

Communication design project: Redesigning medicine administration for the elderly in Hong Kong

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Introduction

Today, the ageing population is subject of discussion and inquiry across the world, also in Hong Kong. The Census and Statistics Department has predicted that, by 2036, Hong Kong will be home to an estimated 2.37 million people that are 65 years of age and older. This figure suggests that there are challenges ahead in dealing with an ageing population. An important factor is an expected increase in medication administration.

It has been found that elderly people in Hong Kong, especially those who live alone, easily make mistakes when administering medicines. Without doctors or friends around to help, these older patients have to struggle with small print (WHO 2007) and poor organisation of information, specifically on medicine labels of Hong Kong's public hospitals.

There is a need for medicine labels to be improved and re-designed. Designs of medicine labels should not be seen as simply sticker designs that present information. Instead, they should be approached through user-centered design that takes into consideration usability, understandability, and accessibility for all users—particularly for elderly.

In response to the observation that Hong Kong's medicine labels involve difficult small print and poor organization, Communication Design students in the School of Design of The Hong Kong Polytechnic University were asked to redesign the Hospital Authority's current medicine labels. These are the labels that most of Hong Kong's elderly are familiar with. In addition, students were required to present a new design concept for medication administration, not only focusing on the label but also on the context in which medication is administered. Unlike conventional design training where students develop designs from their own perspectives, elderly participants were invited to act as "co-designers". They gave comments and evaluated students' prototypes throughout the iterative design process. In addition, students were required to do home visits in order to better understand the everyday needs and problems of the elderly participants. In this design project, therefore, students developed different design solutions that catered to the elderly's needs. For instance, they developed a set of new symbols for people who are low literate, they designed accessibility enhancements for medicine labels, and they generated new design ideas for medication administration. The examples are briefly introduced below.

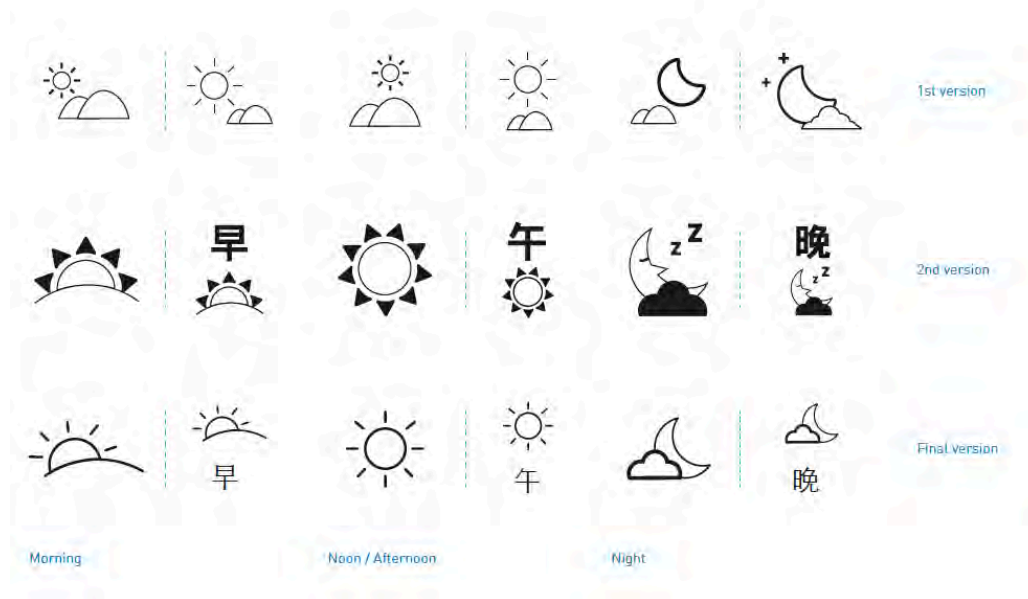


Figure 1 Symbols on medicine labels

The above time indicators for medicine-taking are presented in the form of pictograms. They specifically cater to those elderly who are illiterate. Students: Cheng Man Nam, Chong Wing Ching, Chung Tsz Yan and Ho Cheuk Hei.

Symbols are considered universal because they are not bound to any language. Rather, they are considered to “speak a universal language” (Horton, 2005). Besides their decorative character, symbols are used to convey instructions and to communicate atmospheres and experiences.

A set of symbols was developed to meet the needs of those elderly who are low literate. The original medicine labels are fully text-based while illiteracy still exists among Hong Kong’s older generations. After collecting and analysing the elderly participants’ feedback, students developed symbols for schedules, dosages, and routes of medicine administration.

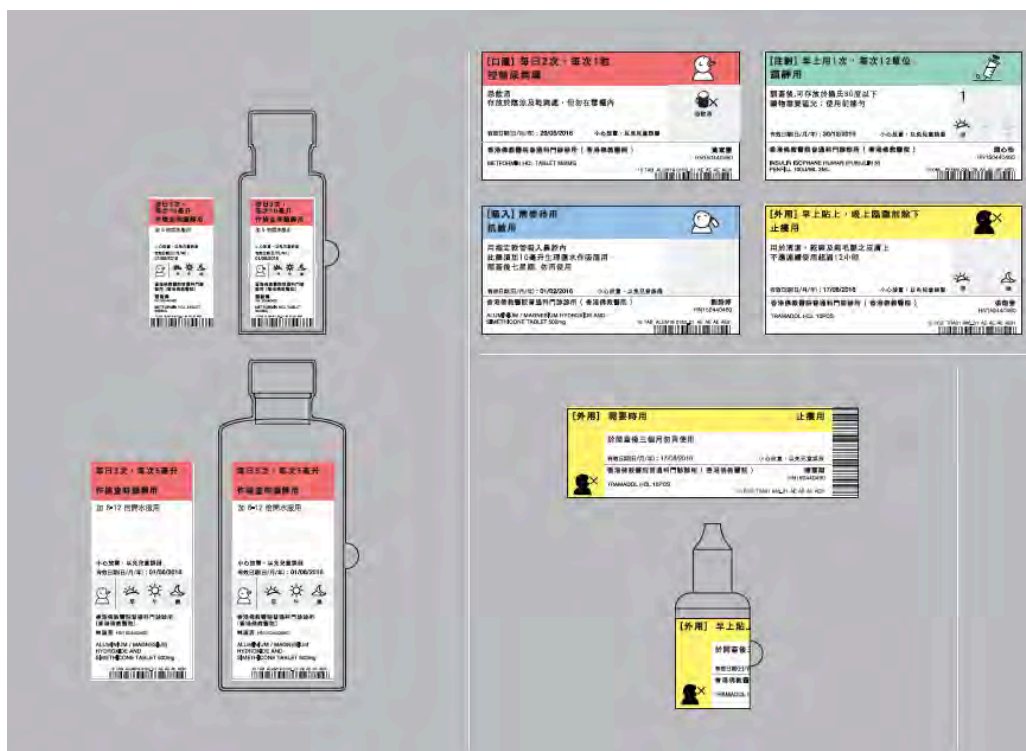


Figure 2. Redesigning medicine labels

This set of medicine label prototypes makes use of colours for better accessibility of medicine information. Four colours are used to indicate oral intake, external application, injection, and inhalation. Students: Chan Hiu Ying, Chan Wang On, Ng Sui Man and Tsang Hiu Tung.

By the end of the class, students were able to propose a new set of medicine label designs that was both more legible and more accessible than the original labels produced by the Hospital Authority. The new designs were developed for a range of different medicine containers such as bottles, plastic bags, and ointment boxes.



Figure 3. User-centered design for medicine labels

Home visits are crucial when attempting to better understand the everyday needs and problems of elderly patients. The above (bottom) image shows that one of the elderly research participants used two medicine boxes with hand-written indications reminding him or her which medicines to take in the morning and which at night.

Students were trained in conducting basic qualitative research, using methods such as home visits, interviews, and card sorting. Those methods helped students to understand user perspectives and work out design solutions accordingly.



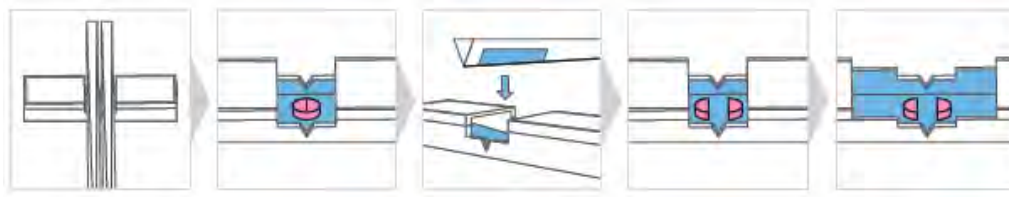


Figure 4. New experiences of medication administration

MediUtensils are Chinese-style tableware that help elderly to take the right dosage. This tableware is designed to remind elderly users to take their medication on time. Students: Fan Shui Lun, To Kam Chi, Yeung Yan Yi and Shuen Po Chi.

When a product or service is described as usable, it means that a user can do what he or she expects to be able to do, without frustration and hesitation (Rubin and Chisnell, 2008). After 13 weeks of user studies and different rounds of testing prototypes, students were asked to propose a final prototype that responds to the needs of elderly users. Different positive attributes—secure, safe, reliable, respectable, and enjoyable—were taken into account in the development of the prototype.

Conclusion

User-centered design was introduced in the communication design curriculum to train students in working with particular users—meeting their needs in specific contexts of use. In the process, students were encouraged to strive for relevance, usefulness, usability, understandability, and attractiveness. In the 13-week information design course, students had a chance to co-design with elderly citizens for the first time. They came up with new ideas and developed prototypes that improved the experience of medication administration, specifically the experience of a growing group of elderly people.

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Reference list

- Census and Statistics Department. 2017. "Hong Kong Population Projections for 2017 to 2066." <http://www.statistics.gov.hk/pub/B71710FA2017XXXXB0100.pdf>.
- Horton, William. 2005. "Graphics: The Not Quite Universal Language." In *Usability and Internationalization of Information Technology*. Edited by Nuray Aykin, 157–88. Boca Raton: Taylor & Francis.
- Rubin, Jeffrey and Chisnell, Dana. 2008. *Handbook of Usability Testing: How to Plan, Design, and Conduct Effective Tests* (2nd ed). Indianapolis: John Wiley & Sons.
- World Health Organization. 2007. "Global Age-friendly Cities: A Guide." http://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf.