Philips, Emory Healthcare team on telehealth ICU in Australia

By **Joseph Goedert**
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Here is *Health Data Management's* weekly roundup of new health IT contract wins and go-lives:

- Emory Healthcare in Atlanta has teamed with Philips Healthcare and Royal Perth Hospital in Australia on a telehealth-based intensive care monitoring program to reduce the burden of night shift work for doctors. The program enables Perth-based U.S. clinicians to provide remote night time critical care support to patients in Atlanta during daytime hours in Perth. The Philips eICU technology supports near real-time remote patient monitoring that includes use of algorithms that can predict deteriorations in health. "We are turning night into day to make the lives of our caregivers as positive as

possible while improving care, quality and patient outcomes," says Tim Buchman, director of the critical care center at Emory Healthcare.

- North Ridge Health and Rehab, a 320-bed facility in New Hope, Minn., will launch telemedicine services using the telehealth platform of TripleCare, which serves skilled nursing facilities. TripleCare physicians will conduct real-time consultations with patients when North Ridge Health's clinicians are not on site, such as during nighttime, weekends and holidays. The teleconsultations are expected to reduce transfers to the hospital and hospital readmissions.

Also See: Indiana agency picks Cerner for 6 state-run psych facilities

- Northern Valley Indian Health has selected eClinicalWorks as its new electronic health record system for its 73 providers across seven locations in California. The vendor's

ability to deliver electronic dental and behavioral health modules on an integrated platform gives Northern Valley Indian Health capability to streamline and automate processes for a more effective treatment model regardless of the setting.

- Mayo Regional Hospital, a 25-bed critical access hospital in the Highlands Region of Maine, will deploy the integrated electronic health records and revenue cycle management software of Cerner. The hospital will use Cerner's CommunityWorks cloud infrastructure that supports community and smaller hospitals. Ancillary services at Mayo Regional include women's health, behavioral health, oncology and surgery.

- Holy Redeemer Health System serving southeastern Pennsylvania and New Jersey has partnered with Prepared Health, which has the enTouch network that connects patients and personal caregivers to providers and insurers to help patients meet their healthcare goals. The vendor also assists organizations in working with accountable care organizations.

AI outperforms dermatologists in diagnosing skin cancer

By **Greg Slabodkin**
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Dermatologists are no match for artificial intelligence when it comes to diagnosing skin cancer, according to a new study by researchers in the United States, France and Germany.

The international team trained a convolutional neural network (CNN) to identify skin cancer by showing it more than 100,000 images of malignant melanomas as well as benign moles.

Specifically, they trained and validated Google's Inception v4 CNN architecture using dermoscopic images at a 10-fold magnification and corresponding diagnoses. Then, they

compared its performance with that of 58 international dermatologists from 17 countries—including 30 experts with more than five years of experience.

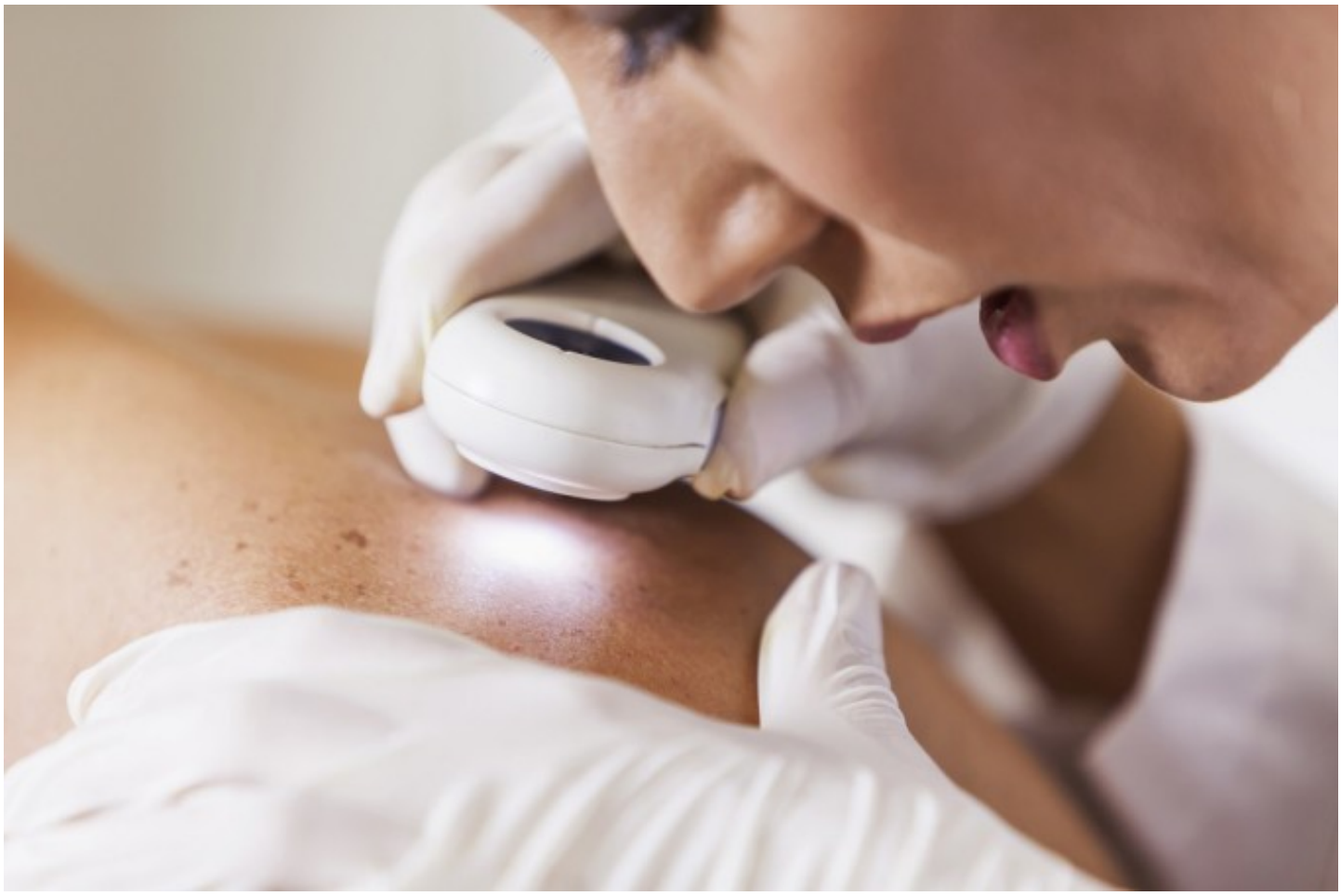
Results of the study, published this week in the *Annals of Oncology*, show that the CNN missed fewer melanomas and misdiagnosed benign moles as malignant less often than the group of experienced dermatologists.

"These findings show that deep learning convolutional neural networks are capable of outperforming dermatologists, including extensively trained experts, in the task of detecting melanomas," said Holger Haenssle, first author of the study and senior managing physician at the University of Heidelberg's Department of Dermatology.

Also See: Melanoma app vendor barred from making deceptive health claims

The authors conclude the results of their study "demonstrate that an adequately trained deep learning CNN is capable of a highly accurate diagnostic classification of dermoscopic images of melanocytic origin" and that "physicians of all different levels of training and experience may benefit from assistance by a CNN's image classification."

They also observe that "while a CNN's architecture is difficult to set up and train, its implementation on digital dermoscopy systems or smart phone applications may easily be deployed."



Aadi Kalloo, an author of the study and senior data analyst at New York's Memorial Sloan Kettering Cancer Center, contends that "a human definitely always needs to be in the loop" when diagnosing skin cancer, adding that the CNN's diagnostic performance was superior to most, but not all, dermatologists. However, he says that the study's results are a "good starting point for computer-aided diagnosis," which will ultimately "help speed things up in the clinic and bring costs down in the long run."

Kalloo notes that the dataset of images used for CNN testing in comparison to the 58 dermatologists came from the International Skin Imaging Collaboration (ISIC) archive, which contains the largest publicly available collection of quality-controlled dermoscopic images of skin lesions.

The ISIC archive, led by Sloan Kettering, currently contains more than 34,000 dermoscopic images collected from leading dermatology centers around the world, according to Kalloo,

who is the primary data manager. "We have plans to upload tens of thousands more (images) this year," he concludes.

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