Hospital Pharmacy Central Denmark Region



THE ANNUAL COSTS OF PREPARING THE TOP 10 MOST COMMONLY USED INJECTABLE DRUGS AS PREFILLED SYRINGES IN A HOSPITAL PHARMACY

A. Thomsen, Y. Nejatbakhsh, B. Madsen

Aarhus University Hospital, Denmark

Figure: Steps and outcome of the business case

Introduction

 The Hospital Pharmacy made a business case investigating the costs/benefits of buying and operating a syringe filler at the pharmacy. The focus was on the production of the top 10 most commonly used injectable drugs for use on the wards.

Purpose

- Estimate the requirements needed in terms of personnel, equipment and production facilities, with regards to capacity.
- Estimate the running costs of production and following EU-GMP rules and regulations concerning production, batch release and stability testing.

Material and methods

See Fig

Data used to make calculations:

- Baseline data from the wards and expected daily use totals.
- New technology (Filling equipment, syringes)
- Cost/benefit analysis regarding manufacturing products with a longer shelf life
- · Knowledge about GMP and production time

This data was used calculate an initial investment cost for the set-up of the equipment, facilities etc. and also to calculate the running costs per annum.



Baseline data from the ward

Drugs, dosages & amounts
 Top 10 most commonly used injectable drugs

Requirements specification (investment) - Technology (filling equipment, syringes) - Stability testing

Production

 Legislation (EU-GMP rules)
 Operational costs (time, rooms & clothes)

- The initial investment costs: € 540,000 - The running costs per year: € 975,000 - Price per syringe excl. drug: € 8



Decision from the hospital board

Results

See Fia

- We have calculated an annual production requirement of 120,000 prefilled syringes using a semi-automated machine for transferring the drugs into syringes. To produce this amount of syringes would normally take one person 9 years of work.
- The initial investment cost amounts to €540,000
- The running cost amounts to €975,000 a year.
- The production cost of a single syringe amounts to €8 excluding drug cost

Conclusion

See Fig

 Based on the results the hospital board has found the concept very interesting, but they cannot meet the monetary requirement for investment.