Mother's Milk to Infant Traceability

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The culture of integration, track/trace solutions are legendary; the developments in RFID and barcode solutions speak for themselves. From the invention and use of the first barcode reading system nearly 40 years ago - to today's emerging application technology use in RFID, there are numerous stories over the years of creativity fulfilling the needs of the market and its many industries. What many don't realize however is that the creative minds of integration have begun to focus and address business and traceability efficiencies in healthcare and life sciences, bringing security to organizations and assurances that each patient has the right services and product provided.

For the purposes of this paper let's review the need in infant nourishment, the track, traceability and administration of mother/donor's milk to newborn and infants.

The milk administration process is complex and often times prone to errors that can and does result in introducing real health risks to infants, stress and concerns for the mother/donor and serious financial liability to the institution should there be a breakdown in protocol or human error occurs. A track/trace solution in milk must tie the identification of a mother/donor to the infant. A system built upon having a barcode or RFID technology backbone supporting the established delivery protocols of the health provider is the best case solution. Such a system can be designed as a stand alone solution that is non-communicative to the HIS host (hospital information system), but in most cases the solution does tie back to the host providers HIS or LIS (Laboratory Information System).

A full integration of solutions would provide sufficient safe guards to ensure;
- o   Identification of the mother/donor
- o   Identification of the infant's link to the mother/donor
- o   The labeling of milk product by special identifiers linking the donor and recipient
- o   The security in product storage and pull for patient administration

- o   FIFO protocol adherence to standards established
- o   Tracking and identifying of any or all product fortifiers added

Breaking down the processes in this vertical application we can see several opportunities to incorporate track/trace accountability solutions that support patient safety for both mother and infant. These are;

Collection

Would provide supporting documentation and protocol in ways of specimen barcode labeling that identifies each collection at a donors location, tying the mother's/donor's name to the collection, time of the collection, and identity of the infant. All information could upload to the host or be placed resident to an off line database near the refrigeration repository center. A solution could not only support the details mentioned but also allow for the detailing of a mother's/donors amount at the point of collection thereby building a database of availability and forecast against the infants feeding needs.

Order Management

Would provide supporting historical documentation of specimen administration to the infant, ordered by the healthcare provider (nurse or physician) ensuring the correct product is readied and prepared for delivery.

Specimen Pull & Tracking

Would provide electronic traceability of the product being pulled for administration to the infant against their barcode encoded identity and the prescribed delivery. This results in the preparation of the right product, for the right patient.

Delivery Tracking and Patient Ingestion Monitoring

Would provide supporting documentation and processes to the specimen pull from refrigeration repository to the infant and may allow for the data collection detailing the

ingestion amounts of the infant by feedings.

A collection and validation solution might consist of: a hand held terminal with track/trace software which functions the scanning of barcode or RFID encoded both donor patient and infant wristbands thereby providing proper identity of each. A portable thermal label printer for the production of specimen identification labels, a host communication cradle (non-wireless applications) to serve as the upload point of data collected and a resident track/trace software at the host or work station to manage the recovered data.

What will differentiate your integration solution to the healthcare provider will be your approach to their need. Their initial concern is for patient wellness and to the hospitals established, tested patient processes. The marrying of technology to their processes, system, and system security for both patient safety and Joint Commission compliance are paramount. Through collaboration with the customer in identifying their root problem and needs of patient/product/data management will help you to build them an affordable and effective solution. SATO has discovered that solutions developed in this manner results in best practices and outcomes for their customers.

A good point to remember - this group of professionals is much more interested in the reliability of your solution than the elegance of it. Keep it simple, functional and without hassle to their staff and you'll soon build your business being a trusted technology resource and supplier to them.

For More Information Contact:

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