# Implementation of **Doselock** device & cost effective project at **Birmingham Treatment Centre, SWBH**

## INTRODUCTION

Doselock is a syringe locking device introduced to help infusing medication. It has a sliding scale on the stem attaches to the plunger of a 30mls or 50mls Becton Dickinson Plastipak prefilled syringes. The sliding scale can be locked to allow infusing a specific dose less than the prefilled volume. The Doselock is convenient and safe to use. The set dose is precisely administered and the residual drug being discarded at the end of administration.

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## METHODOLOGY

Following a full risk assessment, the Oncology Unit, Birmingham Treatment Centre implemented the Doselock device from May 2010, changed from supplying prefilled syringes according to dose banding table to dispensing individualised dose to the nearest 1ml. These include epirubicin, cyclophosphamide and fluorouracil prefilled syringes. Pharmacy and nursing staff were trained to use the device. Nine months usage data were collected comparing the use of non Doselock *(NDL; September 2009 to May 2010)* and Doselock *(DL; December 2010 to August 2011)*.

| | No. of strengths required | No. of syringe (various strengths) | Pre implementation (Sep2009 – May2010) | No. of strengths required | No. of syringe (various strengths) | Post implementation (Dec2010 – Aug2011) |
|---|---|---|---|---|---|---|
| **Fluorouracil** | 5 | 950 | 12043.48 | 2 | 362 | 2732.01 |
| **Epirubicin** | 4 | 1065 | 95959.23 | 2 | 512 | 16473.35 |
| **Cyclophosphamide** | 5 | 1135 | 17050.02 | 2 | 559 | 8518.62 |
| **Total cost** | | | **125052.73** | | | **27723.98** |

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## RESULT & DISCUSSION

With the implementation of Doselock, we managed to reduce the strengths of each drug stocked by the unit. This cut down the total stock holding and storage space required; fewer syringes are dispensed for regimen such as FEC or CMF. In addition it reduces dispensing time, pharmacist's accuracy checking time, patient waiting time and allows more effective stock management of the prefilled syringes. This also helps to reduce the nursing time required to change the syringes during drug administration.

Keeping two reasonable strengths of each drug allows us to procure them at considerably cheaper price. We also managed to reduce the dispensing cost by avoid using a combination of syringes to dispense the same dose, which indirectly will increase the dispensing cost compared to a single syringe.

## CONCLUSION

Doselock is definitely a cost-effective mechanism to dispense prefilled syringes. It has also improve the efficiency of pharmacy and nursing staff within the unit.