"BD devices have immunized billions of people in the developing world because they're simple, reliable, economical and can't be reused. Behind the scenes is an equally significant contribution–BD people working directly with local public health authorities and educating and training indigenous healthcare providers."

–Gary Henniger, Director, Operations, Emerging Markets Injection Safety, BD Medical

The *BD SoloShot* IX and *BD SoloShot* LX auto-disable syringes expand the *BD SoloShot* family to five color-coded syringes for easy identification.

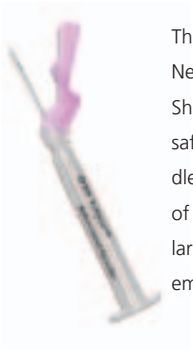
Innovation rarely comes to Afghanistan, Mali, Rwanda and dozens of other developing countries. When it does–in the form of deceptively simple, inexpensive injection devices–it's easy to overlook. But what can't be overlooked is the impact of auto-disable injection technology, not only in getting vaccines to remote and rugged areas, but also in making progress against unsafe immunization practices that risk transmitting blood-borne pathogens.

Teaming with the World Health Organization (WHO) and other international health agencies, BD developed the first auto-disable devices in the 1980s. Initially, high cost threatened to curtail widespread use. BD responded by focusing its manufacturing expertise on simple designs that drove the cost of each device down significantly. Over the years, in excess of 2.5 billion immunizations have been administered using *BD SoloShot* devices alone.

In its ongoing effort to make injections safe, BD is leveraging its global reach and resources. BD engineers and BD scientists in India, China, Singapore, Brazil, Spain and the U.S. all contributed to BD's portfolio of devices for safer injection, including devices for clinical uses beyond immunization, for emerging countries. BD's global presence gives the Company on-the-ground support capabilities in Asia, Africa and Latin America. The Company has also collaborated with a global consortium of international agencies, government agencies, nongovernmental organizations and industry leaders to address safe injection practices and provide solutions. Additionally, BD's worldwide manufacturing expertise continues to enable the Company to produce devices at moderate prices that support the sustainability of long-term immunization programs.

In the future, newer devices using advanced medical technology promise to make immunizations even more effective. One such device, still under development, is the BD Intradermal Delivery System. Its tiny microneedle penetrates the intradermal layer immediately under the outermost epidermal skin layer. BD scientists have found that certain drugs delivered at this layer get into the blood stream faster and at lower doses than standard injections. The microneedle itself is a major innovation, as thin as a human hair and as short as 1 millimeter. Those characteristics make it nearly pain-free, less threatening and easy to use.

After smallpox emerged as a bioterror threat, BD drew on its bank of knowledge and experience to release the *BD* Bifurcated Needle for administering smallpox vaccine in mass immunization campaigns and emergency response situations. Given BD's commitment to preventing needlestick injuries, the next step was to create a safety-engineered version. Based on proven *BD Eclipse* technology, that device–the *BD Eclipse* Bifurcated Needle with Safety Shield–features single-handed activation, is easy to use and is economical.



The *BD Eclipse* Bifurcated Needle with Safety Shield brings *BD Eclipse* safety shielding to a needle designed for delivery of smallpox vaccine in large-scale campaigns or emergency responses.

The *BD Uniject* prefill injection device is a single-use system, preventing needle reuse and eliminating the need for filling syringes from vials. Its innovative design allows for fast and easy injections, while the compact size allows easy transport, storage and disposal.

The BD Intradermal Delivery System features a tiny microneedle the width of a human hair. Studies have shown that delivery to the skin's intradermal layer can make certain drugs more effective.

According to World Health Organization estimates, in the year 2000 alone, reused medical devices led to 260,000 new cases of HIV/AIDS, 2 million hepatitis C infections and 21 million hepatitis B infections. Mass immunization programs represent 10 percent of all injections administered in the developing world. BD is expanding its reuse prevention efforts to help address the other 90 percent of injections administered to give other medical care.

The *BD SoloShot* IX and *BD SoloShot* LX auto-disable syringes expand BD's array of auto-disable devices for protecting children and adults from unsafe injections. The *BD SoloShot* IX features a color-coded plunger based on ISO standards for quick, sure identification of the correct device. The *BD SoloShot* LX is for the tuberculosis vaccine and other low-dose vaccines.