



Supply Chain Data Transfer

GIRP presentation paper

BACKGROUND

Today there is no standardised data transfer system between the partners of the pharmaceutical supply chain in place, especially between pharmaceutical manufacturers and wholesalers. Therefore, in order to increase the ability of wholesalers to fulfil forthcoming requirements for electronic record keeping, there is a need to investigate the development of a proper system related to data transfers.

The question relates to computer-to-computer interchange that can cover a large part of the exchange of data. Primarily, it concerns formatted messages or data flows that will represent the documents or data that should be transmitted from sender to recipient. Each message or data exchange must be composed according to a standardised syntax and the standardisation of data elements within the messages or data exchange that makes the assembling, disassembling and processing of the messages and data by computer possible.

Pharmaceutical manufacturers, pre-wholesalers, wholesalers and retailers will benefit from the system, allowing them to optimise the workflow in their production plants, warehouses, depots and retail points.

The objectives to use a common standard is to ease the interchange of data electronically that allows the processing of automated messages or data flows, reduces paper work and transcription errors, allows faster response time for procurement and customer needs, reduces inventory requirements, increases timely payment of vendors and guarantees closer coordination of data being processed on different computers for similar applications.

Potential application areas:

- Customer/client search and selection processes: price/sales catalogue, request for quotations, trading partner profiles, bids, proposals, etc...
- Supplier's partnerships: notices of contract awards, purchase orders, purchase order acknowledgments, purchase order changes, deliveries, etc...
- Product data: specifications, reports of test results, safety data, etc...
- **Shipping & Receiving: advance shipping notes, shipping manifests, bills of lading, shipping status reports, receiving reports**
- Customs: application import/export form, release of information, manifest update
- Payment information: invoices, remittance advices, payment status inquiries, payment acknowledgements
- Cash collection: remittance advices, payment status inquires, alert for late collection
- Inventory control: stock level report, re-supply request, warehouse activity report
- Maintenance: services schedules, pre-diagnostic report, activity report
- Tax-related data: remittance advices, tax information and filings
- Insurance-related data: social security inquires, pension inquiries, healthcare claims
- Other institutions: pharmaceuticals licence application, hazardous & control drug reports, healthcare event reports

Security and authentication of the data transmission are important features of the system for data transfer and therefore it is important to develop all standards in that respect.



SPECIFICATIONS

Product catalogue

Each electronic message or data transfer must be subject to control to ensure that the message type or data flow is identified and uniquely numbered with the purpose to synchronise trading partners' respective databases. The price catalogue, for instance, may be transmitted on a specific date, allowing the receiver of the data to verify the contents of the message.

Information such as names, addresses and contact details should be included in the data transfer, as the main parties involved in the data exchange are buyers and suppliers. If suppliers use the services of third parties who thereby become the suppliers, then these third parties need to be declared to the buyers (distributors, wholesalers, hospital or pharmacist).

Information on product identification must be based on a common European standard and, when applicable in several countries, must be located in the same area (i.e. Varenummer of the Nordic countries). This identification must be relevant for the entire supply chain. Trading partners should agree to include the following identification to qualify the product (i.e. national identification number, batch number, expiry date). Secondary identification could be attached to the primary identification used in the product data message exchange.

Classifications are used to group products with similar uses, performance, packaging, presentation and attributes. There is a range of different national and international classification schemes that must be approved and assigned by national bodies. This information must be part of the product data exchange scheme (i.e. CIP 13 in France used for batch tracking).

Product-related description for trading can have different levels (i.e. invoice, name of product marketed, brand name). It is of paramount importance to have a syntax control of characters implemented or a proper algorithm allowing to identify the product whatever the designation.

The other aspects that should be considered are information about storage conditions, transport conditions, handling requirements, order conditions, specifications and medical information, hazardous and cold chain product handling.

Purchase order data

The information is used to control the order flow, indicating the type of order, the order number, status of the order data and the order acknowledgement. Each order exchange is given a unique code to identify the originator of the orders. The number will be unique to the whole data set and will indicate if it is an original, a copy or a duplicate (original sent twice). An electronic acknowledgment is required to be sent back by the recipient to the sender to report the actions arising as a result of processing the data set by the recipient.

Dates are critical as they specify contractual requirements with respect to the delivery. The minimum required is the order date, however, depending on the application, the following might also require inclusion:

- The date/time on which the delivery of the goods is requested,
- The date/time on which the goods are requested to be despatched,
- A date/time restriction to indicate the goods should not be shipped before,
- A date/time restriction to indicate the goods should not be shipped after,

- A date/time restriction to indicate the goods should not be delivered and the order cancelled,
- The date/time of product availability.

It might be also required to have a reference that includes an authorisation number to allow the payment of purchase. Another reference number (customer order number) must be used for customers that will help to track the order, documents and messages during the process.

Of course, as main features of the purchasing order data, names and addresses of all parties involved in the transaction must be easily retrievable and therefore made available for transfer. Third parties may be involved, such as a logistics service providers or other functional entities, who handle the stock, the order, the delivery and the invoicing (when applicable) on behalf of the buyer and supplier. Within each organisation, there may be particular departments responsible for various activities related to the entire transaction (i.e. Sales, Purchasing, Production, Distribution, and Aftercare).

The other aspects to consider are currency details for transactions, terms of transport, changing requests for the order and information on manufacturers and on deliveries.

Receiving advanced shipping notification

Once again each electronic data transfer will require control information with a unique code to identify the type of data, a reference number that could be used with a despatch identification code of the supplier (in a simple business model it will be manufacturers for wholesalers, and manufacturers and wholesalers for pharmacies). Information on date and time will refer to the transaction prior to the transmission.

The received advanced shipping notification can include references to other documents, which have been generated during the preparation stages of the trading cycle. The despatch notice can be sent to the third part logistics provider in charge of the delivery and will refer to the advanced shipping notification.

Other aspects to consider are consignment/order structure, variance at the consignment/order level when receiving the goods (i.e. delivery error, damaged products) and the material and seals used to secure the product shipment (control drugs, fridge products).

Transport

The control of information will be related to the original set of order data transmitted to the supplier, processed in the warehouse and delivered to the clients (upstream and downstream in the supply chain). It will also be attached to a delivery note with date of shipping, weights of load and number of referenced units for the delivery (i.e. pallets, cartons, roll cages). A reference number to an originating order must be used across the supply chain and must be included on the invoice/delivery note that travels with the goods. This reference number can be used to retrieve any information/data related to a given order from the database.

It should be included in the specifications of the database for management of the shipment (non-exhaustive list):

- Total gross weight of the shipment,
- Total number of consignment in the shipment,
- Total number of packages in the shipment,
- Total shipment cube,

- Total quantity of shipping and handling equipment (pallets, totes, roll cages),
- Total loading metre when applicable (indication of footprint required shipment),
- Account number,
- Shipment reference number & date,
- Free comments.

Information on the primary mode of transport should clearly identify the main means of by which the shipment will be transported to the final client. The code should help to identify transport for air, sea, road, rail and a combination of means of transport (multi-modal when delivering to islands in the UK, France and Spain). It is of paramount importance to have information on locations and dates relating to the shipment of goods, in order to refer to where the shipment must be collected, picked-up or delivered.

Names, addresses and contact details are the information required for the organisation involved in the transaction and relate to the information about the shipment. The forwarding instructions are sent from the suppliers to the carrier that must use it at each stage of the delivery, even when using third party logistics providers or contractors during the delivery process.

Other aspects to consider are governmental or regulatory requirements, transport documentation, handling instructions, customs information and special transports.

NEXT STEP

It is necessary to define the framework and the scope of the study on Supply Chain Data Transfer, as it implies the involvement of a number of stakeholders and experts on:

- Standardization of processes across the whole supply chain in Europe,
- Standardization of codification for each step of the above processes,
- Building a user requirement specification for data transfer,
- Designing the framework for a proof of concept,
- Based on the outcome of the test, offering recommendations and advice on the next step towards a development on a larger scale.

One of the basis for the proof of concept could be the advanced shipping note that wholesalers do not get from manufacturers, but for which a number of benefits can be expected in the future, considering that it will help to receive valuable information for reliable and accurate goods-in operations and prepare better stock management of the in-bound flows.