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## Reuse Prevention Injection Devices – A Primer

### **The Issue**

Injections administered in the developing world are often unsterile, and may transmit infectious disease, due to improper reuse of disposable syringes and needles designed for single use, or ineffective resterilization of reusable glass syringes.

### **The Impact**

World Health Organization (WHO) and CDC estimates indicate that approximately 40% of injections in the developing world are administered with reused, unsterile medical devices. In the year 2000 alone, WHO estimates that 260,000 new HIV/AIDS infections, 2 million new Hepatitis C infections, and 21 million new Hepatitis B infections resulted from improper reuse of injection devices.

### **The Solution**

As a result of the leadership of international agencies such as WHO, UNICEF, GAVI, and USAID, and the work of all manufacturers of safe injection devices, injection devices with specific technologies that prevent reuse have been developed and are already in broad use for childhood immunization programs in developing countries. These devices are designed to lock after a single use, preventing reuse from occurring. They are low in cost (approximately five cents each), and have been proven effective in actual usage settings for preventing reuse during mass immunization of children.

### **The Challenge**

Mass immunization programs represent approximately 10% of all injections administered in developing countries. The need exists to expand reuse prevention technologies to the remaining 90% of injections administered for “curative” applications. Addressing this broader category of injections in the developing world presents a more demanding set of clinical challenges. Curative injections are administered in many different settings, from acute care hospitals to health clinics in remote rural locations, under much less controlled circumstances compared with mass immunization programs. The injection devices are utilized in these settings for a much wider array of applications, and therefore must be more versatile. A broader range of syringe sizes is required, as is the ability to mix medications and deliver variable dosing (immunization doses are typically of a fixed volume, e.g. 0.5 milliliters). Safe injection devices utilized for curative applications must meet all of these requirements, while also eliminating the potential to reuse the device.

### **The Goal**

Medical device manufacturers are working to extend reuse prevention technology to a broad array of low-cost, general-purpose injection devices for the developing world. To get these devices into broad use, government and non-government agencies, international aid organizations, health ministries in developing countries, and manufacturers must collaborate to ensure that safe injection devices are made available in the developing world, and that health care providers are educated on this issue and properly trained on how to use these devices. This will require a commitment to policy changes, funding, and continued development of low-cost technologies accessible in the developing world.

