Drug Diversion and Counterfeiting: Challenges and Solutions

White Paper

Overview

Every year Americans fill more than 3 billion prescriptions through reputable pharmacies across the U.S. Most of these prescriptions are safe and legitimate. However, the growing threat to our nation's drug supply through counterfeiting and drug diversion has been increasing at an alarming rate. The trend threatens pharmaceutical manufacturers, suppliers, distributors, and consumers.

The problems associated with counterfeiting and drug diversion are multifaceted and complex, stemming from causes such as:

- an increasing demand for legal prescription drugs
- a growing appetite for illegal prescription drugs
- the escalation of prescription drug abuse, especially among teenagers
- the proliferation of rogue Internet sites, which now offer counterfeit and illegal drugs of every kind

As quoted in an *USA Today* article, Minnesota pharmacist, Lowell Anderson stated: "I've been in this business for 40 years. I have less confidence in the integrity of the supply line today than ever before. It scares me."

Successful solutions for staunching the tsunami of illegal, counterfeit and diverted drugs into this country are equally complex and will require a variety of technological, government, and private sector interventions to succeed. This white paper attempts to highlight the challenges and possible solutions for this growing drug quandary.

A Host of Challenges

The Increasing Demand for Legal Prescription Drugs

With an aging population and a multitude of new drug therapies coming on the market every year, the demand for prescription drugs only increases. In 2002, more than 3 billion prescriptions were filled for more than 500,000 different drugs, and from 1997 to 2003, spending on prescription drugs nearly tripled from $78.9 billion to $216.4 billion.

According to the Henry J. Kaiser Family Foundation, 91 percent of seniors and 61 percent of nonelderly adults rely on a prescription medicine on a regular basis, percentages that should only grow as the U.S. population gets older.

Perhaps most telling, between 1992 and 2002, the U.S. population increased 13 percent, while controlled drug prescriptions increased 154 percent. U.S. patient visits for potent prescription opioids increased nearly fivefold between 1980 and 2000.

The national and international appetite for prescription drugs shows no signs of slowing, particularly as new and better drugs come on the market and the pharmaceutical industry continues to market products directly to consumers.

A Growing Appetite for Illegal Prescription Drugs

The abuse of prescription drugs in the U.S. has reached epidemic levels. In November 2007, the U.S. Drug Enforcement Administration (DEA) announced that more than 6 million Americans are abusing prescription drugs: more than the number of Americans abusing cocaine, heroin, hallucinogens, and inhalants *combined*. This prescription drug abuse represents an 80 percent increase since 2000.

As a result:

- The number of people abusing controlled prescription drugs nearly doubled to 15.1 million between 1992 and 2003, according to The National Center on Addiction and Substance Abuse (CASA).
- Overdoses of prescription and over-the-counter drugs accounted for about one-third of the 1.3 million drug-related emergency room admissions in 2004.
- Cocaine-related deaths are on the rise, according to a report from the Margaret Chase Smith Center on Public Policy at the University of Maine.
- The number of people being treated for cocaine dependency has increased every year since 2000—and the age of those seeking treatment is getting younger.
- The painkiller oxycodone was more deadly in 2006 than in either of the two previous years.

The National Center on Addiction and Substance Abuse's (CASA), *Under the Counter: The Diversion and Abuse of Controlled Prescription Drugs in the U.S.* also details an exhaustive three-year study of prescription opioids, depressants, and stimulants use. The findings of the report include:

- The number of people abusing controlled prescription drugs increased seven times faster than the increase in the U.S. population from 1992 to 2003.
- This abuse of controlled prescriptions drugs was twice that of marijuana abuse, five times that of cocaine abuse, and 60 times that of heroin abuse.

"Our nation is in the throes of an epidemic of controlled prescription drug abuse and addiction," said Joseph A. Califano, Jr., CASA's chairman and president and former U.S. Secretary of Health, Education and Welfare. "While America has been congratulating itself in recent years on curbing increases in alcohol and illicit drug abuse, and in the decline in teen smoking, abuse of prescription drugs has been stealthily, but sharply, rising."

The Escalation of Teenage Drug Abuse

The widespread abuse of prescription drugs by teenagers represents a deepening problem within the country. A University of Michigan Institute for Social Research study, which was financed by the National Institute on Drug Abuse, finds the number of teenagers who have reported using prescription drugs has increased 30 percent since 2002. And The Office of National Drug Control Policy reported in 2007 that three out of 10 teens believe pain relievers are not addictive, and one-third of teens believe that there is "nothing wrong" with occasional abuse of prescription medication.

While few argue that teenage drug abuse is a problem, perhaps the most alarming revelation is where and how teenagers are obtaining their drugs. A 2005 National Survey on Drug Use and Health reported 47.3 percent of teens obtained pain relievers from friends for free and another 20 percent either bought them or stole them from a friend or relative. Additionally, more than three million people between the ages of 12 and 25, representing more than five percent of the people in that demographic in the U.S., have used over-the-counter cough and cold drugs to get high, according to the federal Substance Abuse and Mental Health Services Administration.

As Califano states: "The explosion in the prescription of addictive opioids, depressants and stimulants has, for many children, made their parents' medicine cabinet a greater temptation

and threat than the illegal, street drug dealer. While many parents lock their liquor cabinets, most do nothing to ensure that controlled prescription drugs are not accessible to children."

Theories as to the reasons for the increase of prescription drug abuse among teens point to many variables, including:

- the perception that prescription drugs provide a "safe" high when compared with street drugs
- an increasing comfort with prescriptions as a mood changer
- direct-to-consumer advertising on the part of drug companies
- and easy availability, especially from friends and parents

Counterfeiting and Drug Diversion—A Proliferating National and International Problem

The startling rise of prescription abuse is occurring at a time when the worldwide drug supply is being increasingly threatened. The Food and Drug Administration reports that currently more than 10 percent of the worldwide drug supply is counterfeit, and more than half the drug supply in some foreign countries may be suspect. The World Health Organization pegs the worldwide trade in counterfeit pharmaceuticals somewhere between five and eight percent.

Whatever the exact number, most agree that the counterfeiting of prescription drugs represents a huge problem here and abroad. Just what does "counterfeit" encompass? According to the FDA, counterfeit drugs include:

- Dummies and placebos, with no active ingredients
- Products with a lesser quantity of active ingredient than stated
- Products with the wrong active ingredient
- Products with packaging that incorrectly suggests that it was made by an FDA-approved manufacturer

To illustrate the scope and extent of the problem, consider this: The FDA's Counterfeit Drug Task Force conducted an average of five counterfeit drug investigations per year through the late 1990s. That number has risen to more than 20 per year since 2000.

Manufacturers find themselves having to take increasing measures to protect their manufacturing processes. Pharmaceutical manufacturer, Eli Lilly, for example, spends $1 million per day to combat counterfeiting.

An absence of continuous quality control in the manufacture of pharmaceuticals, particularly in overseas plants, is also a problem. For example, 13 of the 20 best-selling drugs in the U.S. are manufactured in plants located in San Juan Puerto Rico. Over a four-year period, an Associated Press investigation found dozens of examples of a lapse in quality control in the Puerto Rican pharmaceutical industry. The industry churns out $35 billion of drugs each year, most of it for sale in the U.S. The lack of oversight may be one of the problems. The FDA's San Juan office has 22 inspectors, who visit factories only once every two years.

With millions of drugs entering the U.S. drug supply chain from foreign countries, especially China, keeping track of counterfeit drugs has become a daunting task. Counterfeit drugs are, in some cases, so well manufactured that pharmacists have a difficult time telling them apart from legitimate prescription drugs.

Drug Diversion Challenges

The problems of drug diversion are also multifaceted and deepening. And the many avenues to divert drugs seem to be expanding. Some of these avenues include cheaper priced drugs slated for state Medicare or Medicaid programs, public hospitals and clinics, or non-profit charitable institutions. Unlicensed vendors selling prescription drugs or controlled substances, usually off the Internet without an authorized prescription, are also growing.

In fact, many drugs can change hands four or five times until their original manufacturer is all but unknown, allowing greater opportunity for diversion. According to a Florida Grand Jury report, 46 percent of prescription drugs travel from manufacturer to hospitals or large pharmacy chains, such as Wal-Mart and Walgreens, while 54 percent go to wholesalers. Ninety percent of wholesale drugs go to the three largest wholesalers: Cardinal Health, McKesson and AmerisourceBergen. The rest go to these secondary wholesaler markets.

In some states, thousands of drug wholesalers are licensed. As an example, in 2003, almost 1,400 drug wholesalers were licensed in the state of Florida alone, with only 10 inspectors to monitor their business practices.

The Drug Enforcement Administration's (DEA's) Drug Abuse Warning Network reports that today, almost one-third of the incidences of drug abuse or related deaths can be attributed to the diversion of legitimate prescription drugs.

According to SupplyScape, a provider of enterprise software and services for the pharmaceutical supply chain, "Counterfeiting and diversion continue to be a threat to our nation's drug supply, posing grave risk to public safety and to the economic well-being of pharmaceutical manufacturers, wholesalers, and pharmacy trading partners."

A World Wide Web of Trouble

In 2004, The National Center on Addiction and Substance Abuse and Beau Dietl & Associates (BDA) joined together to take an in-depth look at the availability and accessibility of controlled substances over the Internet. Their results found hundreds of websites that offered prescription drugs for sale, without requiring a written prescription, and without regard to the age of the recipient. Only six percent of the Internet sites they located required a prescription from a doctor, and virtually none had restrictions on children. The investigation, conducted again in 2005, revealed the same results, except that opioids were offered on more sites and a larger percentage of the sites stated they would ship from within U.S. borders.

In their resulting 2006 report, "*You've Got Drugs*," CASA stated, "…drugs continue to be as easy to buy over the Internet as candy. Anyone—including children—can readily obtain *without a prescription* highly addictive controlled substances from Internet drug pushers. All they need is a credit card."

DBA indentified 344 websites advertising or selling controlled prescription drugs over a one-week period. Of these sites, a staggering 89 percent had no prescription requirements. Of the remaining 11 percent, 70 percent required a prescription to be faxed, thereby allowing consumers to forge or fax the prescription to multiple sites.

"Online consultations, in lieu of a prescription, are also up, which gives the appearance of medical involvement where there may be none," the report stated. BDA found 99 sites offering consultations, some with no more than an online questionnaire to be filled out. This questionnaire was then, purportedly, evaluated by a physician affiliated in some way with the online pharmacy. BDA found that many websites sent the ordered medication, despite what was

reported on the questionnaire. And they found no evidence of blocking children from purchasing addictive prescription drugs.

The shipping of drugs also seemed to be somewhat opaque. Of the 185 sites selling drugs in 2006, 38 percent shipped from within the U.S., 31 percent shipped from outside the U.S., and 31 percent gave no indication.

The FDA's own year-long investigation found consumers may be buying drugs to avoid the need for a prescription from their physician. "The data lead us to believe that many people are buying drugs online not to save money, but to bypass the need for a prescription from their doctor, since these websites typically do not require the purchaser to have a prescription," said Randall Lutter, Ph.D., the FDA's deputy commissioner for policy. "In essence, they seem to be getting and using prescription drugs without a prescription, an intrinsically risky practice."

The FDA has targeted 24 apparently related websites that may be involved in the distribution of counterfeit prescription drugs.

"Anyone with a credit card and Internet access can get their hands on these dangerous drugs," said BDA's chairman and CEO, Beau Dietl. "Like predators in the forest, these vultures that call themselves Internet pharmacies hide in the darkness of cyberspace, where they hunt down and feast on our children, then disappear only to return another day under a new name and in search of new prey."

Multiple Answers for Multiple Challenges

Going forward, the FDA has made it clear that they intend a safe and secure drug supply chain, one that has transparency and accountability for all participants as it core requirement. To this end, the FDA has recommended a combination of "track and trace pedigrees" and product authentication technologies to secure the safety of the drug supply chain. "The adoption and common use of reliable track and trace technology is feasible in 2007, and would help secure the integrity of the drug supply chain by providing an accurate drug 'pedigree,' which is a secure record documenting the drug was manufactured and distributed under safe and secure conditions," the FDA's report stated.

Under these recommendations, each participant in the chain will accept drugs from another if, and only if, the supplier's electronic "track and trace" pedigree can be verified and assured as legitimate.

These technologies will mean pharmaceutical manufacturers, suppliers, and distributors will need to be mindful of an overall product security strategy approach. To be most effective, many organizations will want to take a "risk-based" approach, matching the appropriate track and trace technologies with their drug products.

The Technologies

These track and trace methods, alone and in combination, provide some of the best ways to verify the authenticity of a drug by tracking and tracing it through the pharmaceutical supply chain to its final destination. These measures can cut down considerably on the possibility of legitimate drugs being diverted or counterfeit drugs making their way into the supply chain:

- *Authentication*—The process by which the number on a drug package is verified to be genuine and confirmed to have originated from the authorized pharmaceutical manufacturer.

- *Serialization*—To serialize a product, a unique number or identification code will be supplied for each packaging unit. Typically, this code will identify the manufacturer, product type, and each item within a unit. Currently, most drugs are *not* serialized.

- *Bar Codes*—"Automated Identification (Auto-ID) technology," bar codes are based on print media that identify the manufacturer. The code links a physical shipment to a database containing the description and information of the shipment and usually has to be hand-scanned.

- *Radio Frequency Identification (RFID)*—Another more sophisticated Automated Identification (Auto-ID) data capture technology, RFID utilizes radio waves to collect information on specific drug packages or pallets of drugs. These radio waves are communicated remotely to computers or other electronic devices, which will verify the authenticity of the numbers and the pharmaceutical manufacturer. Many believe that RFID-based systems will virtually eliminate the drug counterfeit black market. However, the technology can be costly, and pharmaceutical supply chain manufacturers and distributors must realistically weigh the return-on-investment of an RFID-based track and trace system, as compared to the costs of counterfeit drugs and drug diversion.

- *Pedigree*—This is the legal record for the chain of custody, which traces a drug's journey from the manufacturer to the pharmacy or other destination. The pedigree can be paper or electronic (ePedigree). Once a pedigree is created, it will be required on all subsequent transactions in the drug supply chain.

As more drugs and drug shipments are authenticated, serialized, bar-coded, and tagged with RFID technology, the pedigrees will be strengthened, providing greater security and less chance of drug diversion and counterfeiting.

It is important, however, to remember that even with counterfeiting measures and technologies in place, counterfeiters will usually find a way around them, keeping manufacturers and other partners in the supply chain constantly scrambling to stay one step ahead.

Local and International Regulations

Tasked with the role of controlling drug diversion through its Office of Diversion Control, the Drug Enforcement Agency (DEA) recommends a state-administered prescription-monitoring program, with multiple copy/electronic transmissions. They feel these programs will be the most effective way of combating controlled substance abuse and drug diversion.

To support this effort, more and more states are tracking prescription data on drugs, such as painkillers, tranquilizers, and stimulants. In fact, roughly 35 states have monitoring programs in place that target prescription activity. Other states, as well as drug manufacturers and distributors, are considering implementing such programs.

For example:

- Medco Health Solutions says it is prepared to electronically report information on controlled substances directly to the state of South Carolina, including monitoring

unusual drug prescribing. Medco also conducts drug-utilization reviews on patients' medication history and therapy, as well as reviewing the prescribing habits of physicians.

- A new Congressional Appropriations Act, signed into law on May 25, 2007, required all Medicaid prescriptions to be written on tamper-resistant prescription pads in order for states to be reimbursed. The hope is to prevent the pads from being copied and filled out by non-physicians or other unauthorized personnel. The law will go into effect after March 31, 2008.

- Minnesota hospitals spent more than $365 million in 2006 for technology development and maintenance, creating a health-information sharing system to allow hospitals to communicate with one another. The vast majority of the money was spent on electronic records, according to the Minnesota Hospital Association. This new Minnesota Health Information Exchange will allow medical organizations across the state to share information about patients who give consent, making it more difficult for patients to "doctor shop," using multiple physicians to fill out multiple prescriptions for one patient.

- Kaiser Permanente has also agreed to transmit weekly to the California Department of Justice all the information about each prescription filled for three of the four classes for controlled substances.

California Legislation

In perhaps one of the most sweeping changes to medical law, effective January 1, 2009, the state of California will *require* electronic pedigrees (ePedigrees) to be initiated by drug manufacturers. The state will also require serialization, either through bar codes or RFID technology, on drug shipments. However, California is not mandating RFID.

The law stipulates that ePedigrees will be required to track drugs at the smallest salable package, and the pharmaceutical manufacturer must initiate the electronic pedigree. Without the electronic pedigree, wholesalers will not be able to sell products in California and California pharmacies will be unable to purchase them.

These requirements may prove difficult for manufacturers and pharmacies to meet, as RFID technology and drug serialization is still in its infancy. Some suppliers may even pull their products out of California, rather than try and create the infrastructure to be compliant.

Ultimately, drug manufacturers and distributors will have to develop risk profiles for their drugs in order to determine the cost-benefit ratio. The higher the risk, the more track and trace security technologies will need to be applied, and layered, to secure drug products.

International Concerns

Countries around the globe are also grappling with the problems of safely exporting drugs, while implementing systems that are cost-effective. The FDA recognizes that counterfeit drugs are a global challenge to all nations, and criminal counterfeiting operations are increasingly operating across national borders, as reported in their *Combating Counterfeit Drugs* report of 2004. The FDA has stated that it intends to work with the World Health Organization, Interpol, and other international public health and law enforcement organizations to develop and implement worldwide strategies to combat counterfeit drugs.

In 2000, the Italian government began tracking and tracing drugs through the Bollini Law, which requires a sticker with a serial number and bar code to be affixed to each unit of sale. The law also requires that all parties in the drug supply chain record and archive the serial number for possible future verification. With Italian distributors handling 1.2 billion items a year, it remains to be seen how cost effective and logistically feasible the Bollini Law will be.

The FDA's Recommendations

In addition to all track and trace technologies, the FDA also has issued recommended guidelines for shoring up the drug distribution system:

New technologies. The FDA believes radio frequency identification (RFID) tagging of products is feasible by 2007 and could be an effective way to track and trace drugs from the point of manufacturing to the point of dispensing. RFID places electromagnetic chips and tags containing a unique serial number onto cartons and individual drug products. Other important anti-counterfeiting technologies include color-shifting inks, holograms, and chemical markers incorporated into a drug or its label.

Stricter licensing requirements. The FDA is working with the National Association of Boards of Pharmacy on revising model state rules for licensure of wholesale drug distributors to make it more difficult for illegitimate wholesalers to get into business.

Tougher penalties. The FDA found that penalties for counterfeiting drugs are substantially less than for other types of counterfeiting, such as counterfeiting registered trademarks. For example, counterfeiting a prescription drug label that bears a registered trademark is punishable by up to 10 years in prison, while counterfeiting the drug itself is punishable by a maximum of three years in prison. The FDA has requested that the United States Sentencing Commission increase criminal penalties for the manufacture and distribution of counterfeit drugs.

More secure business practices. Effective protection requires everyone in the drug supply chain to adopt secure business practices and to refuse to do business with people of unknown backgrounds. The FDA also recommends that businesses identify individuals and teams to take responsibility for security. Additionally, the FDA intends to increase its inspections of repackagers who follow procedures that place them at increased risk for the introduction of counterfeit drugs.

Increased education. The FDA plans to increase education for consumers and health professionals about the risks of counterfeiting. The agency will develop educational materials, partner with organizations, and deliver messages through public service announcements and its Web site (www.fda.gov).

Improved reporting systems. Last year, the pharmaceutical industry announced a voluntary program in which companies agreed to notify the FDA's Office of Criminal Investigations of suspected counterfeiting within five working days. The FDA also encourages pharmacists and other health professionals to report suspected counterfeit drugs to MedWatch, the agency's program for reporting safety information and adverse events. And the FDA has announced the creation of a Counterfeit Alert Network, a group of organizations that will spread the word about

counterfeiting incidents and general educational messages from the FDA. Several organizations have joined the network, including the American Pharmacists Association, the American Medical Association, the American Society of Health-System Pharmacists, the National Consumers League, and the Academy of Managed Care Pharmacy.

Cardinal Health's Commitment

At Cardinal Health, we are committed to securing a safe pharmaceutical supply chain, with controls in place that help ensure controlled substances are not being diverted for abuse. As an industry leader, we recognize that we have a critical responsibility to improve the security of the supply chain. We are committed to meeting this important challenge in a timely manner, starting with aggressively implementing procedures to enhance our own controls and further guarding against distribution to pharmacies engaged in diversion.

With the safety and security of the pharmaceutical supply chain as core to our business, Cardinal Health is also committed to raising awareness for our 40,000 domestic employees in an effort to eliminate counterfeiting and drug diversion. We believe that this is a public health issue that everyone involved in the pharmaceutical supply chain must work together to solve.

Because counterfeiting and drug diversion are issues that affect our communities and our children, we take a holistic approach to supply chain integrity and our regulatory compliance processes and systems. Our customers, and the public, have a right to expect that the products they receive from Cardinal Health have been safeguarded against contamination and counterfeiting. Supply chain integrity is our primary responsibility and is essential to our mission of making healthcare safer and more productive.

Proactive Steps

To this end, we have created a centralized anti-diversion function. In addition we have installed a Monitoring Program to set thresholds on the quantities of controlled substances that certain customers can order. We believe our new monitoring program will become an important tool in combating counterfeiting and drug diversion, as well as enhancing our compliance with regulatory requirements.

Cardinal Health is proactively taking these steps to address the serious societal issues of diversion of controlled substances and to prevent drug products from falling into the wrong hands.

To achieve our goals, Cardinal health will be accountable for the end-to-end processes that ensure product quality and authenticity. We will ensure that our processes not only comply with the requirements of regulatory agencies, but demonstrate our commitment to improving the security of the nation's drug supply chain. While our initial focus will be on anti-diversion activities related to pharmaceuticals, we also will:

- review, and enhance as necessary, processes designed to prevent the introduction of counterfeit pharmaceuticals and medical supplies into the distribution channel
- track safety issues associated with re-importation, should it be legalized in the United States
- fulfill state or federal pedigree requirements
- and implement proven track-and-trace systems

Monitoring Controlled Substances

Cardinal Health has been reviewing the controls that guard against the distribution of controlled substances to pharmacies engaged in diversion and is aggressively implementing enhancements to those controls. As an important participant in the controlled substance supply chain, we take responsible and appropriate actions when our review reveals areas in our system that require particular focus and consideration. We may self-impose restrictions on our handling of controlled substances until we have complete confidence that those areas have appropriate controls. These are the responsible actions – or "hard, right" choices – that we must make.

We are currently implementing enhancements to our existing controls, including:

- Installing a new technology system across our entire network
- Implementing a new organizational structure, with direct oversight for controls at all distribution centers, and staffed by a team specifically focused on drug anti-diversion
- Reinforcing an educational curriculum focused on anti-diversion requirements, which offers tools for employees who act in roles that deal with controlled substances

Since diversion can happen with all classes of drugs, our systems are designed to monitor controlled substance orders to all customers. We don't take lightly any actions that could affect customers engaged in the legitimate distribution of controlled substances. Nonetheless, history has shown that most diverters have, unfortunately, been in the retail independent class. Therefore, we have enhanced our controls for this class of customers to better minimize the risk of diversion.

Our *Suspicious Order Monitoring Program* (SOM) monitors all controlled substance orders for retail independent, Medicine Shoppe and Medicap pharmacy customers. This new monitoring process uses enhanced technology to track retail independent customers' orders of four high-risk families of controlled products, based on their class of trade, size and historical purchases from Cardinal Health. The new process and technology allows customers to order controlled substances as they usually would up to a specific threshold per month, so they can meet the medication needs of their patients/customers. The new program protects our customers, the supply chain and Cardinal Health.

We also have asked our Retail Independent and IPS-Pharmaceutical Supply Chain sales representatives to review their assigned accounts to consider whether any of those accounts raise a suspicion that diversion of controlled substances may be occurring. Our goal in this is to meet the legitimate medication needs of our customers and improve the safety of healthcare.

If an evaluation is needed, Cardinal Health will determine whether to maintain the customer's current threshold. At that point, Cardinal Health may conduct the site visit and comprehensive evaluation to validate the pharmacy's needs beyond the existing threshold. If needs beyond the existing threshold can be verified, the threshold will be increased. If we cannot validate needs beyond the existing threshold, the order will be cancelled and reported to the Drug Enforcement Administration.

Training and Education

Our Cardinal Health Quality and Regulatory Assurance (QRA) team is developing a "Know Your Customer" Training Program that is specifically designed to educate the organization on the issue of pharmaceutical controlled substance diversion, and our efforts to guard against it. We provide a series of educational activities, including training sessions for

more than 170 sales, operations, QRA and marketing leaders on diversion and compliance with DEA regulations and our suspicious order monitoring program. We also conduct a regular series of web-training events.

At Cardinal Health, we believe our new monitoring program for orders of controlled substances, and our educational and training efforts, will become an important tool in combating drug counterfeiting and diversion, while enhancing our compliance with regulatory requirements. Overall, Cardinal Health is committed to being part of the solution in eliminating counterfeiting and drug diversion, while ensuring a safe and reliable pharmaceutical supply chain.