

Australian Healthcare Sector Adopts GS1 Bar Codes

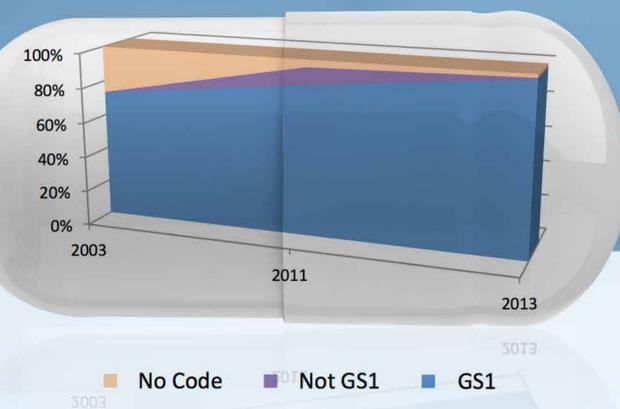


Figure 1: Overall Bar Code levels for Medicines

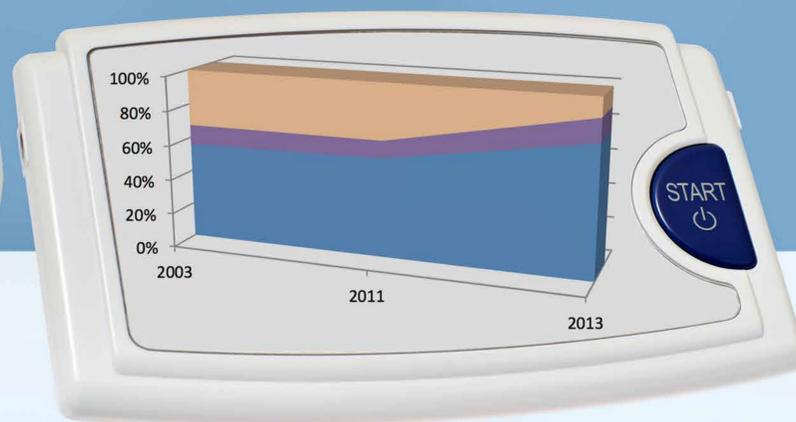


Figure 2: Overall Bar Code levels for Medical Devices

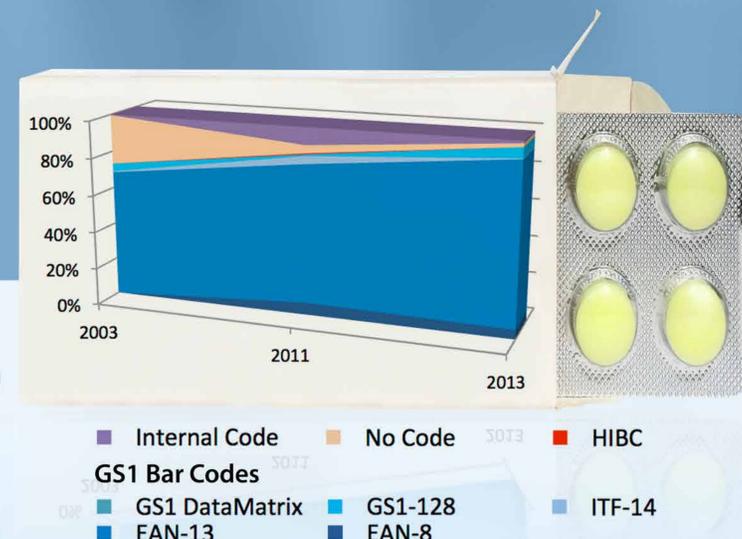


Figure 3: Bar code types used for Medicines

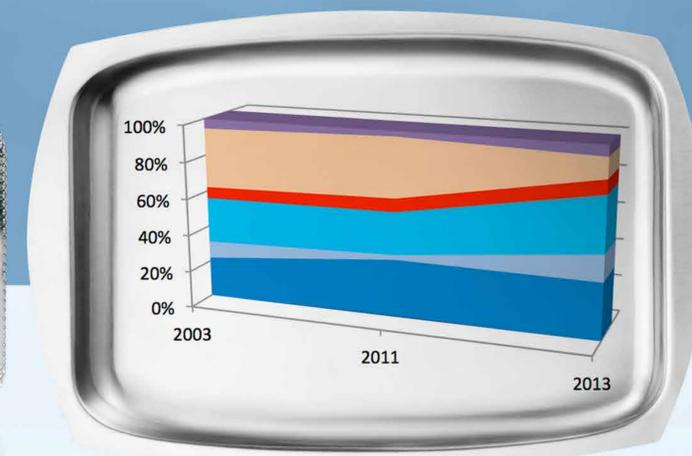


Figure 4: Bar code types used for Medical Devices

Product identification, by bar coding of both medicines and medical devices in the healthcare sector, at all levels of product packaging, is absolutely fundamental for the efficient management of hospital and pharmacy supply chains. Without this, basic processes such as scanning at the point of dispensing pharmacy medication, or scan-receiving goods into a hospital warehouse, cannot be achieved.

The last two years have seen important progress made in educating healthcare professionals about the need for product identification and bar coding using global GS1 standards. Locally, these include the October 2012 National E-Health Transition Authority (NEHTA) 'Communiqué on GTIN Use Best Practice in Australian Healthcare', followed by the NEHTA Supply Chain Reform Group statement relating to Bar Coding and Radio Frequency Identification in Australian Healthcare, issued in December 2012.

International developments have also occurred, with progress being made on Unique Device Identification legislation in the US and Europe as well as a range of legislative initiatives relating to identification and bar coding of medicines using GS1 standards.

Another significant milestone was the release in October 2012 of the McKinsey report 'Strength in unity: the promise of global standards in healthcare'. This research paper establishes the business case for implementation of supply chain standards in healthcare and recognises the key role that product identification and bar coding play.

Interestingly, Australia does not currently have legislation in place requiring application of bar codes, to either medicines or medical devices. In the absence of legal direction, domestic statements and communiqués as well as international legislation and reports are providing the impetus for the healthcare sector to embark on the implementation of GS1 standards-based product identification and bar coding.

MEASURING ADOPTION RATES

Surveys were conducted in locations across the Australian healthcare sector during the years 2003, 2011 and 2013. These surveys involved both medicines and medical device products, with the assessor simply reviewing and reporting on all products and all levels of packaging in the locations chosen for the survey. Surveys were conducted in hospital pharmacies and warehouses, ward imprests and theatres.

Sample sizes taken during each survey are detailed in **Table 1**. Each sample size was statistically relevant.

Table 1: Survey Sample Sizes

| YEAR | MEDICINES | DEVICES |
|------|-----------|---------|
| 2003 | 1592 | 812 |
| 2011 | 214 | 279 |
| 2013 | 542 | 551 |

WHAT THE FINDINGS REVEAL

There is a clear trend showing increased use of GS1 standards for product identification and bar coding in both categories: in the case of medicines GS1 bar code use jumped by 23.93 per cent from 2003 to 2013 (Figure 1), and with medical devices, the growth was 19.46 per cent (Figure 2).

Interestingly, the most substantial rate of growth occurred between 2011 and 2013, at 11.1 per cent for medicines and 18.14 per cent for medical devices. This can be attributed to heightened discussion within the local industry, domestic statements and communiqués, as well as international developments - refer to the introduction.

Today 97.05 per cent of medicines carry GS1 bar codes, and in the area of medical devices, 75.49 per cent of products have adopted GS1 standards. Of particular note is that the use of HIBC codes has remained relatively static at levels of 6.16 per cent in 2003 and 7.17 per cent in 2011, and 7.56 per cent in 2013.

For medicines, in the 2011 audit there was a notable increase in the number of internal codes used (from original levels of 0.25 per cent in 2003, to 9.35 per cent in 2011), however, this subsequently decreased in 2013 (to 1.11 per cent). A similar trend could be appearing for medical devices, where the percentage of internal codes reduced to 2.87 per cent in 2011, from original levels of 5.30 per cent in 2003, and then increased again to 5.90 per cent in 2013.

One can reasonably assume that part of this increase comes from suppliers beginning to get involved in identification and bar coding of their products, but perhaps not implementing correctly the first time, so needing education and support from GS1. Also supporting this theory is the fact that when considering overall prevalence of bar codes, medicines are more advanced than medical devices, highlighting the earlier peak in internal codes for medicines.

Clearly, the message about the need for bar coding is reaching the market through the various communication channels already discussed. This could be considered the reason for the notable decrease in the number of products with no code in both the medicines (24.73 per cent reduction between 2003 and 2013) and medical devices (21.47 per cent reduction between 2003 and 2013).

Also of note is the variation of GS1 bar code symbols used across both categories (Figures 3 and 4). This indicates that suppliers are selecting the symbologies that are the best fit for their products, data encoding requirements and printing substrate. This degree of choice is a definite strength of the GS1 System. The variation in use

of the different symbologies across the audit times, in some cases moving from simple bar codes such as ITF-14 to more complex bar codes such as GS1-128, shows developing maturity in bar code use. As an example, for medicines overall use of ITF-14 bar codes, whilst increasing from 2003 levels of 0.50 per cent to 4.21 per cent in 2011, has again decreased to 0.37 per cent in 2013. Conversely, levels of GS1-128 bar codes use were at 4.21 per cent in 2003, decreasing to 0.47 per cent in 2011 and again increasing to 5.54 per cent in 2013. The narrow but significant take-up of GS1 DataMatrix observed during the 2011 and 2013 audits is of interest. This was never greater than 1.21 per cent across both audits, and medicine and medical device categories. However, the results show that the symbology is being applied to products reaching the Australian market; it also shows that there is a growing need for the scanning points in these markets to be equipped with imaging or camera-based scanners to read these bar codes.

IN CONCLUSION...

Overall increases in the use of GS1 Bar Codes across both the medicines and medical devices categories bode well for future supply chain implementation in Australian healthcare. It is encouraging to see these upwards trends in the absence of binding legislation within our market.

Whether the products being sold in Australia are packaged locally or internationally, suppliers should be commended for their foresight in ensuring GS1 standards are used for product identification and marking.



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