Published October 2012

Single Dose Vial / Pricing
FactFinder

Committed to providing helpful information to International Spine Intervention Society members about key patient safety issues, the Society's Patient Safety Committee has developed a FactFinder series. FactFinders will explore and debunk myths surrounding patient safety issues. The intent of this FactFinder is to address cost concerns relative to implementation of CDC recommendations prohibiting reuse of single dose vials.

Myth #1: "I cannot afford to use a single dose vial for a single patient."

Fact: The increased cost of using a single dose vial for a single patient is negligible.

Ironically, the cost of contrast media is opaque. The price of a 50 mL vial ranges from approximately $8 to $46.[1] Purchasing contrast for $8 per vial fixes the cost of contrast at $8 per patient. Using single dose vials at $8 per patient is not dramatically different from splitting a single dose vial between multiple patients at an average cost of $6 patient.[2] Though the percentage increase may appear substantial, the actual cost is not dramatically increased.

Medical supply pricing is generally not transparent to the solo interventionalist. It can take significant time and persistence to identify optimal pricing from a supplier, however, this investment will quickly prove to be economically beneficial.

Preferred pricing can also be found through affiliation with group purchasing organizations (GPOs) due to large volume purchasing. GPOs bundle orders from individual providers, allowing them access to discounted rates similar to those negotiated by larger organizations. This model potentially helps the individual interventional pain physician who typically uses the same supplies.

Ultimately, using a single dose vial on only one patient should be economically feasible. The direct costs are not very high and there is a clear savings from avoiding the cost of an outbreak at your clinic.

Fact: There are direct and indirect costs associated with the complications linked to using single dose vials on multiple patients.

In formulating its opinion on the use of single dose vials, CDC considered both safety[3] and cost[4]. CDC acknowledged that the savings from using a single dose vial for multiple patients would be offset by the increased costs associated with complications, in this case an outbreak. By factoring in the cost to society from an outbreak, CDC has derailed the argument that there is any cost savings from using a single dose vial on multiple patients.

Clinicians and hospitals must spend a significant amount of time and resources to properly deal with community concerns after an outbreak. Even if a facility has not been affected by an outbreak, physicians and staff still dedicate countless man-hours to calming fears and educating patients. Additionally, the emotional cost to individuals and families after notification of a potential outbreak cannot be directly calculated.

Since CDC has demonstrated that there is no cost savings on a societal basis, and there is a potential for harm, there is no strong economic argument for using a single dose vial on multiple patients.

Myth #2: "I can take contrast at $8 per vial to the compounding pharmacy and further reduce my per injection supply costs by having them divide the vial into smaller aliquots."

Fact: The CDC position statement from May 2012 states that it may be appropriate to seek a compounding pharmacy to split single dose vials *in times of critical shortage*.[4] Clearly missing from the statement are any recommendations supporting the use of compounding pharmacies to reduce waste and curb cost associated with discarding 47 mL of a 50 mL single dose vial.

Until manufacturers produce single dose vials that contain appropriate volumes of contrast for a single patient, the remaining contrast from an oversized vial is appropriate for the cadaver lab or garbage.

Summary

There is a clear, minimal and direct short-term increased cost associated with using a single dose vial on a single patient rather than multiple patients. According to CDC, that short-term cost is far exceeded by the long-term costs to a practice and society associated with an outbreak. It is true that a single dose vial used on multiple patients has not caused an infection, but this technique has resulted in an outbreak.[5]

References:

1. Unpublished data from a search of Illinois suppliers.

2. Fact Sheet: The Negative Effects of Single Dose Vial Implementation. ASIPP. Available at http://www.asipp.org/documents/FactSheet-SingleDoseVialIssueRevised.pdf.

3. CDC 2007 guideline for isolation precautions: preventing transmission of infectious agents in healthcare settings. Atlanta, GA: US Department of Health and Human Services, CDC; 2007.
Available at: http://www.cdc.gov/hicpac/2007ip/2007isolationprecautions.html.

4. Centers for Disease Control and Prevention National Center for Emerging and Zoonotic Infectious Diseases Division of Healthcare Quality Promotion. Single-dose/Single-use Vial Position and Messages. May 2, 2012. Available at: http://www.cdc.gov/injectionsafety/PDF/CDC-SDV-Position05022012.pdf.

5. Centers for Disease Control and Prevention. Invasive Staphylococcus aureus Infections Associated with Pain Injections and Reuse of Single-Dose Vials - Arizona and Delaware, 2012. MMWR 2012;61:501-504. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6127a1.htm.