

An RCT to Study the Benefits of HRA in Primary Care: Design Issues

Saturday, June 18th
Madrid III ~ 11:10am – 11:55am

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Objectives

- To describe a planned randomized controlled trial that examines the impact of a novel web-based health risk appraisal tool on preventative services delivery in OKPRN practices. The presentation will also elicit a discussion of the challenges of the design

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Corporate Organizations

None

Financial Interests/Affiliations

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Goal-Directed Care Through Personalization and Prioritization of Preventive Services Using Advanced Health Risk Appraisal in Primary Care Settings

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Background

It has been estimated that implementation of United States Preventive Services Task Force (USPSTF) guidelines would require over seven hours a day per primary care clinician.¹ Similarly, it has been calculated that based on current practice guidelines, primary care physicians would need over 10 hours per day to manage their patients with the top ten chronic diseases, if diseases were uncontrolled.²

Personalization and prioritization of evidence-based care options are needed to address the challenge of limited time and resources. Integrated Health Risk Appraisal (IHRA) instruments are ideally suited to gather personal risk information and assist the patient-practice team in highly contextual and shared decision making.

Since the early '70s, many HRA instruments have been developed and used successfully, mostly in worksite programs and public health initiatives. However, there is a substantial gap in the literature and in the use of HRAs in primary care settings. In addition, the generation of HRAs in primary care settings for medication management and focus on a single condition or a limited health area, they are often not evidence-based, and typically provide only one type of feedback.

1. Yamani KS, Pollock KL, Oatway T, et al. *Am J Public Health*. Apr 2003;93(4):635-641.
2. Oatway T, Yamani KS, Krause KH, et al. *Ann Fam Med*. May-Jun 2005;3(3):209-214. 2

The HRA Project

A recent K08 Award from AHRQ (2008-13) helped us design and pilot test a comprehensive, web-based HRA tool that can be used routinely in primary care settings. The tool is integrated into a novel approach to prospective care delivery based on personalization and prioritization of preventive services. A recent six-month pilot testing (2010) will be followed by a nine-month implementation study (2011) and later, a two-year randomized controlled trial (2012-13) in twelve OKPRN^{*} practices.

*OKPRN: Oklahoma Physicians Resource/Research Network (www.okprn.org) 3

Prioritization of Personalized Services Based on Health Impact and Patient Goals

Length of life: sequential predictions help us gauge the estimated impact of various interventions on the length of life, while patient preferences, values, and constraints are also considered. The top 3-5 evidence-based services with the most pronounced estimated health impact can be negotiated with the patient.

Quality of life: Health-related QoL can be included via evaluation of personal goals and meaningful life activities that require the preservation of functions (e.g. ability to see, hear, ambulate, think, etc).

7

A Real-Life Patient Example

- A 75-year-old white, non-Hispanic woman with diabetes (for 5 years), hypertension (for 10 years), elevated cholesterol, and painful osteoarthritis
- She has a history of myocardial infarction, peripheral artery disease, and chronic kidney disease
- Her medications include glyburide, atorvastatin, hydrochlorothiazide, acetaminophen, and aspirin.
- She has never smoked or used alcohol.
- Her diabetes and cardiovascular disease are well controlled, and she is independent.
- She has never needed or used a cane, walker, or other assistive device, and has also never inhaled therapy for asthma, chronic obstructive pulmonary disease, or emphysema, since her medical costs or change her daily routine. The arthritis limits her ability to exercise, however, she enjoys reading, sewing, sports on TV, and a little flower gardening.
- Her most recent blood test results are: hemoglobin A1c is 8.4%, fasting glucose level is 154/76 mm Hg (supine but 132/70 mm Hg while standing without lunch), serum uric acid is 208 mg/dL, low-density lipoprotein cholesterol is 110 mg/dL, total cholesterol is 208 mg/dL, serum uric acid is 6.0 mg/dL, serum creatinine is 1.2 mg/dL, and urine microalbumin < 20 mg/dL.

Key factors in red are picked up by the HRA risk engine

8

Real-Life Patient Example: Baseline Health Status Estimates

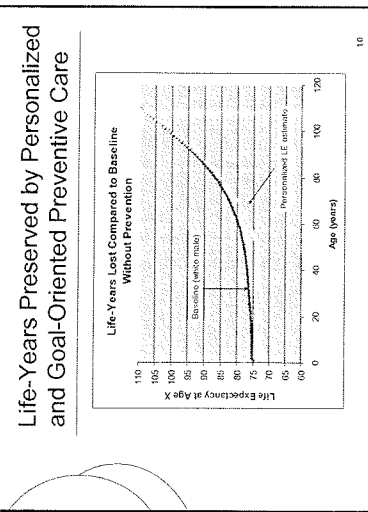
Calendar Age: 75 years
Estimated Life Exp.: 81.2 years
Race-Age-Wellness Score: 84 (100 is "average")

Probable Causes of Death & Magnitude of Risk:

- 1) Diabetes complications (RRI: 29.5)
- 2) CVD (RRI: 2.48)
- 3) Cancer (RRI: 1.4)
- 4) Stroke (RRI: 2.74)
- 5) CKD (RRI: 5.9)

*RRI: relative risk increase compared to a standard (average) population of her age, gender, and race / ethnicity

9



Web-based HRA Instrument Administered Through a Patient Wellness Portal

My Wellness Portal
 Empowering Family and Community Participation

Wellness Portal Health Risk Assessment (HRA - complete)

215 risk factors in 13 health domains

- High Cholesterol
- High Blood Pressure
- High Blood Sugar
- High Triglycerides
- High BMI
- High Waist Circumference
- High Blood Pressure
- High Blood Sugar
- High Triglycerides
- High Cholesterol
- High Blood Pressure
- High Blood Sugar
- High Triglycerides
- High BMI
- High Waist Circumference

What's the health risk for you?
 Start the health risk assessment. Complete your assessment. Review your results. Share your results with your doctor.

What's your next step?
 Review your results. Share your results with your doctor. Complete your assessment. Start the health risk assessment.

Home | My Wellness Portal | Home

Tailored Feedback to Patients and Clinicians (HRA Report)

My Wellness Portal
 Empowering Family and Community Participation

WELLNESS REPORT (06/15/2011) (17 years old)

My Wellness Report is 72.1% complete. You have 28.9% more to go. Log in to your account to see your results and share them with your doctor.

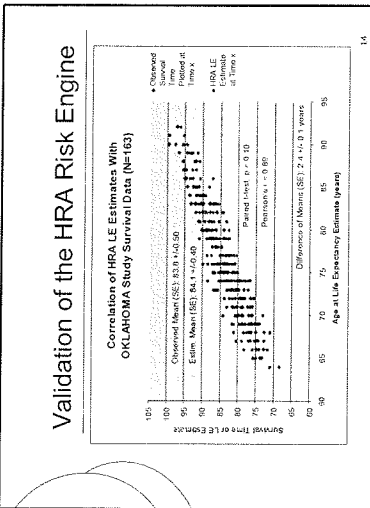
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Validation of the HRA Risk Engine

1) Oklahoma Longitudinal Assessment of Health Outcomes in Medicine Patients (OAHMP) study, N=168: The mean and standard error of the LE estimate were 83.7 +/- 0.35 years and the observed mean survival time was 83.7 +/- 0.35 years in the cohort (paired t-test; p value of 0.12), indicating that the estimates were not significantly different from observed survival times. The Pearson's correlation coefficient between HRA LE estimate minus age at the time of the estimate) and (observed survival time minus age at the time of the estimate) was 0.89.

2) Thorough medical record reviews of deceased OAHMP Family Medicine patients (N=14): The mean and standard error of the LE estimate were: 73.5 +/- 2.63 years and the observed mean survival time was 72.4 +/- 2.89 years, showing outcomes similar to that from the OKLAHOMA dataset.

15



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15

Conceptual Model of HRA-Based Goal-Directed Care Delivery

(*) Better preventive care includes not just conventional preventive services (e.g. vaccinations and screenings) but also lifestyle interventions (e.g. smoking cessation, diet, exercise) related to health conditions and disease processes (primary prevention). In this regard, chronic conditions are risk factors for decreased life expectancy or diminished quality of life. This approach encompasses the majority of primary care and integrates it into a unified health improvement / wellness strategy.

HRA Pilot Testing and Qualitative Patient Feedback

Fifteen patients in two OKPRV practices pilot tested the Wellness Portal HRA for six months and provided in-depth feedback via semi-structured interviews.

- 1) Patient experience with the use of the HRA:
"I was very impressed with the website. I thought it was better than I expected it to be. I actually learned a lot about my health just by completing the questionnaire."
- 2) Factors that facilitated or hindered the use of the HRA:
"The site was very neat and clean. I had to use the Help section only once. I particularly liked the appointment notification e-mails. I had some issues with signing up, but once I did that, it went well."
- 3) Further improvements in order to facilitate the use of the HRA:
"I can't think of anything else this time. Perhaps, it would be nice if I could pull up my record when I go to a specialist or if your doctor could send a copy to them."

Design: Ongoing Pre/Post HRA Study

Inclusion Criteria:

- 1) Patient is established in practice (seen 2x in last 12 months)
- 2) Patient is 40 years of age or older and not too confused, etc
- 3) Can speak English and has basic computer & Internet skills

Recruitment Protocol (N=200; 50 pts in 4 practices):

- 1) List of eligible patients from billing system or EHR
- 2) Eligible patients contacted by PEA
- 3) Schedule a 1-hour appointment with PEA in PCP's office to complete baseline HRA, surveys and study paperwork
- 4) Receive remuneration (\$25 gift card)
- 5) A second appointment with the PEA after the study to complete post-intervention HRA and surveys
- 6) Receive remuneration (\$25 gift card)
