

# Introduction to the IBSL Unit Dose Drug Management System



# IBSL

- **History**
- **IBSL Group**
- **Key Facts**
- **Experience**

# Challenges Faced

**ERROR**



**COST**



**WASTE**



# The IBSL Drug Management System

## A Complete System for Unit Dose Drug Management

IBSL invested > €20m in Italy before any contracts awarded

The System includes a combination of:

- Integrated end to end drug management system;
- Highly automated robotics;
- Bespoke control software;
- User friendly staff interfaces;
- Built in safety checks ensuring traceability and accountability.



# The Unit Dose System

IBSL has developed an innovative new solution that consists of:



**Advanced  
technology  
administration  
management**



**E-prescribing**



**Preparation and distribution of personal drug  
therapies and disposable medical devices**



# Models of Delivery

## In-hospital Model:

- The IBSL System is installed within the hospital for the automated preparation of personal therapies;
- IBSL “Leases” space from the hospital (ideally 200 – 500sq m), usually a basement area;
- IBSL creates a centralised, secure unit dose drug preparation area;
- Installation of the primary preparation equipment can be rolled out in 2 months;
- Tailored to individual hospital requirements.



# Centralised Model:

## Additional advantages

- Construction of a IBSL centre (in Italy it can support 50,000 beds and service hospitals within a radius of 500 miles);
- Innovative and automated plant;
- EU law and GMP compliant;
- Secure separate area for each hospital authority
- To date 9 hospitals use this Model;
- Reduced average capital cost;
- No in-hospital unit dose preparation space required.





# Essential Aspects of Delivery:

IBSL behind the scenes

1) The centralised preparation and storage area is safe and secure- either within hospital or external



2) Secure area for automated preparation of medicines into sealed bar-coded unit dose packs





3) Barcoded single unit dose packs are stored in automated secure cabinets.



4) Before administration, unit dose packed drugs are loaded into a IBSL Ward Cabinet. Upon e-prescription, personal individual therapies are prepared automatically by the Cabinet for administration by nurses.



*Automated IBSL Ward Cabinet*



5) Once individual patient therapies are prepared, they are placed automatically by the IBSL Ward Cabinet into IBSL Medicine Trolleys for administration by nurses to patients in wards.



# Model of Delivery

Ward side delivery;



1) Medicines are e-prescribed to patients by physicians, with prescriptions accessible to the pharmacist and nurse simultaneously;

2) Patients are identified with barcode;



3) Patient therapies are automatically prepared by the IBSL Ward Cabinet. The therapies are then automatically loaded into IBSL Medicine Trolleys (Note, therapy preparation can be at fixed times or ad hoc for emergencies).

*IBSL Medicine Trolley with laptop (IBSL software guiding administration phase) and wireless bar code reader*



# Summary of System

## Preparation of Unit Drug Doses

- Secure area for automated preparation of medicines into single unit doses or personalised therapy.
- IN-HOSPITAL MODEL: Medicines are prepared on-site into sealed unit dose envelopes. They are distributed in sealed containers into each ward by IBSL , the unit doses being loaded into IBSL Ward Cabinets or if personalised therapies, loaded into IBSL Medicine Trolleys.

Depending on shifts required and number of beds, at least two pharmacists (to ensure safety and verification), at least one technician, one supervising computer engineer, and, if required, dispatcher(s) (all provided by IBSL).

- CENTRALISED MODEL: Medicines are prepared off site (EU and GMP compliant) into unit doses, packaged and delivered into hospital and loaded into IBSL Ward Cabinets.

## Hospital

- Installation of IBSL e-prescribing software and or interfacing with existing hospital software, throughout the hospital;
- Installation of IBSL Ward Cabinets;
- Provision of IBSL Medicine Trolleys, bar code readers and laptops





## Hospital Pharmacy

- Installation of IBSL software;
- Training and continuous support service;
- Receipt in real time of individual prescriptions for patients, accessible to the pharmacist and nurse.

# Wards

- Loading by IBSL of unit doses into IBSL Medicine Ward Cabinets (Note, if personal therapy for a ward is prepared centrally, the Medicine Trolleys are loaded directly and administered by a nurse).
- Physicians e-prescribe individual prescriptions for patients, accessible to the pharmacist and nurse simultaneously;
- Receipt through IBSL software in real time of individual prescriptions for patients, accessible to the physician, pharmacist and nurse simultaneously;
- Automated preparation pursuant to e-prescription of individual patient therapy through the IBSL Medicine Ward Cabinet and automated distribution to IBSL Medicine Trolleys (Note, preparation can be at fixed times or ad hoc for emergencies);
- Administration by nurses of individual patient therapies through IBSL software and IBSL medicine trolleys, guided and controlled by IBSL bar code system.



# Key Benefits of the IBSL System

- Safety
- Cost saving
- Enhanced management information and controls
- Staff roles and improved staff productivity



# Benefits: Safety

- Traceability and accountability of all medicines
  - Eliminates misuse of medicines
- 
- Reduction of risk of adverse events (from an average of 5% – 7% to 0.001 %)
  - Prompts when medicines due to be administered, giving warnings when not administered at the right time
  - Automated warnings if therapy is inconsistent or in breach of patient pathology and adverse medicines interactions



## Benefits: Cost

- Elimination of expired medicines and waste;
- Reduction of stock levels;
- Savings are in the region of 10% on drug expense



## Benefits: Staff roles and improved staff productivity

- Staff roles and improved staff productivity;
- IBSL software has been designed to be intuitive and user friendly;
- Continuous training and support for the hospital by IBSL personnel.



# Benefits: Management information and controls



- Traceability of all staff access to medicine;
- Management information and data for costing purposes;
- Central records system;
- Guaranteed identification of each patient through bar code system;
- Access to patient's therapy records at all times;
- Automated stock management of medicines and warnings when medicine levels are low.

# Key Features

- No initial or long term capital investment by hospital;
- Intuitive and user friendly software;
- Quick to install system within hospital and wards;
- Benefits almost immediately apparent (patient safety, reduction of errors, elimination of expired medicines, stock control etc.);
- Immediate control on medicines ordering process and stock levels;
- Individually tailored to each hospital;
- The System is continuously evolving, with IBSL working together with the health authority to meet their particular requirements and objectives;
- Choice of having the centralised drug preparation centre within hospital or at a distribution centre thus saving valuable hospital space.



# Potential Barriers

- Cultural change
- Space requirements
- Continuous training needs



# Key Points Summary

- Almost complete elimination of human error in the preparation and administration of therapy
- Proven cost saving
- Traceability and Accountability- cost saving from every aspect
- No initial or long term capital investment by Hospital - IBSL will pre-finance the System;
- Payment terms – full flexibility, including models allowing in part for performance criteria on savings of medicines;
- Waste reduction = cost saving
- Training and change management support



# Next steps....