

Tjalling van der Schors, chairman of the Dutch Association of Hospital Pharmacists NVZA:

“It’s high time the Netherlands introduced a uniform system for registration of the administration of medication”

Improved patient safety and lower costs are two important reasons for the use of barcoding to improve the registration of the administration of medication. This is not a new idea, said Tjalling van der Schors, hospital pharmacist and chairman of the NVZA (Dutch Association of Hospital Pharmacists), but it has gained added impetus now that it has the support of the Dutch Ministry of Health, Welfare and Sport. “I would like to see the Netherlands playing a pioneering role in this respect,” said Van der Schors, “but in any case let’s not sit around and wait for someone else to take the initiative.”

Tjalling van der Schors, pharmacist at the West Friesland Hospital (*Westfriesgasthuis*) and chairman of the Dutch Association of Hospital Pharmacists NVZA, hopes with all his heart that the next Dutch cabinet will take steps to make it compulsory for primary medication packaging to carry uniform barcoding. This move has been left to market forces for far too long, but without results.

The NVZA stated as long ago as 2015 that barcoding was needed as a basis for a safe medication registration system, all the way from the primary packaging up to administration level. Edith Schippers, Minister of Health in the outgoing Dutch cabinet, supported the conclusions of a recent report by Capgemini IT consultants, which stated that the main benefits of the introduction of such a system were annual savings of up to 21 million euros throughout the healthcare delivery chain and the elimination of administration errors. The Barcoding working group, of which Van der Schors was a member, was one of the bodies that played a supporting role in the preparation of this report.

Few hospitals have a complete registration system so far

Not many hospitals currently have a complete medication registration system designed to eliminate errors throughout the administration chain. Only a few hospitals make full use of barcoding to support the administration of medication. In fact, not all medication has a barcode on its primary packaging. Some hospitals take steps themselves to provide their medication with a barcode – a labour-intensive and expensive process that is itself not entirely free from the risk of introducing errors.

The West Friesland Hospital has already completely digitised its medication administration set-up, making use of the MedEye registration system to check that the identity and dosage of the medication the patient receives agree with the original prescription. In Van der Schors’s opinion, this set-up works well for a lot of medication but not all. A better approach would be to make uniform barcoding of primary medication packaging compulsory throughout the whole country, allowing all medication to be checked on administration.

“You don’t want to have to open medication such as antibiotics in order to register it. Moreover, some products like ampoules or bottles are not barcoded, which makes it difficult and time-consuming to provide a proper check on them all the way through the delivery chain up to and including administration. Besides, some products such as nebulizers don’t fit into the MedEye scanning unit.”

Lack of checks during administration can lead to errors

A relatively large number of errors are still made during the prescription and administration of medication, claims Van der Schors. “About 35 to 40 per cent of the errors occur at the prescription stage, 10 per cent during the logistics phase and about half during administration. The checks during the first two phases have been substantially improved, but there are still usually no checks at all during administration. Of course, the person giving the patient the medication does not intend to give the wrong medication, but human error cannot be excluded.”

A lot can be done to build more safety into the system in Tjalling’s opinion, for example by the introduction of uniform barcoding that can be checked during the final stage. This allows the identity of the medication administered to be linked with the prescription and the identity of the patient, thus giving a closed feedback loop.

Opportunities lost during introduction of FMD

The Falsified Medicines Directive (FMD), due to come into effect throughout the EU in 2019, would have provided an excellent opportunity to introduce the registration of the administration of medication. It is a pity that this opportunity has been missed, according to Van der Schors. "If this directive had made barcoding on the primary packaging compulsory as a means of identifying the product contained, the FMD would have represented a big step forward in protecting the patient at the administration stage. I can't help thinking that the FMD is aimed at protecting the commercial interests of the pharmaceutical companies rather than enhancing patient safety."

Moreover, the full registration system that needs to be set up at EU and national level is not waterproof. The FMD requires scanning of the packaging during handover by the pharmacist. But the handover of IV solutions and ready-to-use premixed drugs occurs at another moment, making it impossible to close the feedback loop for these products. "Besides, there has never been a proper impact analysis of the FMD, for example at the economic and the safety level. They did look at how much it would cost to introduce the scanning equipment, but the further consequences for pharmacists, hospitals and patients have never been studied. As a result, no one knows whether undue familiarity with feedback procedures during medication handover could be bad for patient safety."

Accepting the challenge

The Dutch Pharmacy Association (KNMP) and the NVZA have taken the initiative to set up such an impact analysis, because we need to understand what the consequences of implementing the directive will be – and we need this understanding now, not in a couple of years' time. Van der Schors believes that the Dutch government has a role to play here. But apart from the question of the impact analysis, the chairman of the NVZA reiterates his conviction that the Netherlands needs to play a ground-breaking role in the introduction of a registration system for the administration of medication based on barcodes on the primary packaging: after all, such a system already has the support of the Dutch Ministry of Health, Welfare and Sports.

Does this mean that drug manufacturers will be forced to put up their prices yet again? "Of course, the packaging will have to be modified, but only by putting the barcode on the individual wrapper of each pill or capsule instead of on the box. The information content, such as the batch number and the use-by date, will remain the same. It follows that the registration system remains unchanged. The American FDA insisted on this, and we can do the same in the Netherlands. This arrangement also has clear financial benefits."

Arrangements for coding at primary level should really have been made in the FMD, but according to Van der Schors neither governments nor professional organisations were aware of this possibility. The pharmaceutical industry has lobbied strongly to keep registration at box level, since this makes it easier for them to keep an eye on parallel imports among other things.

"We at the NVZA are very happy with Minister of Health Edith Schippers' views," said Van der Schors, "but these fine words need to be translated into hard policy involving as many EU Member States as possible – in any case in the Netherlands. If necessary, we will just have to play a pioneering role. Patient interests demand it."

Dutch Minister of Health refers to Capgemini study in letter to Parliament

Minister of Health Edith Schippers informed the Dutch Parliament in early February 2017 that all parties concerned needed to take steps to introduce barcoding on primary medication packaging as a matter of urgency. She based this viewpoint on the conclusions of the report '*Barcodering op de primaire verpakking van geneesmiddelen in ziekenhuizen; een kosten-baten analyse*' (Barcoding on the primary packaging of medication in hospitals: a cost-benefit analysis) by Capgemini Consulting, which had been commissioned by the Ministry of Health, Welfare and Sport.

General introduction of a uniform barcode on primary packaging (such as individual cell packs for pills or capsules) leads to:

- Direct savings of up to 21.4 million euros per annum throughout the healthcare delivery chain in the Netherlands
- Lower mortality
- Improved quality of life
- Reduction in the costs of medical compensation claims.

A uniform standard such as the GS1 DataMatrix can be used to check whether each patient receives the right medication in the right dose, administered in the right form at the right time. The Minister of Health said in her letter to Parliament, "Evidence shows that the introduction of technical data in the form of a barcode on the primary packaging of medication is not only cost-effective but above all makes a significant contribution to improving patient safety. There is thus nothing that stands in the way of scaling up the introduction of barcoding, and all those concerned should do their utmost to bring this about."

About 80 per cent of the medication administered in Dutch hospitals is already provided with a barcode on the primary packaging by the manufacturer. The Minister of Health has asked the Barcoding working group to carry out a study to make it possible to determine whether the remaining 20 per cent can best be provided by the manufacturer, the wholesaler or the hospital.