

Remarks at GMP by the Sea

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Good morning. It's such a pleasure for me to be able to join you today on behalf of John Taylor. He certainly sends his regrets, and I would like to thank J.W. Smith and Mark Elengold for inviting John and allowing me to substitute for him.

I'd like to take this opportunity to discuss a topic of great importance to the Commissioner and all of FDA: Globalization. The safety and quality of America's food and medical products is under serious challenge in the current era of global supply chains, international trade, and the foreign sourcing and manufacture of regulated products.

As you well know, FDA is responsible for overseeing the safety and quality of imported foods, drugs, devices, biologics, cosmetics and radiation emitting devices -- a daunting task under the best of circumstances, and now a task which includes tobacco products for the first time in history. And yet the Agency faces enormous challenges from globalization because of the dramatic increase in the volume of imported FDA-regulated products and the increasing complexity of the global supply chain.

Of course the world was a very different place when President Franklin Delano Roosevelt established the modern FDA in 1938. Most products FDA regulated back then were domestically manufactured and the data supporting them came from US inspections. For years, when it came to importation of foreign products, our authority to ensure safety and quality and to protect public health focused on catching problems at the border and then utilizing limited overseas inspections. But times have changed.

The realities of global economic conditions, as well as innovations in technology, refrigeration, transportation, and communication, have enabled and spurred consolidation and globalization. This has resulted in a striking rise in the imports of foods, pharmaceuticals, medical devices, and even, to some extent, biologics. In addition, there has been a dramatic increase in the complexity of imported products.

This is an issue that must concern us all and is one of Commissioner Hamburg's top priorities. At the Agency, we have spent a lot of time grappling with increased Globalization. It has major implications for consumers around the world and for FDA and the way we fulfill our mission to promote and protect the health of the American people.

And for that reason, I would like to discuss this morning the scale of our challenge and the steps FDA must take to meet the unique public health challenges of our globalized world.

Today the world in which FDA-regulated products are discovered, developed, processed, and

distributed is much bigger. FDA's traditional model of manufacturing site inspections and border examinations is no longer an adequate response to this transformed world.

Global production of FDA-regulated goods and materials has exploded over the past 10 years. Now, what we as Americans consider to be "our" products are, in reality, global commodities. Every day, the percentage of imported products we consume continues to increase, and the distinction between foreign and domestic products has become increasingly blurred – to the point of obsolescence.

At the same time, the supply chain from manufacturer to consumer has become more and more complex – involving a web of re-packagers and redistributors – making oversight significantly more difficult. And the internet has allowed consumers to purchase products more directly, bypassing traditional safeguards that exist.

FDA-regulated products are currently imported from more than 150 countries, with more than 130,000 importers of record, and from more than 300,000 foreign facilities. This year, we expect that nearly 24 million shipments of food, devices, drugs, cosmetics, radiation-emitting products, and tobacco products will arrive at U.S. ports of entry. Just a decade ago, that number was closer to 6 million, and a decade before only a fraction of that.

FDA-regulated products now account for approximately 10 percent of all imports into the U.S. And over the last 7 years, imports have dramatically risen across product areas: food products have grown by an average of 10 percent per year, pharmaceuticals at nearly 13 percent per year, and medical devices at over 20 percent per year.

It is estimated that 15 to 20 percent of all food now consumed in the United States originates outside our borders. In fact, over 70 percent of seafood and about 45 percent of fresh fruits and vegetables we eat in the U.S. come from foreign countries. As for medical products, a stunning 80 percent of the active pharmaceutical ingredients in our drugs come from outside our borders and about 40 percent of the drugs themselves. In addition, approximately half of all medical devices used in the U.S. are imported. While foods and medical devices have seen the largest volume of imports, all of FDA's product groups have seen substantial import growth and will likely experience more.

In 2000, the U.S. imported \$1.7 billion more in pharmaceutical products than it exported. By 2008, that discrepancy had grown ten-fold to \$18 billion. And as noted earlier, even more than finished medications, the U.S. is increasingly relying on foreign producers for key components.

The number of medical device import lines has risen an average of 10 percent per year between 1998 and 2008. Importation of medical devices is broad-based, spanning all major device types. Today, imports represent more than 35 percent of the U.S. medical equipment market.

Projected import growth rates for the future range from low estimates of 5-8 percent to highs of 15 percent, meaning that imports of FDA-regulated products could triple between 2007 and 2015. Regardless of whether growth rates ultimately fall on either the low or high end, the growth in imported products is expected to outpace the growth of domestic products, leading to

an even higher proportion of FDA regulated products in the U.S. coming from overseas.

In addition to the sheer volume of imports and foreign facilities producing FDA-regulated commodities, there has been an increase in the variety and complexity of imported medical products. These factors combine to create great challenges to FDA and industry in ensuring that all medical products are high quality and travel safely throughout their complex supply chains. These factors also provide incentives and opportunities for criminals—those motivated for economic reasons and those who intend to harm our citizens—to introduce adulterated products into our domestic supply.

As you well know, these situations are not purely hypothetical. In recent years, we have seen that the threat from intentional adulteration (including economically motivated adulteration) of food and medical products is real. The consequences, throughout the world, have been tragic: glycerin used in the manufacture of fever medicine and cough syrup and teething products was adulterated with diethylene glycol (DEG) resulting in the deaths of children in Haiti, Panama and Nigeria. In 2007, pet food adulterated with the industrial chemical melamine sickened several thousand pets in our country. That same contaminant was added to infant formula in China, fatally poisoning six babies in China and making 300,000 others gravely ill. And of course there was the 2008 heparin contamination crisis here in the U.S. in which adulterated heparin was associated with several deaths and cases of serious illness.

Counterfeits also raise concerns, such as counterfeit Lipitor from Central America and diverted and counterfeit glucose monitor test strips from Europe and the Far East. Early last year, patients received counterfeit over-the-counter diet pills that had an ingredient that is found in a prescription diet pill. Patients who have certain cardiac conditions were at great risk if they took the pill that they received as directed on the label because they would ingest a dangerous dose of the prescription version – yet this product was available online. Just two weeks ago, the Agency issued a press release to warn consumers about counterfeit versions of an emergency birth control medicine that may not be safe or effective in preventing pregnancy.

These examples demonstrate that the risk to the U.S. food and medical products supply comes from sources around the world. Weaknesses in the integrity of the global supply chain have led to the distribution of unsafe or ineffective products and harm caused by economic adulteration and intentional fraud. As a result, the trend toward globalization has increased public awareness about the safety of products imported from abroad. These examples also provide tangible proof of how the challenges of Globalization may impede the prevention, detection, intervention, and response to food and medical product safety problems.

As supply chains become more global and complex, they will also carry an increasing number of complicated, high-risk products to the U.S. from abroad. As a consequence, it will become more difficult to distinguish the risk and complexity of a product based on where it is produced.

For example, between 2000 and 2007, the U.S. quadrupled its importation of "high risk" medical products, such as vaccines. In addition, 70 to 85 percent of food import refusals of produce and seafood were for potentially dangerous violations including the presence of pathogens, chemical contamination and other sanitary violations. Complex medical devices – once primarily

manufactured in the U.S. – are increasingly being manufactured overseas.

There is no doubt that globalization has fundamentally changed the economic landscape in the U.S., and it will continue to have major implications for FDA. The Agency's scope and responsibilities are enormous, and given the state of the global economy they will only get larger.

The rapid growth in imports and changing sources of production will continue to accelerate, driven by several macro trends including the rise of emerging markets, the increased flow of capital, information, and goods across borders, and the scarcity of natural resources.

Western economies will attempt to increase their own productivity, which will lead to more imports and increased pressure to reinvent the manufacturing process. The manufacturers FDA regulates will face intense pressure to lower costs and increase worker productivity. These pressures will continue to drive manufacturers to constantly evaluate efficiency opportunities and lead to increased production abroad, dramatically increasing the already high volume of FDA-regulated products that are imported into the U.S.

Money, goods, data, and people will continue to cross borders in large volume and with increased speed. Products entering the U.S. will come from new and different markets than they do today and will flow through long, multi-step processes to convert globally sourced materials into finished goods. As global product flow changes, it will lead to increased complexity and a lack of transparency in global supply chains, and also ambiguity about who should regulate that product flow.

In addition, a new set of trading partners is emerging, so multiple regulatory players are becoming engaged worldwide. This increases the complexity not only for industry, but also for the governments involved in providing oversight.

Growing demand, constrained supply, and increased regulatory and social scrutiny will determine what resources are used, how they are used, and what they will cost. This will force manufacturers to adopt new manufacturing processes and emerging technologies to meet the demands of their consumers and of broader stakeholder groups. Governments around the world will find themselves increasingly called upon to mitigate the sometimes negative impact of globalization on their citizens, making the operating environment for companies more complex.

As I've discussed, there is already evidence of the impact of these trends. The bottom line is that the growing challenges of globalization have far outstripped the nation's product safety inspection and quality monitoring resources and the exponential growth in imports will make seizing noncompliant products at the border more difficult in the future.

With so much movement across such large distances, businesses and regulators will face a difficult challenge to maintain visibility into the end-to-end process. It will also become increasingly difficult to prevent and detect the intentional efforts by some importers to manipulate the system and avoid scrutiny.

The FDA has, indeed, made operational changes in recent years. The Agency developed the PREDICT system, which uses risk-based data and analytics from the entire life cycle of the product and open source intelligence to help investigators admit products that are of low risk and have a history of compliance and target products that pose a higher risk to public health. FDA also increased the number of foreign drug manufacturing inspections by 27 percent between 2007 and 2009 and has opened a series of international offices in key locations. In addition, FDA has collaborated with its counterparts in the European Union and Australia on drug inspections, worked to harmonize certain aspects of drug regulation via the International Conference on Harmonization, and joined the Pharmaceutical Inspection Cooperation/Scheme (PIC/S), an organization of the drug manufacturing inspectorates from 39 countries.

The FDA and other global leaders are also creating an expanded global regulators forum for medical devices. FDA has concluded confidentiality arrangements with counterpart agencies in 20 countries, the WHO, and the European Union to permit rapid flow of routine and emergency confidential information on the safety and quality of regulated products and to allow the bilateral placement of staff in each other's agencies for short and long periods of time.

The FDA is also broadening its food safety efforts under the FDA Food Safety Modernization Act (FSMA). This new law creates a new food safety system, in which manufacturers will have to put preventive controls into place that ensure the production of safe food and the FDA has new tools to hold all players in the supply chain responsible. There are also new inspection mandates, including a mandate leading to the inspection of more than 19,000 foreign food facilities in the year 2016.

In drafting the law Congress recognized the importance of partnerships in the success of this new food safety system, particularly in the area of imports. For example, importers now have a responsibility to ensure the safety of the food they bring into the United States. In addition, the FDA will be able to designate qualified public and private third parties to certify that foreign food facilities are in compliance with U.S. requirements and can require certification as a condition of entry into the United States. And, FSMA explicitly encourages arrangements with foreign governments to leverage resources.

In spite of these advances, a new strategy is needed to cope with the magnitude of the fundamental global shifts on the horizon and ensure the safety and quality of FDA-regulated products imported into the U.S. Our current tools and approaches will not be sufficient to provide the needed assurance of safety and quality as globalization continues to increase in the future. FDA must substantially and fundamentally revise its approach. Our new strategy, which is explained in a special report entitled the "Pathway to Global Product Safety and Quality," has four main components:

- First, FDA, in close partnership with its foreign counterparts, will assemble global coalitions of regulators dedicated to building and strengthening the product safety net around the world.

- Second, with these coalitions, FDA intends to develop global data information systems and networks in which regulators worldwide can regularly and proactively share real-time information and resources across markets.
- Third, FDA will continue to expand its capabilities in intelligence gathering and use, with an increased focus on risk analytics and thoroughly modernized IT capabilities.
- Fourth, FDA will increasingly need to leverage efforts of public and private sector third parties and industry and effectively allocate FDA resources based on risk.

This report can be found on our website at www.fda.gov/AboutFDA/CentersOffices/OC/GlobalProductPathway/.

What is envisioned for the future is a public health safety net for consumers around the world that is created, supported, and maintained by global alliances of regulators. As I have noted, some of this work is already underway and has been for several years, as regulators around the world have begun to collaborate in a more systematic manner. The Pathway strategy will enable us to take these efforts to the next level.

This is a long-term strategy. It cannot be accomplished immediately and will probably take many years to implement, depending upon resources. However, the return on investment is huge. The border will no longer be the nation's primary line of defense against unsafe imported products. Instead, the border will serve as a final checkpoint on preventive controls throughout the supply chain. This will help us assure safety and quality even in the face of climbing import levels, ever-lengthening supply chains, and increasing numbers and locations of foreign suppliers. It will help us create a safe environment for U.S. consumers in the global economy of the future.

As you may be aware, Commissioner Hamburg recently created a directorate focused on grappling with the truly global nature of today's world so that FDA can move from being a regulator of domestic products to one overseeing a worldwide enterprise. The new Office of Global Regulatory Operations and Policy will be led by a Deputy Commissioner who will provide broad direction and support to FDA's Office of Regulatory Affairs and Office of International Programs. The mandate of this new office is to make FDA's response to globalization challenges and import safety a top priority in years to come, and to ensure that FDA fully integrates its domestic and international programs to best promote and protect the health of the public. This Office will also be responsible for implementing the Pathway strategy. As initial steps, the Office will establish a framework and approach for broader data sharing and use of third parties. It will also work rapidly to partner with foreign counterparts to create global coalitions of regulators.

When Commissioner Hamburg unveiled the Pathway report, she noted that John Donne once said that "no man is an island," and she updated that phrase by explaining that today you might as well say that "there are no islands." And as Sir George Allyne, a native of Barbados and Director Emeritus of the Pan American Health Organization at WHO so delightfully added when he visited the FDA campus recently, Bob Marley sang almost 40 years ago in a similar vein: "When the rain fall, it don't fall on one man's housetop."

We are all in this together. What happens in one nation or part of the globe will have an effect around the globe because of the way our economies and cultures connect. Over the next decade, FDA will transform itself from a domestic Agency, operating in a globalized world, to a truly global Agency fully prepared for a regulatory environment in which product safety and quality know no borders.

To achieve this transformation, the Agency is developing a new, more international operating model that relies on strengthened collaboration, improved information sharing and gathering, data-driven risk analytics, and the smart allocation of resources through partnerships with counterpart regulatory agencies, other government entities, international organizations, and other key stakeholders, including industry. FDA intends to build international coalitions of regulators who have the capability and technology to rapidly share public health information and protect those they serve. This monumental effort will take a long-term investment in time and resources, but the pay off will be added safety and security for American consumers.

Thank you.