

# HOME INFUSION THERAPY MANAGEMENT™

## INSIDE

- **New study:** A look at BSIs, needleless devices, and home infusion . . . . . 86
- **First step:** A new way to look at phlebitis . . . . . 87
- **Top 12:** 12 quick ways to improve your bottom line . . 90
- **One, two:** One phone line, two connections with remote programming . . . . . 92
- **Benchmarks:** At last, a data collection project for home infusion providers. . . . . 93
- **News Briefs:** Patient death result of erroneous IV; Merit introduces line of Fountain catheters; new antibiotic shows promise against gram-positive bacteria; Synchronmed implantable drug infusion system released in United States . . . . . 94
- **Calendar** . . . . . 96

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## CA needlestick prevention law could become rule across nation

*Similar bill introduced in House*

**W**ith the recent introduction of the Health Care Worker Needlestick Prevention Act of 1999 by U.S. Reps. Pete Stark (D-CA) and Marge Roukema (R-NJ), California law may become the law of the land.

A Stark spokeswoman told *Home Infusion Therapy Management* that the California law and the federal bill are “really pretty much the same.” Like the Golden State’s law, the Stark bill would amend the current bloodborne pathogens standard to require that employers use needleless systems and sharps with engineered sharps protections to prevent the spread of bloodborne pathogens in the workplace. Exceptions include circumstances in which currently commercially available technology does not promote employee safety, interferes with patient safety, or interferes with the success of a medical procedure.

A second requirement would mandate that employers develop written exposure control plans to identify and select existing needleless systems and sharps with engineered sharps protections and other methods of preventing the spread of bloodborne pathogens. Employers also would have to train direct care health care workers adequately on the use of needleless technologies and systems with engineered sharps protection.

### ***Broader reporting requirements***

The Stark bill also will expand the current reporting requirements of the Occupational Safety and Health Administration (OSHA).

“California collects more information than we do currently through OSHA requirements,” according to the Stark spokeswoman. “Today, you don’t have to report all needlesticks, just those that are [possibly] contaminated. There will be much broader requirements [under this bill], and it will be very specific what you must report.”

Information such as type of device, type of health care worker, and the situation of the needlestick could be required. However, providers will not have to submit the information regularly. Instead, providers

will be required to collect the data and keep it on file so if OSHA inspectors request the information, it is readily available.

The bill also proposed to establish a clearinghouse within the National Institute for Occupational Safety and Health (NIOSH) to collect data on engineered safety technology designed to help prevent the risk of needlesticks and other sharps injuries. NIOSH would have access to the sharps injury logs in order to carry out those duties. The clearinghouse also would create a model training curriculum for employers and health care workers. However, the bill calls for \$15 million in new funding for the three tasks.

The bill appears to be on the fast track. There are already 41 co-sponsors for the bill as of press time, with bipartisan support and no outspoken opponents.

“We haven’t seen anyone actively lobbying against this,” says the spokeswoman. “But we

have seen pretty wide-based support. We really feel that the time has come. If California can do this, the federal government should be able to do this.”

### ***OSHA not waiting***

If the Stark bill doesn’t manage to wend its way into law, OSHA doesn’t appear to be waiting. OSHA administrator Charles Jeffress recently announced that the agency plans to strengthen its current requirement that health care facilities evaluate their policies on the use of safety devices.

OSHA also recently released an analysis of current practices regarding needlestick safety and the financial impact of making changes. The report notes that conventional IV catheters for IV access cost 75 cents, while safer catheters cost \$1.75. For a 250- to 300-bed hospital to switch, the report estimates additional costs of \$33,500 a year. ■

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## **CDC studies needleless devices, infusion, BSIs**

### *Findings point to factors affecting BSI frequency*

As the trend to send patients home from the hospital earlier and sicker continues, a second recent trend gives home infusion providers plenty to think about. With the slowly growing momentum to require the use of needleless devices, providers will be faced with addressing how such devices affect outcomes and bloodstream infections (BSIs) in particular.

To address that concern, the Atlanta-based Centers for Disease Control and Prevention (CDC) recently published the results of a study, “Bloodstream Infection Associated with Needleless Device Use and the Importance of Infection-Control Practices in the Home Health Care Setting.”<sup>1</sup> The results point to a dizzying array of factors that, when combined, could have a huge impact on the outcomes of home infusion therapies.

In the study, conducted through Coram Healthcare in Denver, investigators looked at three needleless devices — the Clave from ICU Medical, Irvine, CA; the Safsite from Braun Medical, Bethlehem, PA; and the Interlink from Baxter, Deerfield, IL — and evaluated the BSI risk factors and rates associated with each.

For each of the needleless devices, endcaps were connected to the external end of the patient’s IV catheter. Patients were taught to wipe the endcap with alcohol before flushing or administering IV medications, with the endcap being changed at intervals ranging from once per week to every two days.

### ***Keep those dressings dry***

Patients with tunneled central venous catheters (CVCs) were allowed to take showers at home once the insertion site was well-healed as deemed appropriate by their physicians. The patients were not required to use a sterile technique to change their dressings and were allowed to remove the dressings while showering to wash around the insertion site with soap and water.

Those with other types of CVCs typically were told to bathe instead of showering. Such patients also were instructed to use sterile technique for dressing changes, including wearing sterile gloves and possibly a surgical mask during dressing changes. Dressings were to be kept in place while bathing. All patients from both groups were instructed to keep the dressings clean and dry.

According to the study, patients with a tunneled CVC and an external port were 13% more likely to have a BSI than patients with a midline catheter. The figure jumps to 14.1% for patients with a tunneled CVC who were allowed to shower, compared to 2.6% for the patients with a

tunneled CVC instructed not to shower. Patients with other types of catheters did not have an increased risk for BSI.

When comparing the three needleless device endcaps with the Interlink as the reference, the Safsite was associated with a 4.5% increased risk of BSI. The Clave also had an increased risk (2.2%), but the risk was statistically insignificant, according to investigators.

When comparing all three brands and breaking down the BSI risk according to how often the endcap was changed, the BSI rate was highest for the Safsite when the endcap was changed weekly. The lowest BSI rate was with the Interlink when endcaps were changed every two days. The BSI rate decreased rapidly for all three devices as the endcaps were changed more frequently.

### Conclusion

The study notes, "Our results suggested that the risk for BSI in Coram HHC patients was related to changing the endcaps of the needleless device on the IV catheter. . . . Although an increased BSI risk was seen with the Safsite device in the case-control study, this increased risk was probably associated more with how frequently the endcaps [were] changed than with the Safsite device itself."

It comes as no surprise that the study also points out that training of the caregiver is crucial in terms of practicing good infection-control technique. What did come as a surprise was that the pathogens causing BSI in hospitalized patients proved quite different from the patients in this study.

There was a high proportion of hydrophilic gram-negative bacteria (49%) and a low proportion of gram-positive cocci (17%) among BSI isolates from the home care patients in the study. This is in sharp contrast to data from the CDC's National Nosocomial Infections Surveillance System, which showed a lower proportion of hydrophilic gram-negative bacteria (6%) and a higher proportion of gram-positive cocci (60%) among hospitalized patients. Researchers theorize that exposure to tap water in the home setting, such as during showering or swimming, could be the reason.

The study also found that the source of infection varies by IV catheter type but not needleless device type. Hydrophilic gram-negative bacteria were more prevalent in patients with a peripherally inserted central catheters or CVC with an

external port. However, staphylococci were more prevalent in patients with a midline catheter or CVC with implanted port. Only the tunneled CVC was associated with an increased BSI risk, though.

### Reference

1. Do A, Ray B, Banjeree S, et al. Bloodstream infection associated with needleless device use and the importance of infection-control practices in the home health care setting. *J Infect Dis* 1999; 179:442-448. ■

## Looking at phlebitis step by step

*It's the first step that's crucial*

Any reduction in severe phlebitis would make your patients' lives much easier, as it would the lives of your staff members. While avoiding phlebitis altogether may be impossible, it is well within your reach to reduce the incidence of severe phlebitis dramatically by educating your patients and staff to use one simple assessment.

**Marie Meredith**, RN, BN, unit manager of the IV team at the Winnipeg Health Sciences Center in Manitoba, Canada, says she has added one stage to the Intravenous Nurses Society's phlebitis scale with great results.

"The rating scale we use is different from INS' rating scale because we add the most important component of phlebitis identification, which is the first stage," she says. "The first stage is not the true complication. The first stage identifies irritation of the vein so the device can be removed before you have a true complication."

The staff at Winnipeg Health Sciences Center, as well as their IV program staff and patients, are trained to evaluate an IV regularly for that first stage of irritation.

"Assessment includes palpation of the vessel containing the device and along the pathway," says Meredith, who explains that such a simple step followed by careful evaluation usually can head off phlebitis at the pass. "Palpation identifies the 'tender-to-the-touch' symptom.

"When you have damage at the insertion site

*(Continued on page 89)*



from insertion of the device, you have tissue damage and sometimes you have vessel damage," she explains. "When you have vessel damage, the damage at the insertion site continues to progress into phlebitis."

Such damage will exhibit itself as irritation, such as chemical or mechanical irritation from a peripheral IV, central line, midline, or PICC.

"The first stage of irritation shows up as discomfort," notes Meredith. "When you palpate over the site and along the vessel, you have tenderness. That is basically the first sign. That will show up before you have redness, pain, swelling, or any of the other symptoms of phlebitis. This tenderness to touch over the site and along the vessel is the first sign of phlebitis."

However, it can be tricky telling the difference between tissue damage from the venipuncture — which is normal — and vessel damage.

"If you have bruising or tenderness from insertion damage, you have to try to establish whether it is insertion damage that will clear up within 24 hours or vessel irritation which will develop into phlebitis," she says.

When in doubt, if the site is less than 24 hours old, a simple follow-up the next day is all that's required. If the site is still tender the day after insertion, Meredith says the device should be removed. Otherwise, the progression of phlebitis will cause scarring in the vessel and lead to long-term complications.

### ***Patient education is key***

In the hospital, the IV team members monitor IV sites each day for the first stage of phlebitis. For home infusion patients who aren't visited every day, patient education is the difference between catching phlebitis at the first stage or having to treat a full-blown case of phlebitis later on.

"Educating patients is important because patients want to leave the device in so they don't have to get poked again," says Meredith. "I tell them, 'If we catch this at the first sign of irritation and take it out, then it will clear up in 24 hours and you won't have any discomfort. If I leave it in for one more dose of antibiotic, then it may take six weeks for this to heal. So you have a choice of six weeks of a sore spot on your arm or 30 seconds of grief when I insert the new needle.'"

Meredith adds that patients with their first IV are those who need the education and reinforcement.

"The people who have had IVs know what that hard spot in the vein feels like in phlebitis," she says. "The people who are hard to convince are those with their first IV and they don't want another one."

Educating patients is more than telling them to feel for a sore spot along the vessel; there's a specific sensation inside the vein, as well.

"I explain [that] it like a sunburn inside your vein," says Meredith. "The drug is irritating and it may burn the inside of your vein wall, and people will say, 'Yeah, that's what it feels like.'"

### ***Benefits of first-stage identification***

Meredith implemented the tool in 1993 when her hospital began requiring outcomes related to new IV catheters.

"I did independent study for my nursing degree on phlebitis, and in my research, I found a lot of work done in the early '80s on phlebitis and identifying in animals what caused phlebitis and what the disease process was," she recalls. "The first stage was an irritation of the intima, and if you could identify it in the first stage then the phlebitis wouldn't progress to the full inflammatory process with damage."

Once she became the unit manager, Meredith decided to put this research to good use by creating a phlebitis rating tool. (See **sample rating tool, p. 88.**)

Since the implementation of the phlebitis rating tool, Meredith says there is a marked decrease in phlebitis that progresses to the third and fourth stages. When she compiles monthly data on the tool each year, she says she looks for more IVs changed at the first sign of phlebitis and a lower rate of second- and third-degree phlebitis.

Since the tool's implementation, Meredith says there has been a significant increase in the identification at Stage 1 and a decrease at the later stages. In 1992, the rate of second-degree phlebitis was 25%, with 40% first-degree, 1% third-degree, and less than 1% fourth-degree. In 1998, the third- and fourth-degree remained the same but the second-degree decreased to 17%, and the first-degree increased to 48%.

"Because we identify it at the earliest stage and the IVs are changed, the more severe complication of phlebitis is decreased," she says. "The more advanced the phlebitis, the greater the potential for thrombus." ■

# 12 quick ways to improve your bottom line

*It's what you keep — not earn — that counts*

It's no secret or surprise that just about every provider could find some way to save a few bucks here and there. To help uncover those areas that could save you money, **Douglas Humphrey Jr.**, RPh, MBA, president and chief executive officer of Consultants in Pharmaceutical Care of Phoenix, and **Michael Tortorici**, RPh, MS, president of Dayton, OH-based national health care consulting firm Alternacare of America, share 12 tips on areas in which providers often overspend:

## **1. Streamline your deliveries.**

Carefully analyzing how and when you ship to patients can save you big money.

"The first thing I look at is the frequency of deliveries," says Humphrey. "One of the big things I see is how frequently providers ship to patients. I see people shipping to antibiotic patients two or three times a week."

By shipping to such a patient just once a week, you can substantially reduce expenditures in several areas.

"Not only can you cut delivery costs, but every delivery to a patient requires that someone spend time generating a supply list, pulling it in the warehouse and then putting it on the truck," notes Humphrey.

He notes the following three specific problems that can prevent the bundling of delivering supplies:

**A. Stability of the drug.**

**B. Stability of the patient.**

**C. Shortage of inventory.**

However, if you can't reduce the frequency of deliveries for every patient, find the patients who don't have these limitations and do it for them.

"If you have a patient who you are shipping to every week, do a supply list for them once a month or every two weeks," Humphrey suggests. "If the therapy changes, chances are they are still going to need the supplies because it is usually the drugs or concentration that change. It's more cost-effective to send one big box once a month than four small boxes each week."

## **2. Get technical.**

"I'm a huge fan of technicians," says Humphrey. "I am the first to say that you can't

hire any tech off the street and place them in an infusion setting. But I do advocate seeking highly skilled staff with strong hospital or home infusion experience."

Pay for a top technician will likely be less than half of that for a pharmacist, yet an experienced technician can do many of the jobs routinely completed by pharmacists.

"Depending on state regulations, technicians can perform many of the infusion pharmacy activities with the exception of the actual clinical monitoring of the patient and making therapeutic decisions," Humphrey explains. "But there is no reason that the tech can't pull out the chart, see . . . the last time the patient was shipped, where the lab went, call the lab and get a copy, put it on a flow sheet, call the patient and see how the patient is doing and what supplies they need, and then write it down in a narrative form and put it on the pharmacist's desk."

As a result, a good technician can do 75% to 90% of the footwork of many pharmacists for less pay.

## **3. Keep it simple.**

Many states make it possible to purchase a pre-paid pass for tolls. This can save you money and your field staff time.

"Put it on your windshield; it's like prepaid tolls, but you get a discount — delivery vehicles and nurses who use toll highways don't have to pay money and wait in line at the toll booths," says Tortorici.

Purchasing such passes also makes it quite easy to monitor expenses.

## **4. Simplify supplies.**

Take a long, hard look at your supplies and see if there is any way to reduce what you stock. The advantages are numerous.

"The less supplies you have, the less chance an error will be made in the warehouse. It's easier for the patient if you have 10 parts instead of 20 [for the IV equipment]," says Humphrey. "Use the system that provides the most cost-efficiency with the fewest number of pieces."

The best way to do that is through a committee with the sole job of looking at the minimum that patients need in order to get quality, safe infusion therapy. Do patients wear nonsterile gloves when hooking up their own IVs, or do they usually wash their hands with soap and water? Do you count alcohol pads for patients or send them a box of 200 and not worry if 150 of the pads go to waste? Over the long haul, such oversights add up.

## **5. Shop around.**

When it comes to utilities, there are many ways to save money. Tortorici strongly suggests shopping around for the best deal on local and long-distance phone rates. Look at what you are paying for calls (both standard and cell phones) and see if better rates are available elsewhere. The savings of even a penny a minute will add up to big savings over the course of a year.

In addition, Tortorici says you can further reduce costs substantially over the long haul by having field staff pump their own gas rather than paying the higher full-service price.

## **6. Outsource.**

This one should be self-explanatory. By keeping your full-time staff at a minimum and outsourcing personnel to cover the peaks, you save money on salaries and benefits.

## **7. Streamline on-call work.**

“On-call needs to be an emergency,” states Humphrey. “The on-call pharmacist may be doing a few new patients who might be termed emergency, but they usually also end up correcting supply error problems and troubleshooting pumps that aren’t working.”

Such problems may seem inevitable, and they often are. But not all problems warrant immediate attention by the on-call pharmacist.

“I advocate a pharmacist being on call 24 hours a day, seven days a week, but that they make the effort to limit their activities to new patients with critical needs or existing patients requiring changes that one would consider life-sustaining,” he says. “If a request is made to make changes in a TPN formulation over the weekend, the clinician should be trained enough to evaluate the clinical appropriateness and urgency of such a request and discuss reasonable alternatives with the physician if appropriate. Referrals for once-a-week injections, enteral formula for supplementation purposes, or products such as growth hormone should be postponed until regular business hours in most instances.”

Smaller providers also can institute a system in which they call all their patients on Fridays to make sure they have enough supplies for the weekend. Providers with more patients may want to call only those patients who routinely require weekend deliveries or assistance.

Another way to prevent the on-call pharmacist from having to come in is to troubleshoot pump problems as they happen.

“I will often see where an organization exchanges a patient’s pump over the weekend,

only to find out later that the nurse who saw the patient several days earlier was experiencing similar problems but failed to report their findings earlier to the appropriate person,” says Humphrey.

By changing the pump out during business hours, such an overtime problem can be avoided. Many times it’s simply a matter of judgment and common sense.

“Pump issues must be evaluated individually,” notes Humphrey. “A TPN pump failure at 4 a.m. may not require replacement until later in the morning, depending upon the patient’s cycle time, clinical status, and fluctuations in blood glucose level. On the other hand, pump failure for a patient receiving pain management may have no life-sustaining consequences, but urgent replacement would be warranted based upon ethical and humanitarian considerations.”

## ***Efficiency rules***

By evaluating on a patient-by-patient basis, you may be able to prevent your on-call pharmacist from going in for every request by deciding ahead of time the appropriate way to handle calls.

Lastly, Humphrey says that simply being efficient by clumping patients together can save money. If you have several new patients coming in each day on the weekend, have the pharmacist come in at 11 a.m. and stay there until mid-afternoon to get all the patients done rather than coming in for every call. By doing so, you’re saving the mileage and distance you have to pay for multiple trips.

## **8. Pay car allowances.**

Some providers are giving staff a monthly car allowance rather than paying for mileage.

“If the company gives a monthly lump sum to an individual, the employee must buy the gas and maintain the vehicle, but some employees like that because they can purchase a new vehicle and use the allowance as a car payment,” according to Tortorici, who says that such allowances run anywhere from \$250 to \$400 per month. And because the allowance is considered income for the employee, staff can write off mileage on their own tax returns as a business expense.

“If you are paying \$500 a month on average to each employee for gas, you may be able to give a car allowance of \$400,” says Tortorici. “You’ll save money; the employee can use the allowance as a car payment and write off the mileage. As long as everybody can win, it’s something to look at.”

### 9. Get in the zone.

Tortorici says he is a strong advocate of using zones for field staff so all their visits fall within a certain geographic area. Not only does it cut down on the travel time between visits, it saves on mileage reimbursement.

### 10. Reduce inventory.

The rule Humphrey uses is that pharmacies should work on their inventory turn anywhere from 10 to 14 times per year.

“My general rule is that if you don’t have a sophisticated system, don’t keep more than a month’s supply on the shelf,” he says. “For slow-moving items, don’t keep more than a weekend’s worth so you can get a patient through until Monday morning.”

### *Old items, big prices*

Another way to save money when it comes to inventory is to stay current on your contract book if you are in a buying group.

“One of the most frequent things I see is providers not going through the new contract book to see what the new contract items are,” says Humphrey. “You then end up paying big prices for the old items.”

Spend at least a couple days each year making sure you are buying the right product, as well as reviewing the product in storage to see if any can be returned for credit or traded to a hospital for something that can be used.

Tortorici adds you can reduce the amount of money tied up in supplies by taking advantage of the prime vendor concept when purchasing. This allows you to order on a daily basis at contract pricing through your buying group, plus a fee above cost that usually ranges from 0.5% to 1.75%.

### 11. Get immediate payment.

Tortorici says that by accepting credit cards for any co-payments, you can get your money in your account within 48 hours.

### 12. Think outside the box.

Times are changing, as should your perceptions of how to deliver quality therapy. Tortorici explains that there are antibiotic ambulatory infusers on the market that cost just \$4 or \$5. The infusers can improve patient compliance with therapy, and because you aren’t using a pole, there is no associated cost of picking up the pole or cleaning it.

“Analyze what your true cost is and look at more creative ways to deliver care to patients,” suggests Tortorici. ■

## One telephone line, two connections

### *Combine your many jobs*

It could be the location, distance, weather, or even staffing concerns. Regardless of the reason, sometimes reaching a patient for a simple adjustment to infusion therapy can be a time-consuming and costly proposition. With technology’s role becoming more and more important, such quick visits could become a thing of the past.

One of the more unique products on the market is MediVIEW, a software product from Skokie, IL-based Sabratek. MediVIEW, when combined with Sabratek’s 3030 or 6060 Homerun pumps, allow providers to manage a patient’s infusion using standard telephone lines. However, what is truly unique about MediVIEW is its voice-over-data technology. This allows clinicians to communicate with patients on the same phone line through which data are being transmitted.

### *Put patients at ease*

“One of the things I like best about MediVIEW is that it is a voice-over-data modem, so you can talk to the patient or caregiver on the phone and tell them what you are doing, and they can see it on their pump at the same time,” says **Beth Greenough**, CRNI, infusion therapy coordinator for Great Lakes Home Health Care Services in Erie, PA. “So if you tell the patient that you are going to put the pump on hold, it will say ‘hold’ right then and there. It puts the patient at ease — especially if the pump is beeping for 30 minutes — and you can talk with them and calm them down while you are troubleshooting the pump.”

Greenough says the voice-over-data technology is just one of the benefits. Because the software is set up to show the pump on your computer screen as if it were in front of you, MediVIEW makes it easy for nurses to stay acquainted with the Sabratek pumps. “Sometimes, we work with nursing agencies that are an hour and a half or two hours away, and it’s a good learning instrument for the nurses there,” she explains. “Even though we go out and show them how to use the pumps, sometimes it’s a couple of months before they go out and use the pumps again. So the nurses can learn or have the reassurance of seeing what they are doing and feeling comfortable with it.”

Greenough adds that once you click on the MediVIEW icon on your computer screen and type in the password — if you know how to use the Sabratek pump, then you know how to use MediVIEW. “Once you’re connected, it’s just like you have the pump in your hand,” she says.

MediVIEW clearly isn’t appropriate for every patient, but has found its niche among Great Lakes’ patients. “It’s usually patient diagnosis or locality that dictates which patients we put it on,” says Greenough, who notes that Great Lakes owns eight of the MediVIEW kits. “Pain management patients seem to be those with the most changes that have to be made, as well as patients who live a great distance away. Even though we probably haven’t used it as frequently as we thought we would, the times that we have used it have really been wonderful and probably worthwhile.”

Although Greenough says reducing nursing visits and patient security are the two biggest benefits of MediVIEW, the technology does much more than make patients feel comfortable at home. It also can allow them to hit the road.

“We’ve had patients who for some reason or another needed to travel,” says Greenough, who recalls one incident where MediVIEW was worth its weight in gold.

“One patient’s daughter was looking to go to college, and it was very important for that patient that she be a part of that experience,” she says. “We felt very comfortable letting her go [to look at colleges with her daughter] knowing that she had her modem with her. She could call in and connect with us if necessary, even if she has one of the old pulse phones. That gives the patient a little bit more flexibility to move around.” ■

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## Dawning of a new benchmarking age?

*At last, benchmarks for home infusion providers*

The whole point of collecting business and clinical data is to gauge progress and areas for improvement. But for a true measure of how you’re doing, the data must be compared to what others in the industry are doing. Getting such a benchmark in home infusion has been impossible, but not anymore.

“By definition, unless you are a multisite organization, you really can’t do benchmarking,” says **L. Rad Dillon**, RPh, national pharmacy manager for Apria Healthcare in Louisville, KY. “What do you benchmark against? People say, ‘I will use industry standards,’ but in home infusion there aren’t any.”

Thanks to B. Braun/McGaw of Bethlehem, PA, and the National Home Infusion Association (NHIA) in Alexandria, VA, home infusion providers now have somewhere to turn through the Inter-company Operational Benchmarking Project.

Having just completed its first round of data collection from participants for the fourth quarter of 1998, Dillon says the project is attempting to do several unique things.

First, it will provide participants with information that will allow comparison with not only the average but also with individual providers.

“The important thing about this is that in benchmarking, you don’t want aggregate numbers. You want to see how each individual entity performs, and that is what we are attempting to establish,” says Dillon. “It’s also important to note that we’re simply interested that the mean inventory turn is *this*, and the mean payroll as a percent of net revenue is *this*. We want to show people what the best practices are.”

### *Insight into old issues*

This will be accomplished through scattergraph and regression analysis. A scattergraph plots the data from each individual provider so you can see where each and every participant falls. “You then put in a best-fit line on the scattergraph and throw in a standard deviation above and below that line,” explains Dillon. “The bracket above the best-fit line is the presumed best practice consisting of providers that are doing better than average. And below the best-fit line to the first standard deviation below is what you call ‘providers with the opportunity to improve.’”

Regression analysis allows even deeper insight into similar issues.

“You take some parameter that is an index of how you are doing, such as inventory turns or payroll as a percent of revenue,” says Dillon. “Theoretically, inventory turns should be high. You look to see if the small providers have the same inventory turns as the large providers,

# NEWS BRIEFS

and you might find that a large company with a certain net revenue can expect a specific inventory turn; yet a small provider expects a different figure. Until now, we could not prove if such economies of scale existed in home infusion or not.”

## *Confidentiality protected*

There are currently 90 respondent sites, with Apria turning in data for about 30 of those, which are then mixed with results from many regional and single-location providers. The participants who provided fourth-quarter data from 1998 will receive very detailed information. And for those who are worried about giving up too many company secrets, the project has taken confidentiality into consideration.

Participants are given a random identification code by the University of Texas College of Pharmacy under which they anonymously submit data. Organizations that choose not to participate despite the safeguard and expect the project to release specific data will be out of luck.

“You can’t get the milk free,” says Dillon. “It is critical that we get more participants to make the data better and better, and if we just go and publish all of our results, then people will not participate. The more participants we get, the more confident we can be that this is a reasonable expectation we have arrived at from our data.”

The project is currently collecting data for five areas:

- **Cost of goods sold.**
- **Inventory value.**
- **Net revenue.**
- **Net receivables.**
- **Core pharmacy payroll.**

Dillon is quick to note that the data in and of itself does little for a provider without follow-up.

“It becomes your own responsibility to mine all this data and use it for all it’s worth; and some people will do better at this than others.”

Organizations interested in participating in this free project should contact NHIA at (703) 549-3740. ■

## Patient death result of erroneous infusion

A 58-year-old housewife recently died in a Tokyo hospital following surgery for rheumatism in her left middle finger. After receiving an IV, the woman began complaining of chest pain and died less than two hours later. An internal investigation revealed that a nurse had mistakenly infused 10 ml of the disinfectant hibitane gluconate into the woman’s IV.

The patient’s attending physician had originally prescribed 100 ml of an antibiotic and 10 ml of an anticoagulant. The nurse who prepared the IV was not the same nurse who administered the dose to the patient. Further investigation is impossible because the patient’s body was cremated. ▼

## Merit introduces line of Fountain catheters

South Jordan, UT-based Merit Medical Systems recently introduced a new line of 4 French Fountain infusion catheters. The line includes more than 45 items ranging in infusion segment lengths of 5 cm to 50 cm.

The company already markets a line of 5 French Fountain infusion catheters used to treat peripheral arterial occlusions, hemodialysis graft occlusions, and deep vein thrombosis. The smaller, 4 French version will be used to reach occluded arteries and veins below the knee. Merit also will expand the 5 French Fountain line to include 40 cm and 50 cm infusion segments.

## COMING IN FUTURE MONTHS

■ Sound off:  
The use of ultrasound in infusion therapy

■ Comparison:  
Safety devices vs. one-handed recapping

■ On the hill:  
The latest from Washington

■ Standard of care:  
Crutch or a safety net?

■ Strength in numbers: Is a GPO for you?

Some of the unique features of the 4 French Fountain catheter line include the following: a standard 0.035-inch guide wire; gradient hole sizes that allow for even distribution of fluid throughout the entire infusion segment of the catheter; a proprietary "snap cap" on the connecting end of the occluding wire to ensure correct wire placement and added security for overnight or long-term infusions; and Merit's proprietary hemostasis valve that minimizes air bubbles and patient blood loss. ▼

## Antibiotic fights gram-positive bacteria

A phase II open-label, clinical study of Zyvox, under development by Pharmacia & Upjohn, shows the compound is active against gram-positive bacteria, including those resistant to other antibiotics. Zyvox comes from the oxazolidinone class of antibiotics, the first new class in more than 30 years.

Zyvox works by attacking bacteria before the bacterial growth cycle, a new approach much different from any other antibiotic. Zyvox has both intravenous and oral formulations and has shown in vitro activity against bacteria resistant to other antibiotics.

The Phase II study evaluated 273 patients. *S. aureus* was the most common organism isolated, with other isolates including *S. epidermidis*, *S. pyogenes*, and enterococcus.

Patients received either low-dose (250 mg three times a day or 375 mg twice a day) or high-dose (375 mg three times a day or 625 mg twice a day) Zyvox IV for a minimum of three days, then switched to oral Zyvox until the end of therapy. Follow-up evaluations occurred at one to 14 days and again at 15 to 28 days after end of therapy.

A clinical success rate of 94.8% was shown in patients with suspected community-acquired *S. pneumoniae*. The most common drug-related medical events reported in the studies were headache, nausea, and diarrhea.

Zyvox is now in Phase III clinical trials and is being studied for the treatment of skin and soft tissue infections, pneumonia, and bacteremia caused by gram-positive bacteria such as methicillin-resistant *S. aureus* and vancomycin-resistant enterococci. ▼

## Implantable drug infusion system now in U.S.

Minneapolis-based Medtronic recently announced FDA's approval to market its Medtronic SynchroMed EL infusion system, an implantable drug infusion system that delivers medication directly into the fluid surrounding the spinal cord.

The system has already helped nearly 50,000 patients with cancer and nonmalignant pain, or spasticity due to cerebral palsy, brain injury, multiple sclerosis, spinal cord injury, and stroke.

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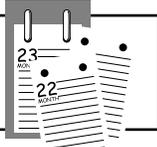
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### Editorial Questions

For questions or comments, call **Lee Landenberger** at (404) 262-5483.

The SynchroMed EL system adds about three years to the battery life before replacement, depending on dosage. Average time between replacement surgeries also is extended over the original SynchroMed, from four to seven years. The EL system also can be programmed to deliver doses as small as 48 µl per day. ■

## CALENDAR



• **INS Advanced Concepts in the Management of Central Venous Access Devices in the Alternate Care Setting:** July 31, Hyatt Regency Hotel, Chicago. Call (800) 694-0298.

• **National Association for Home Care 18th Annual Meeting and Home Care Expo:** Oct. 9-13, San Diego Convention Center. Call (202) 547-7424.

• **HIDA/99 Trade Show:** Oct. 9-11, Navy Pier Convention Center, Chicago. Call (703) 549-4432.

• **CINA 1999:** Oct. 20-22, Toronto. Call (416) 292-0687 or go to [web.idirect.com/~csotcina](http://web.idirect.com/~csotcina).

• **Medtrade 1999:** Nov. 3-6, 1999, Ernest N. Morial Convention Center, New Orleans. Call (770) 641-8181.

• **1999 Fall National Academy of Intravenous Therapy:** Nov. 5-7, Westin Hotel Copley Place, Boston. Call (617) 441-3008.

• **Medtrade 2000:** Oct. 3-6, 2000, Orange County Convention Center, Orlando, FL. Call (770) 641-8181. ■

## CE objectives

After reading the August issue of *Home Infusion Therapy Management*, CE participants will be able to:

1. Identify a potential method to reduce bloodstream infections in patients.
2. List often-overlooked areas to improve your pharmacy's efficiency.
3. Identify the primary benefit of benchmarking. ■

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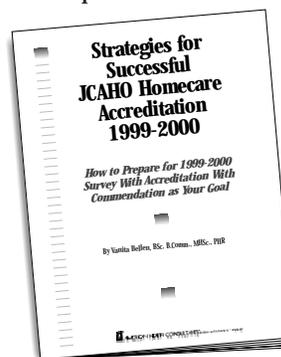
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