

Multidisciplinary Drug Return/Wastage Minimization Programme



**Josephine Yung
Pharmacist
Tuen Mun Hospital**

Computerized Automatic Refill System (CARS)

Automatically generate drug refill until:

- Off
- Discharged
- Marked as "Home Leave"

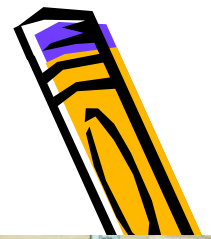
The screenshot displays the 'Pharmacy Management System Express Dispensing System - [CARS Prescription Entry]' window. It is divided into several sections:

- Drug Profile:** A list of items with their respective details:

Item No.	Date	Drug Name	Quantity	Frequency	Duration	Last Adj.	Status
Item 11	24/04/2006	LACTULOSE LIQUID (DUPHALAC)	2 X SML SPOONFUL(S)	THREE TIMES DAILY WHEN NECESSARY	3 day(s)	90 ABL	W
Item 12	24/04/2006	BISACODYL SUPP 100MG (DULCOLAX)	1 SUPPOSITORIES	DAILY WHEN NECESSARY	3 day(s)	3 MO	W
Item 12	24/04/2006	DOLOGESIC (OR EQUIV) TABLET	1 TABLET(S)	FOUR TIMES DAILY	3 day(s)	12 TAB	W
Item 13	24/04/2006	PARACETAMOL TABLET 500MG (PANADOL)	1 TABLET(S)	EVERY FOUR HOURS WHEN NECESSARY	3 day(s)	18 TAB	W
Item 14	24/04/2006	CIPROFLOXACIN (HCL) TABLET 250MG (CIPROXIB)	2 TABLET(S)	TWICE DAILY	3 day(s)	12 TAB	W
Item 15	24/04/2006	PIPERACILLIN + TAZOBACTAM INJECTION 4.5G (TAZOCIN)	4.5 G	EVERY SIX HOURS	1 day(s)	4 VIAL	W
Item 16	24/04/2006	PREDNISOLONE TABLET 5MG	1 TABLET(S)	DAILY	3 day(s)	3 TAB	W
- Patient Information:** Fields for Case No, Name, Sex, Birthday, Age, Category, Ward, Spec, Bed, Weight, and Diagnosis.
- Drug Information:** Fields for Item No (18), Drug Code (LACT05), Description (LACTULOSE), Form (LIG), Route (PO), Dosage (2), Frequency (PT), Disp. Day (3), Total Dosage (18), Disp. Qty (90), Adjustment, Duration, Type (Normal), Start Date (24/04/2006), End Date, ATC (N), Last Date, Due Date (24/04/2006), and Initial Disp. Qty (0).
- Alerts:** Sections for 'Drug Sensitivities From MAR' (23/04/2006 11AM NKDA) and 'Alert information from CMS' (No Known Drug Allergy).
- Buttons:** 'Active Item (Browse)', 'Lookup <F5>', 'Preview', 'In-Active Item', 'Entry <F6>', 'Multiple <F8>', 'Step up/down <F9>', 'Accept <F11>', 'Label (Print)', 'Save Only <F7>', 'Chinese', 'English', 'Print Instruction'.



Benefits of CARS



- Enhance Dispensing Efficiency
- Enhance Medication Safety
 - ↓ manual data entry
 - ↓ interpret handwritten Rx
- Maintain Complete Patient Medication Profile
 - Ensure patient getting reasonable drug combination (Facilitate checking of drug Allergy, drug interaction.....)



Isoniazid		
DOSE	ROUTE	FREQ.
50mg	po	qd

Isoniazid 50mg daily??
Or
Folic acid 50mcg daily??

Side Effects of CARS

- Increased Volume of Ward Drug Returns
 - Workload of processing returned drugs
 - Drug wastage
- Unnecessary Dispensing Workload
- Risk of Medication Error
 - Overstocking of unnecessary medication in wards
 - Screening of return medication in pharmacy



Vast Amount of Ward Drug Returns



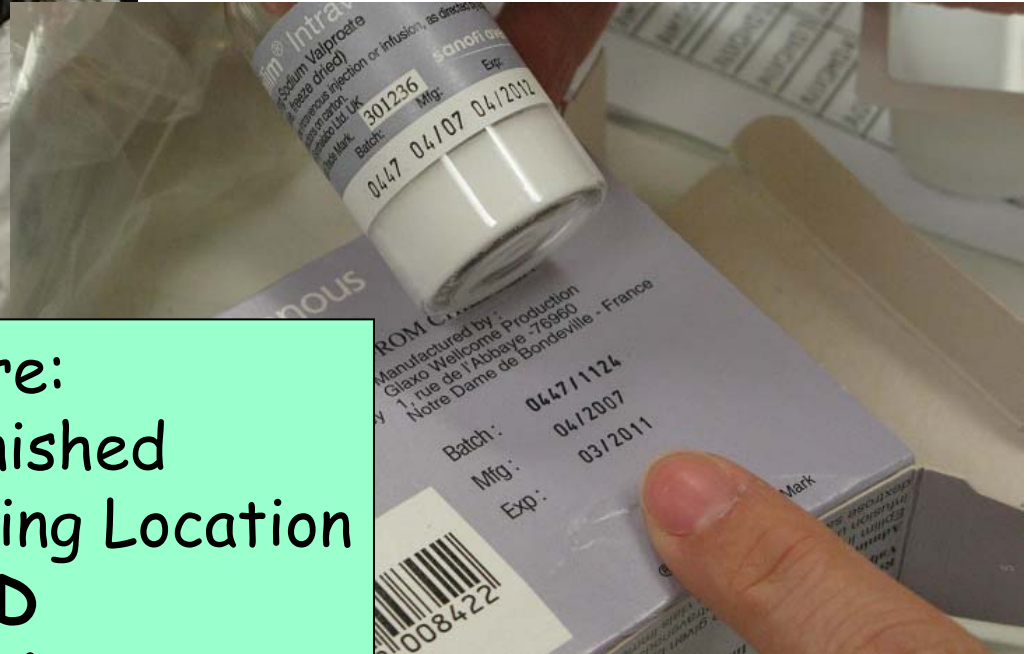
Overstocking of Drug in Wards



**Ward's Fridge,
Cupboard,
Drug Trolley
Jammed with Drugs**



Errors During Screening of Returned Drugs



Tedious Job to Ensure:

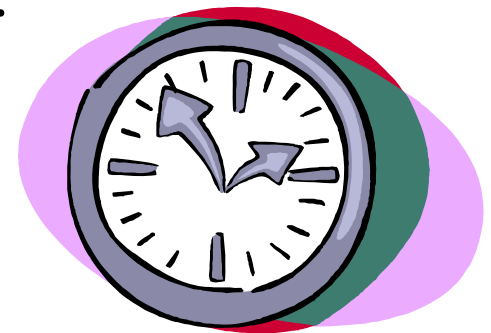
- ✓ **RIGHT** Drug Replenished
- Back to **RIGHT** Picking Location
- ✓ Drug **NOT EXPIRED**
- ✓ Drug in **Good Condition**



Focus this Problems

Pharmacy, Over the Years, Had:

- Reviewed the patterns of drug return
- Introduced a few measures to try to contain the problems
 - generate refills medical wards in the afternoon (previously in the morning)
 - Review drug ward stock list
 - etc.....



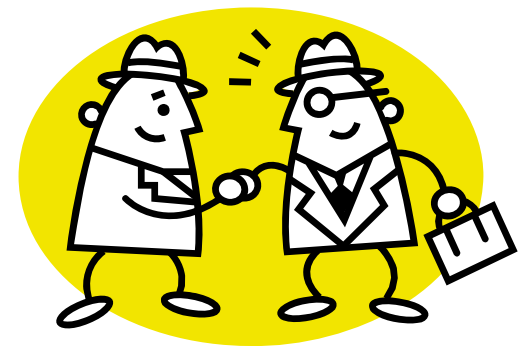
- Still.....

Drug return problem exists

未解未解未解
未解未解未解
未解未解未解

- So.....

We Need Multidisciplinary Approach

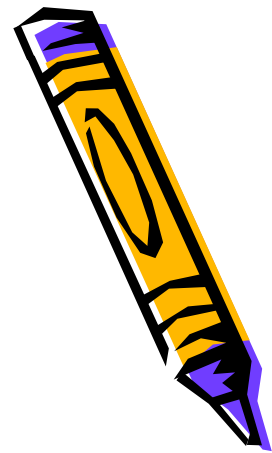


Discharge List

- Discharge list record
 - Name of patient who will be Discharged on That Day
- Patient NOT yet Discharged because:
 - Wait for discharge medications
 - Wait for relatives/relations
 - Wait for portering service
 - etc.....



Enhanced Communication Between Wards & Pharmacy

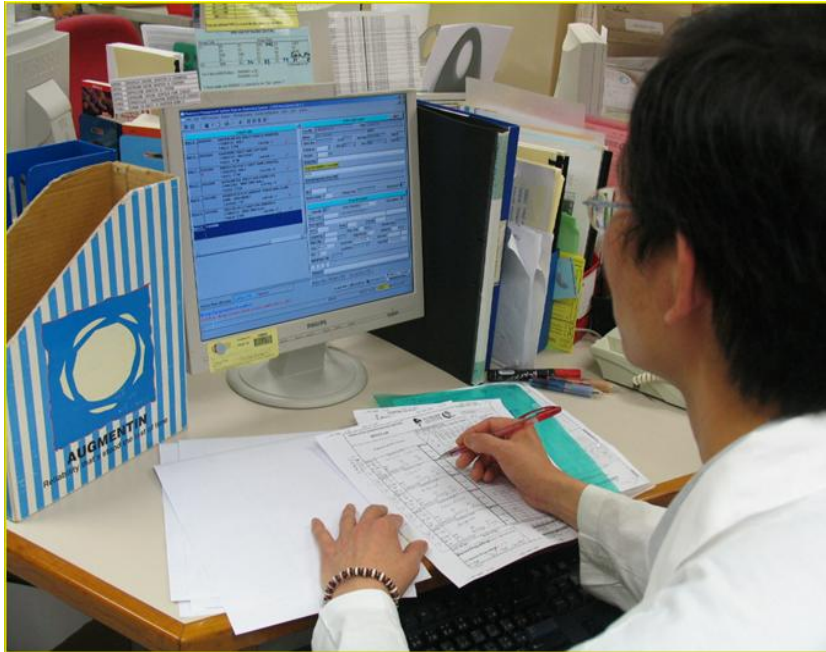


Nursing Staff FAX
the discharge list to
Pharmacy

- ALL Medical Wards,
- ALL Surgical Wards,
- ALL Orthopedic Wards



Withhold Drug Refills



- Withhold dispensing of refill medications
- By marking patient as "Home Leave" in CARS



Outcome Analysis



- One week study at Late April, 2007
- Monday to Friday (5 Working Days)



Unnecessary Refills Withheld

- Withheld refills of 203 Drug Items (~8% of Total Drug Refills)
- Projected **yearly** reduction in unnecessary dispensing workload **>10,000 Drug Items**



Minimize Unnecessary Workload



↓ Drug Picking



**X 10,000
per Year**



↓ Porters' Load
(Refills Drugs
/Returned Drugs
Delivery)



↓ Drug Returns Processing



↓ Returned
Drugs Screening

Drug Expenditure Savings



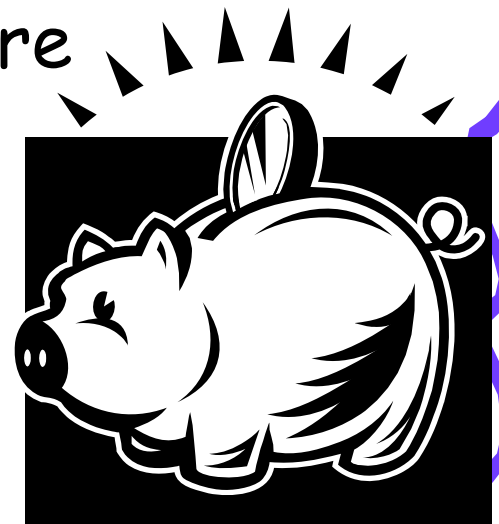
Study Period:

- Withheld drug return expenditure
>HK\$7000
- Disposal of 1/5 of the drug (>HK\$1500)

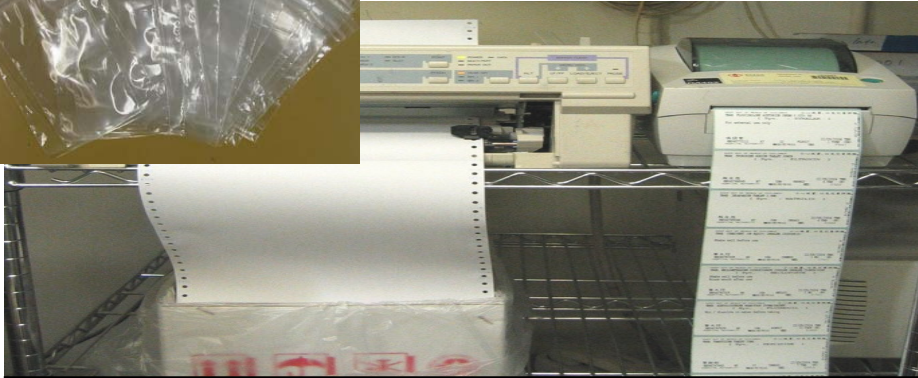
Yearly Projections

- Withheld drug return expenditure
>HK\$380,000

Yearly Savings of ~HK\$80,000



More Savings



Consumables:
Labels, Papers, Plastic Bags, etc.....



Landfills Cost



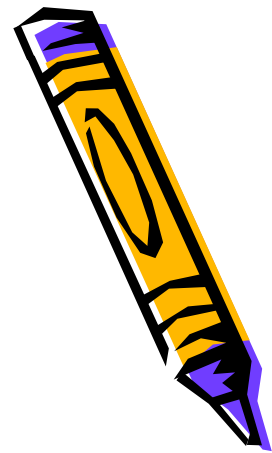
Save the Environment

Conclusions

- Enhance Medication Safety
- Save Manpower from Unnecessary Work
- Save Drug expenditure, Consumables Cost, etc.....
- Save Our Earth



Thank YOU



Acknowledgements:

- Department of Medicine & Geriatrics
- Department of Orthopedics & Tramatology
- Department of Surgery

