

“Smart Phones” for Older Chinese with Diabetes

by Joseph H. Flaherty, MD

The continual climb in the prevalence of diabetes is a major problem in China¹. Access to programs and resources to promote behavioral modification and patient education are limited. Moreover, diabetics who live in rural areas of China are often seen and treated at facilities with no trained diabetes health care personnel. This situation is particularly acute for the growing aged Chinese population for whom diabetes is a costly, chronic condition and a major cause of disability².

Recent studies have indicated that Smart technology phones may be a useful tool in care of diabetics^{3,4,5}. China is experiencing a proliferation of mobile phone usage. Even areas with limited telecommunications infrastructure generally do have electricity, and smart phones may be used as multimedia devices to promote diabetes education and support e-health options in rural China.

Seven researchers are part of a 2-year grant from Microsoft

to study the use of “Smart Phones” in the care of older people in China with diabetes. They are:

- Joseph Flaherty, MD, (Geriatrics, Saint Louis University [SLU]);
- Jiao (Maggie) Ma, PhD, (Aviation Sciences, SLU);
- Cynthia LeRouge, PhD, (Business, SLU);
- Gianluca De Leo, PhD, (Medical Lab and Radioactive Sciences, Old Dominion University, Norfolk, Virginia);
- Meilin Liu, MD, (Geriatrics, Beijing Medical University);
- Yingshuo Huang, (medical student, Geriatrics, Peking University First Hospital, Beijing, China); and
- Xueru Feng, MD, PhD, (Peking University First Hospital, Beijing).

The team will design and prototype an age- and culturally- appropriate, interactive, diabetes self-management system called CADA (Chinese Aged Diabetic Assistant) to send daily messages to elderly patients with diabetes in China. The messages will include recommendations and guidelines related to physical activity, blood glucose monitoring, blood pressure monitoring, weight and waist measurement, and eating habits.

Patients will be taught how to input daily glucose lev-

this technology could change the way doctors and patients interact

els and his/her affective state. Additionally, physicians may input the patient’s measurements and health goals during office visits. A graphical representation of the trends of the various indicators and personal health goals can

be displayed.

Microsoft technologies are particularly well-suited to the development of such a system. A stand-alone application at the health clinic which will allow health providers to update the data on the Smart Phones will be developed by using Microsoft Visual Studio. Microsoft Access will be used as the database.

“This technology could change the way doctors and patients interact, and it has the potential to help older patients take charge of their own health. We think this is the next logical step in health literacy.”

REFERENCES

- ¹ Cheng TO. *J Natl Med Assoc* 95(11):1115-6, 2003.
- ² Chou KL, Chi I, *Gerontology* 51(5):334-9, 2005.
- ³ Kim HS, Jeong HS. *J Clin Nurs* 16(6):1082-7, 2007.
- ⁴ Kim HS. *Int J Nurs Stud* 44(5):687-92, 2007.
- ⁵ Benhamou PY, et al. *Diabetes Metab* 33(3):220-6, 2007. ■

