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## EDITORIAL

# A tall man lettering project to enhance medication safety

## Un proyecto de uso de letras mayúsculas resaltadas para mejorar la seguridad de los medicamentos

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Medication errors are still a major public safety concern for patients and consumers. Although figures published on errors caused by drug name confusion ranges from 9% to 25%,<sup>1,2</sup> the impact of selecting the wrong drug can be catastrophic. There have been many attempts to develop safeguards and strategies to reduce errors caused by similar or look-alike drug names. One approach is to deploy a mixed-case text or tall man letters on drug names that are deemed to be orthographically similar and have the potential to cause serious patient harm if a mix-up were to occur.

The tall man letter approach has been promoted and advocated by both FDA (Food and Drug Administration) and ISMP (Institute for Safe Medication Practices) in the United States for a number of years. They have recommended a standard list of tall man lettering for similar drug name pairs. A survey of a broad audience of practitioners on the use of tall man letters was conducted by ISMP in 2008. The findings showed an overwhelming support of the use of this technique. Of the 451 surveyed responses, 87% indicated that the use of tall man lettering helped to reduce drug selection errors.<sup>3</sup> ISMP-Canada, engaging in a project with the Canadian Association of Provincial Cancer Agencies, also produced a list of oncology drug names with the tall man technique. This project leveraged the success from what was previously developed in the United States and added three more recommendations.<sup>4</sup> The project also received

input and endorsement from the International Medication Safety Network to which ISMP-Spain is a member country.

ISMP-Spain, in collaboration with a number of national medication safety experts, recently undertook a study to develop a list of similar drug name pairs requiring tall man letters to be used by Spanish healthcare professionals.<sup>5</sup> Their study involved two sequential but related surveys that generated a final list of 44 drug-name pairs using the tall man strategy. Given the resources available and the scope of the study, the subject size, the use of the “Mid” rule applying to new pairs and their statistical analysis are very reasonable.

It is important to note that although international sharing of learning is essential and cost effective, tools need to have local context and to contain local content to be effectively adopted and implemented. This case represents an illustrative example of a safety practice that required adaptation. As is clearly seen in the methodology followed, a quite sizeable proportion of the names on existing lists in the USA were not incorporated into the Spanish list, either because they were names for drugs that are not commercialised in this country or because the survey takers simply did not wish to include them, probably because they are not frequently used there. On the other hand, other groups of names at risk for mix-ups in Spain would not have benefited from the application of this technique. Besides, as cited in the Spanish study, many healthcare facilities in Spain are not using tall man lettering to distinguish between potentially dangerous look-alike drug names. One of the key objectives therefore will be to raise awareness of the use of the technique for

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safer patient care as well as providing a practical tool to be adopted in Spain.

Is the technique of tall man letters evidence-based? Previous studies have failed to fully confirm or deny the effectiveness one way or another. Filik et al. have done some initial studies and their findings did show support of its use.<sup>6</sup> A more recent report by Gerrett et al. in the UK has suggested improved accuracies with tall man lettering as well as wholly capitalised drug names as compared to use of the natural format (lower case except the first character).<sup>7</sup> However, Gerrett did call for more research into which is the most effective tall man letter format (Mid, CD3, and Wild). An unpublished Ph.D dissertation thesis by Chermak, undertaken at the University of Illinois, Chicago in 2009, showed that mixed case text did not significantly impact on accuracy and reaction time.<sup>8</sup> The latest study published by Filik et al., using younger and older adults and healthcare practitioners, once again demonstrated that tall man lettering reduced drug name confusion errors in a series of laboratory-based tasks.<sup>2</sup>

The Spanish study also cites that minimising look-alike drug name confusion errors needs a two-prong approach: a more stringent, vigorous and scientific process to screen potential drug names for safety before they are submitted for product approval; and development of strategies to reduce errors with existing similar drug names. FDA in the USA has initiated their PDUFA IV (Prescription Drug User Fee Act IV) pilot project in which a defined set of proactive risk assessment processes must be undertaken by the industry as part of the drug product submission.<sup>9</sup> In Canada, ISMP Canada is also working with Health Canada to develop a new framework containing scientific tests including computer database searches, psycholinguistic experiments, simulation testing, and FMEA.<sup>10</sup> Both of these projects aim to improve the screening, selection and approval of new drug names.

Lastly, while more research must be conducted on the approaches used and the formatting of tall man lettering, the Spanish study is commended for taking a big step in the right direction. It is worth mentioning that changing the way a drug name looks, regardless of its degree of effectiveness, is only one strategy. It is not a panacea, but since there is not an extensive array of specific practices to minimise errors caused by confusion among already existing names, it merits application in all areas where it could be. Enhancing safer drug product packaging, both from the manufacturer and from healthcare facility-generated labelling can play a critical role in preventing medication errors. In addition, there are other system safeguards that can be built into the medication use process to enhance medication safety.

ISMP-Spain's project for developing tall man pairs for confusing drug name-pairs is admirable and commended. This is just another leadership move by this medication safety organisation, which falls in line with the safety initiatives of other organisations that truly desire to make patients safer.

## Conflict of interest

The authors have no conflict of interest to declare.

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