Skin Scan Training Software Can Help Nurse Practitioners Identify Skin Cancers: S&T, S&A Collaboration

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Problem
Nurse practitioners (NPs) are a growing presence in Missouri and have become indispensable providers of health care, particularly in rural Missouri, where they are often the patient’s first point of contact. The high quality of care that NPs provide has been well-documented, especially in the areas of health promotion and disease prevention. But NP programs provide little formal training in dermatology.

Our hypotheses:
- NPs can become dermoscopy experts
- Software will help NPs identify critical signs of skin cancer.
- Skin cancer can be identified earlier, when it is easily treatable.

Our research focus:
Increasing NP skills in identification of skin cancers using new early detection methods.

Methods

- Images a.-d: Signs for distinguishing skin lesions, from S&A’s Melanoma and Mimics.
  - a. BCC
  - b. BCC Post Stretch (whitening)
  - c. Dermatofibroma
  - d. Dimple Sign

One NP will be the facilitator to train 10 NPs in the surrounding community.

The NPs will be given five instructional items:
- 15-module clinical diagnosis set, Melanoma and Mimics
- Dermoscopy, The Essentials [Johr R, Mosby, St. Louis, 2004]
- The 3-point checklist tutorial on the International Dermoscopy website
- The AAD Dermoscopy Tutorial.
- Skin Scan detection software—scanning for signs of early skin cancer.

Innovation Evaluation by Planet Eureka’s Merwyn Business Simulation
We received an innovation forecast evaluation of 60 on The Planet Eureka website: http://www.planeteureka.org/marketplace/. This score was higher than the score of any of the “hot 5” medical innovations on the website, fall 2009. The evaluation is based on forecasting the odds of success for over 15,000 innovations. With at least moderate marketing, Skin Scan is forecast to generate $15.7M - $71.8M in sales annually. The Merwyn Business Simulation is endorsed by the US Department of Commerce.

Skin Scan Advantages
The Skin Scan System uses the 3Gen DL3—a device that uses magnification and cross-polarized light to assess skin lesions. Skin Scan allows identification of early-in vivo microscopic changes that occur before the lesion has any of the typical visible changes.

This lesion appeared as a tan 5mm spot in the clinic inapparent to the patient and originally diagnosed as a benign lentigo. Using a correlation function, it was identified correctly as a melanoma in situ.

Implications
- Improve nurse practitioners’ ability to identify skin cancers
- Improve access to care for patients for skin cancers
- Apply new technology to aid in the recognition of skin cancers
- Identify skin cancers at a early stage
- Improve treatment options for patients with identified skin cancers