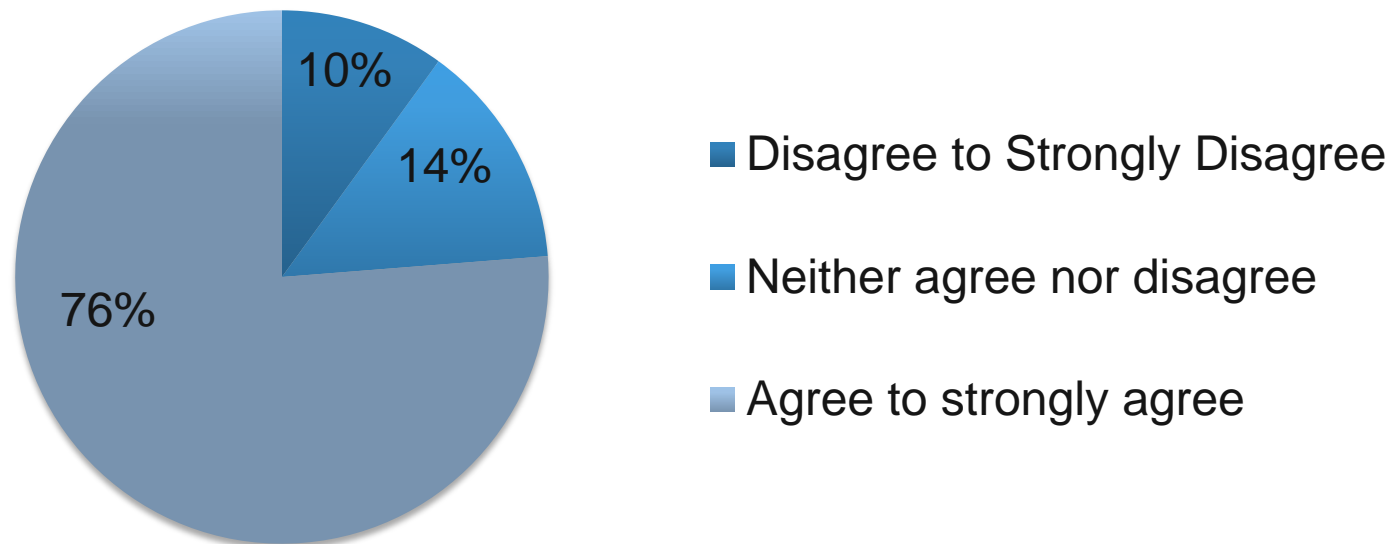**The PE app will improve patient outcomes.**
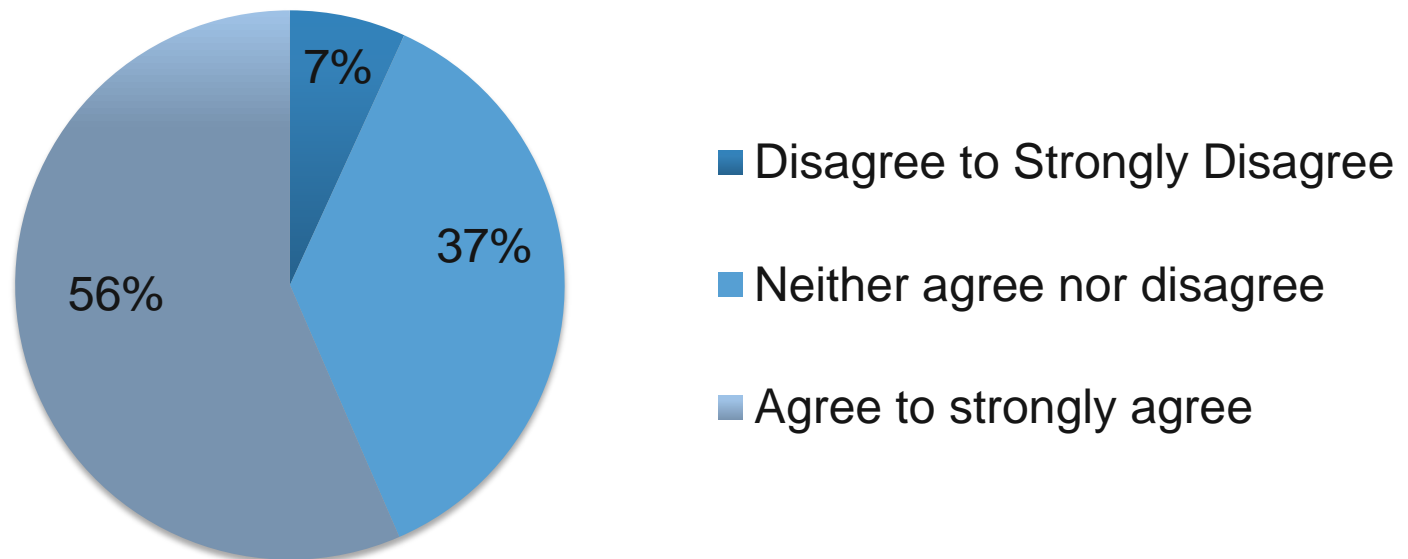
- 7% — Disagree to Strongly Disagree
- 37% — Neither agree nor disagree
- 56% — Agree to strongly agree

Dr. Reger Presentation (Back-up Slide)

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Question-and-Answer Session

- Submit questions via the Adobe Connect or Defense Connect Online question box located on the screen.

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- We will respond to as many questions as time permits.

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No DCoE webinar in December

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Jan. 24, 2013
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27	28	29	30	31		

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