PREMM: A mobile application to drive your own hereditary cancer prevention

In the recent publication, 'Community Practice Implementation of a Self-administered Version of PREMM1,2,6 to Assess Risk for Lynch Syndrome', Dr. Luba and colleagues at the Monterey Bay GI Consultants Medical Group in Monterey, California, present the use of an iPAD application that can be used by patients to determine their risk of hereditary cancer. The application can be used in doctor's waiting areas while patients are waiting for their scheduled appointment. By simply entering age and cancer history (including personal and family history) on an iPAD, patients can see if they are at increased risk for carrying certain cancer genes that are associated with Lynch Syndrome, a hereditary cancer syndrome. Individuals with Lynch syndrome are predisposed to early colon cancer and endometrial cancer, in addition to cancer of the ovaries, urinary tract, brain, and skin. Individuals with increased risk should undergo genetic testing and more frequent cancer screening if a mutation is detected so that cancer can be prevented.

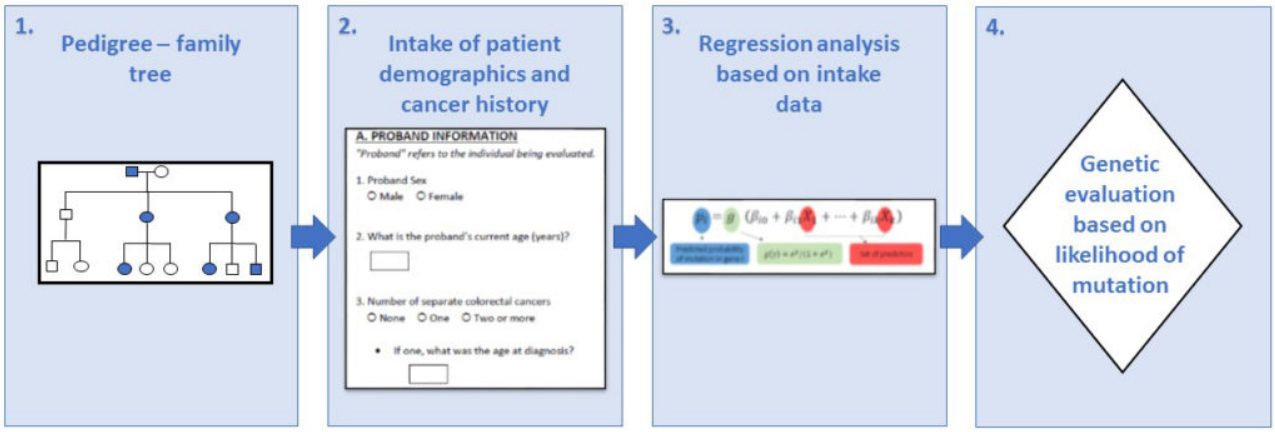

Fig. 1. Use of the PREMM Model for Hereditary Cancer Prevention.

The application was developed from a statistical model, called PREMM1,2,6, that analyzed mutation data from over 4000 individuals, including over 500 cancer gene mutation carriers. This effort was led by Dr. Sapna Syngal, Director of Research at the Center for Cancer Genetics and Prevention, and colleagues at Dana-Farber Cancer Institute in Boston, and colleagues at Erasmus University in the Netherlands and at Columbia University in New York. Until recently, the PREMM model has been geared toward medical providers who can access the model through the Dana-Farber website to guide their decision on whom genetic testing should be performed. The most recent version of the PREMM model can be accessed at http://premm.dfci.harvard.edu/. In the above referenced study, the researchers studied satisfaction with the use of this application by both medical providers/office staff and patients seen at a community gastroenterology office and endoscopy facility in Monterey, California. The researchers found the application to be easy to use

in a clinical setting, and was associated with high satisfaction by medical staff and patients. This article is the first published study showing that the PREMM application can also be used by patients to assess their own hereditary cancer risk.

Dr. Syngal and collaborators are currently developing new versions of the PREMM model, the most recent of which predicts the chance of carrying a mutation in 30+ cancer genes. The above study serves as an example of successful use of the PREMM application in a clinical setting. Future work includes the development and implementation of new versions of the PREMM model in various clinical settings, including oncology and primary care practices. The long-term vision is that the PREMM patient application becomes part of routine medical care, making genetic risk assessment part of everyone's health maintenance.

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Publication

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