The packaging of medications in bar coded unit dose continues to grow in popularity and sophistication. The rapid adoption of unit dose packaging we have seen for the past few years is persisting: 66% of hospitals are now packaging their medications in bar coded unit dose. Of those without a packaging program, 81% plan to implement one shortly. The use of two-dimensional bar codes has grown exponentially, reflecting their greater utility over one-dimensional bar codes. As predicted in 2007, the outsourcing of repackaging activities increased in 2008, and we expect this trend to continue as hospitals look for additional ways to heighten efficiency.

For more information on unit dose packaging vendors, circle numbers 905, 906, 911, 912, 913, 917, 918, 921, 923, 924, and 925 on the reader service card, or visit www.findit.pppmag.com.

Users are generally satisfied with their unit dose packaging equipment. As this product class matures, user satisfaction rates have been increasing. In fact, 59% rated their equipment "good" or "excellent", up from 57% in 2007 and 47% in 2006.

A variety of vendors are under consideration by respondents planning to establish unit dose packaging operations. Medi-Dose has moved into the number one spot (from third place in 2007) and is followed by Cardinal and McKesson as the top vendors under consideration. Talyst has also seen a lot of growth, moving to fourth place from seventh in 2007.

Facilities Currently Packaging Medications in Bar Coded Unit Dose

Entering the third year of strong growth, 66% of facilities now report packaging their medications in bar coded, unit dose. This is a significant jump over the past two years: Facilities packaging in unit dose were at 53% in 2007 and 47% in 2006.

Pharmacies use a wide array of vendor equipment to package medications in bar coded unit dose. Medi-Dose, McKesson, Health Care Logistics, and Medical Packaging Inc. are the most commonly used vendors.
Unit Dose Packaging Systems

Packaging Oral Solids

Methods for Packaging Oral Solids

Tabletop unit dose packaging machines are the most commonly used in packaging oral solids. Although the majority of respondents report using this method for ancillary packaging, such as short runs, non-formulary drugs, controlled substances, allergy risks, etc.

Manually packaging medications in bar coded unit dose is still common, although the majority of respondents report using this method for ancillary packaging, such as short runs, non-formulary drugs, controlled substances, allergy risks, etc.

NOTE: Total exceeds 100% in the graphs to the left, right and lower left as some respondents report using multiple options.

Scenarios for Using a Manual System

Tabletop unit dose packaging machines are the most commonly used in packaging oral solids. Most hospitals use a manual process for bar coding their syringes, ampoules, and other oversized or oddly shaped items, and a significant number (33%) are not yet bar coding these products. Nevertheless, more hospitals are moving toward automating this process. Use of automated flag labeling systems grew to 23% this year from just 15% in 2007, while use of automated syringe fillers grew to 4% from 2% in 2007.

While robotic IV syringe preparation devices are used in a small number of facilities, they are also benefiting from the move toward increased automation. 13% of hospitals are considering the purchase of a robotic IV syringe preparation device this year, up from 10% in 2007.

Packaging Syringes

Systems for Bar Coding Syringes, Ampoules, etc.

Most hospitals use a manual process for bar coding their syringes, ampoules, and other oversized or oddly shaped items, and a significant number (33%) are not yet bar coding these products. Nevertheless, more hospitals are moving toward automating this process. Use of automated flag labeling systems grew to 23% this year from just 15% in 2007, while use of automated syringe fillers grew to 4% from 2% in 2007.

What’s a robotic IV syringe preparation device?

Yes 13%

No 81%

While robotic IV syringe preparation devices are used in a small number of facilities, they are also benefiting from the move toward increased automation. 13% of hospitals are considering the purchase of a robotic IV syringe preparation device this year, up from 10% in 2007.
Unit Dose Packaging Systems

**Timeline to Adoption of Bar Coded Unit Dose Packaging**

- 81% of hospitals that have not yet implemented bar coded unit dose packaging plan to do so, with 54% planning to do so within the next two years.

**Current and Projected Packaging Methods**

- 90% of hospitals are currently using in-house packaging systems.
- 84% of hospitals plan to use in-house packaging systems within the next few years.
- 23% of hospitals are using outsourced repackaging services.
- 29% of hospitals plan to use outsourced repackaging services within the next few years.
- 14% of hospitals are using both in-house and outsourced repackaging services.
- 17% of hospitals plan to use both in-house and outsourced repackaging services within the next few years.

**Reasons for Not Adopting Bar Coded Unit Dose Packaging**

- Of the 19% that do not plan to implement unit dose packaging systems, budgetary constraints are the primary reason for not moving forward.

**Bar Code Symbologies**

- Two-dimensional bar codes enjoy widespread usage, demonstrating rapid growth from near-obscenity two years ago. Given their capacity for encoding more information in a smaller space than standard bar codes, we expect adoption of two-dimensional codes to become even more prevalent.

**Trends in Two-Dimensional Bar Code Usage**

- As predicted last year, more facilities are turning to outsourced repackaging services for their unit dose needs. While the vast majority of facilities (90%) are still using in-house repackaging systems, the number of hospitals utilizing outsourced repackaging services doubled this year to 23%. The use of in-house, outsourced repackaging services (i.e., PakPlus-Rx) remained stable at 14%.
- The trend away from in-house packaging is expected to continue with outsourced repackaging growing quickly. The use of in-house, outsourced repackaging services are also expected to increase.

**NOTE:** Totals exceed 100% as some respondents indicate using multiple methods.