

Visiting Pharmacist and Multi-Dose Medication Management Service Model in Residential Care Homes for the Elderly (RCHE): A Case Study in Hong Kong

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專業進修學院

SPEED

**“no one should be denied adequate
healthcare through lack of means”
- our long-established healthcare policy**

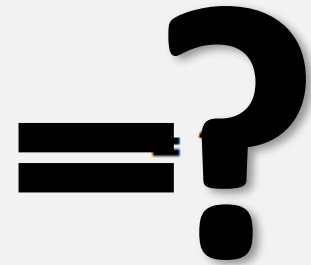
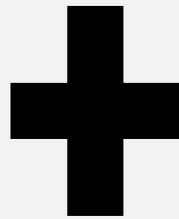
*ref : Appendix B Hong Kong's current healthcare system,
Your Life, Your Health document*

Hong Kong Elderly population

- Approximately 62% of population aged 60+ suffer one or multiple chronic disease(s)
- Most elderly patients use the public system for their illness and drug supplies
- Due to co-morbidities, an average elderly person can be supplied with more than 6-7 prescriptions items
- However, their ability to manage the medications and scheduling to take the right medications at the right times become problematic



The importance of regular medication review in elderly patients

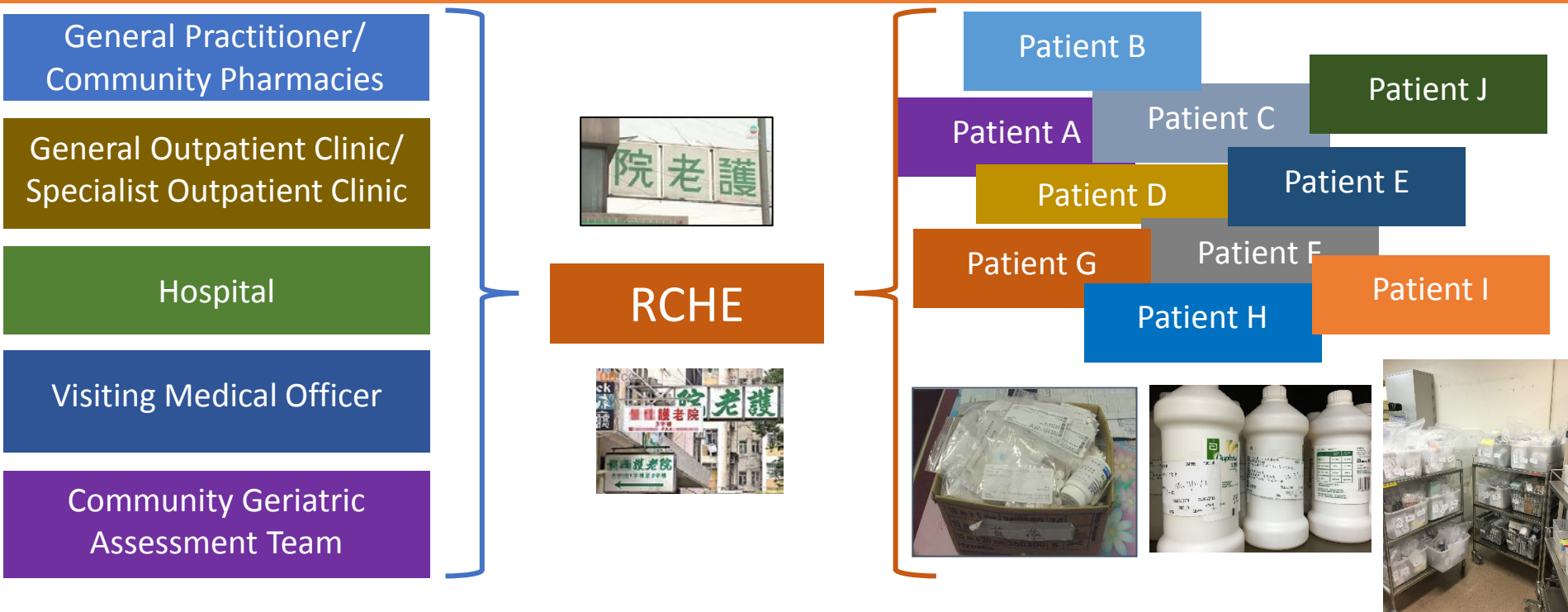


- Increase in co-morbidities with age
- Physiological changes
 - pharmacokinetics
 - pharmacodynamics



- Increased susceptibility to:
 - Polypharmacy
 - Drug interactions
 - Adverse drug reactions
 - Prescribing cascade
 - Poor compliance
 - Potentially inappropriate prescribing

At the Residential Care Home for the Elderly (RCHE)



- Problems of medication management become more complicated
 - storage, sorting, dispensing & scheduling & disposal

Existing drug packing system in most OAHs

- There's no qualified pharmacist participation in the medication management of RCHE.
- Moreover, prolong working hours, inadequate training and high turnover rate of RCHE staff also increase the risk of medication related incident.
- As per our experience, it normally takes **6 hours** for a staff to pack drugs for each day of dispensing.



派錯糖尿藥 長者入院

近年涉配錯藥事件



香港醫院藥劑師學會教育總監崔俊明（見圖）指出：根據醫院紀錄，本港每月平均有兩至三宗安老院長者誤服糖尿病藥的入院個案。他指出，非糖尿病人誤服糖尿病藥，輕則冒汗、手震，重則昏迷，嚴重者可致死亡：「腦部是最需要血糖的器官，誤服糖尿病藥致血糖過低可令腦細胞壞死，一粒糖尿病足已令人昏迷。」


過去本港曾發生多次因誤服糖尿藥入院甚至死亡個案。香港老年學會亦指，四成安老院在藥物管理上存在問題，包括派藥時沒有核對長者姓名，一次過為長者執三日藥、沒有棄掉舊藥等。

現時社會福利署的發牌條例訂明，安老院必須駐有註冊護士和到診醫生，卻沒規定要有到訪藥劑師。派錯藥事故公布後，不少營辦安老院的非政府機構曾主動接觸藥劑師團體。有見及此，約二十名醫院及社區藥劑師於兩個月前自發成立香港藥學服務基金，免費為全港安老院提供藥物管理到訪藥劑師服務；首階段會為二十間非牟利安老院提供服務。

基金發起人崔俊明表示，安老院的藥物管理主要有三方面：風險管理、防止派錯藥的系統或設施以及藥物協調，基金的註冊藥劑師會為安老院改善管理藥物程序，包括藥物的儲存、分發等，並利用電腦儲存院友的藥歷，同時提供各類有關藥物的課程和培訓，以減少職

安老院派錯藥事故不斷

1. 去年5月揭發西醫李世澧將糖尿藥當胃藥處方，終5人死亡；
2. 醫管局加強監察，留意有否類似個案；
3. 過去9個月，局方懷疑23名病人誤服降血糖藥，9人居於院舍；



4. 醫管局與衛生署及社署聯合跟進事件；

5. 社署發現涉案9間院舍中，1間安老院藥，另8名長者疑與服用中藥或營養

6. 社署向犯錯老人院發出警告信，衛生署則往該院加強培訓；
7. 社署昨日去信全港安老院主管，提醒藥物安全的重要性。

資料來源：醫院管理局、社會福利署及衛生署

| | |
|-------------|---------------------------------------|
| 01/03/06 | 患有甲狀 月年在養和 方抑制甲 房卻錯配 人再次配 |
| 01/09/05 | 私營安老 先有保健 藥時間， 半粒藥丸 前及時更 |
| 22-23/06/05 | 東區醫院 病人的藥 一毫克， 共七名病 |
| 27/05/05 | 西醫李世 瘦胃部不 治療糖 死亡。 |

護士難求 資歷低保健員派

鬧專才荒

風波，令院舍質素再惹關注。安老院護士編制坦言，院舍難與大醫院搶聘護士，長期缺乏專業人士，部分資助院舍根本未能按照社署規定，聘請足夠護士，派發重責只能落在資歷較低的保健員手中。

薪酬低 難與醫院搶人

私營安老院協會秘書長陳志育指，社署現時有規定，處理藥物時必須由保健員或註冊護士負責，社署更規定受資助的院舍需要有一定比例的註冊護士。這種規定看似對住客保障十足，但難以執行。

「現在醫院都不夠護士用，護士又怎會肯在院舍工作？一些院舍為期滿夠數，符合社署對護士比例的規定，惟有請退休護士，又或者質素差一點的人。」陳志育也，一名院舍護士說。

平，有資助院舍能聘請保健員代為湊夠數目。

為湊夠數目

保健員較穩定短期培訓，亦薪約8,000元。業性不及護士水平，除了護士不同樣嚴重。長期言人石國強指，起薪可低至5,000元，不少人士入職，亦留好不足，一班培訓可言。

陳志育指，爭聘護士，根本學位的專業護理得認可，相信可理行業的新血。

老人院內不少長者都體弱多病，需長期服食藥物，

無院公

專家解構

專家解構 安老院長期人手不足，有藥劑局為長者診治時，各專科不會年約80歲女院友被處方18種複，導致誤服或劑量出錯風險重複或致

藥效重複
考往不同

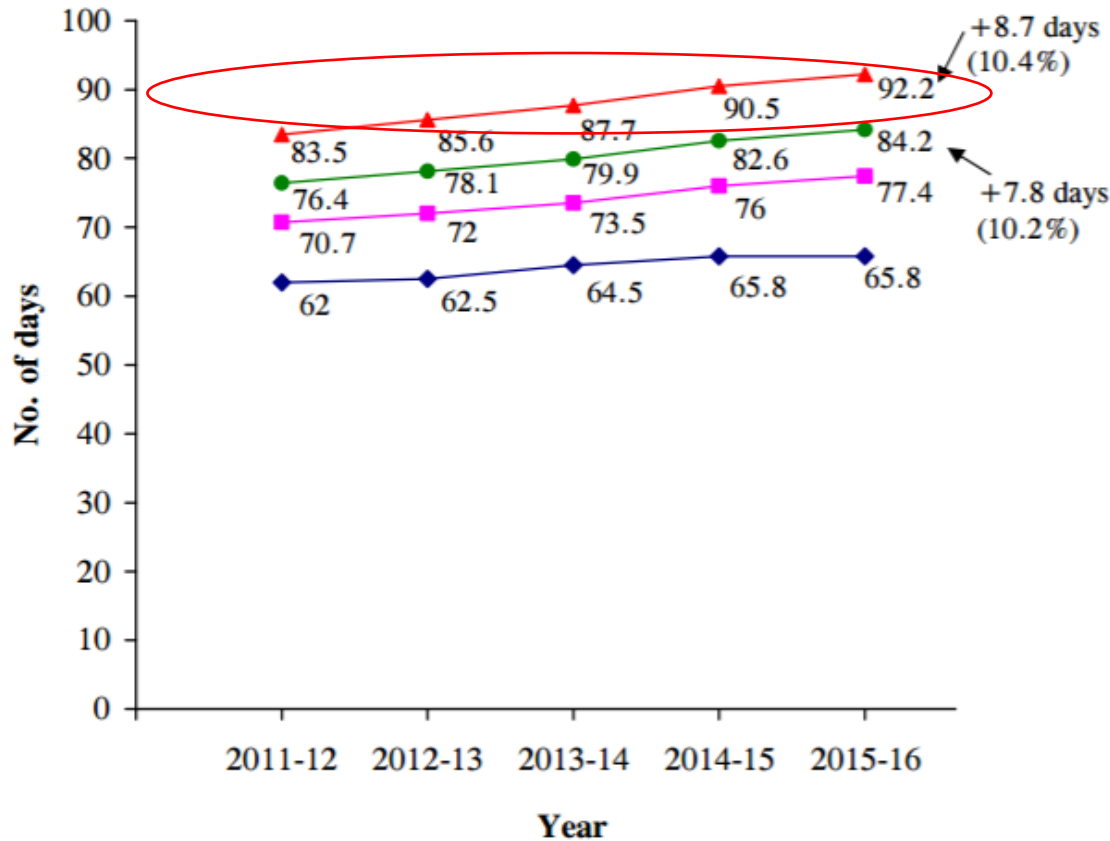
藥效重複
「一個長者往不同
科、精神科、骨科、老
應有責任協調用藥，骨
又給止痛藥、胃藥、安
眠藥！」
慈安老院藥物

熟悉安老院藥物
全營運總監鍾永明藥

Audit Commission Report

2016 No.67

Average prescription lengths for HA specialist out-patients
(2011-12 to 2015-16)



Legend:

- ◆ Aged 18 or less
- Aged 19 to 65
- ▲ Aged over 65
- All ages



Finding:

the average prescription length for people aged over 65 showed the greatest increase of 8.7 days (10.4%), from 83.5 to **92.2** days.

- large quantities of drugs are wasted and disposed



Source: HA records

Integrated Service Model

Overview of Visiting Pharmacist Service

1—Medication Management

- Assist RCHes in complying “Drug Management in RCHes”, including medication storage and distribution work

2—Medication Reconciliation on Various Sources of Prescription Drugs

- Build a set of complete and accurate medication profile list
- Identification of drug duplication, unnecessary prescribing, necessary dosage adjustment
- Medication Administration Record generation and renewal

3—Medication Review and Inspection

- Follow up and verify medications upon discharged from hospital
- Identify side effects, adverse reactions etc.

4—Make Suggestions on Clinical Interventions

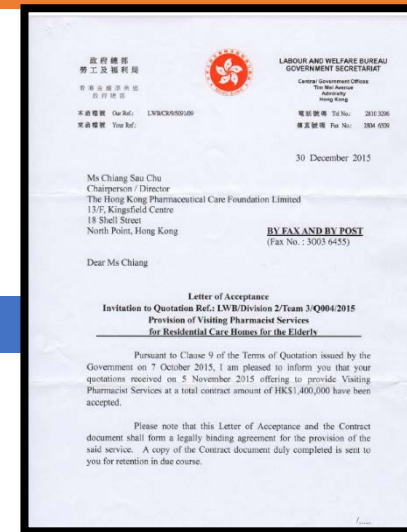
- Maintain communication and close cooperation with Medical Service Teams

5—Advise Disposal of Medications

- Advise staff to contact Environmental Protection Department for the arrangement of disposal of unwanted medications

6—Training and Education

- Provide trainings and education for nurses and health workers on safety principles of drug usage



Tackle Medication Management issues

Medication Reconciliation

- Go through the bags of drugs from various sources
- Go through the patients' charts
- Verify with carers, CGAT nurse, VMO
- Build up the drug list
- Generate the Medication Administration records

Medication Review

- Need for New Medication
- Unnecessary Medication
- Wrong Medication
- Dose Too Low
- Dose Too High
- Adverse Drug Reactions (ADRs)
- Failure to Receive Drugs
- “Natural” Does Not Necessarily Mean Safe and Effective

Objectives and Outcome of VP service

Objectives :

- Assess and monitor the appropriateness of drug therapy
 - Appropriate to patient use
 - (Licensed) Indications
 - Contra-indication, Caution
 - Experience of Side Effects
 - Drug Interactions
 - Cost effectiveness
 - Evidence Based Practice

Outcome :

Improved Efficacy of Drug Therapy

- Evidence Based Therapy
- Optimisation of Therapy

Improved Medication Safety

- Reduce duplication of therapy
- Minimise side effects / medicines incidents
- Improved drug knowledge of OAH staff

Improved Cost Effectiveness

- Cost effective drug usage
- Decrease wastage of drug

Training and education sessions

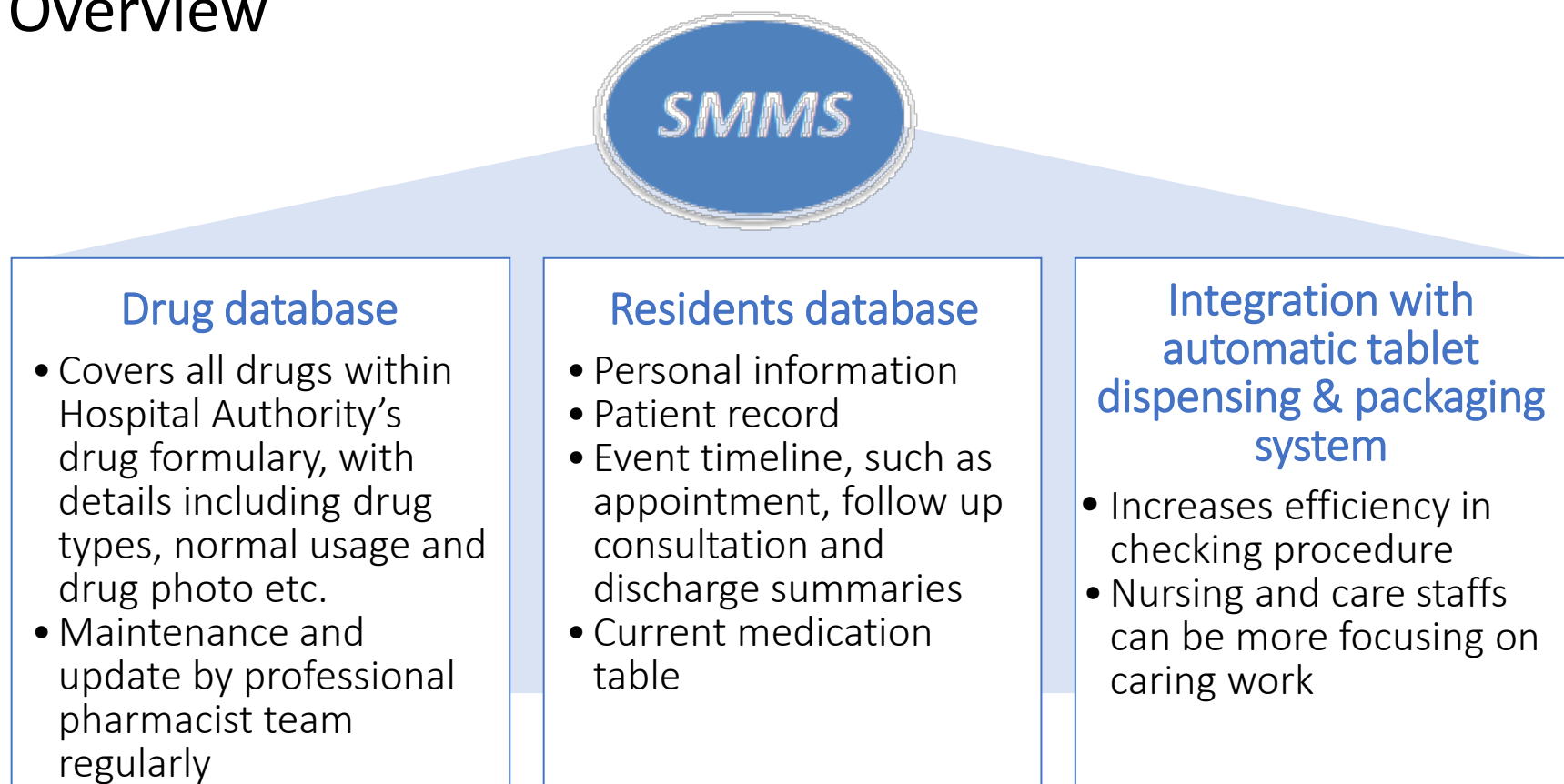
藥物講座及培訓



Integrated Service Model

Developed and IT system -

SafeMed Medication Management System (SMMS) Overview



Patients' information and medication list

院友個人資料

診斷歷史

目前服用的
藥歷資料

院友資料

192.168.201.66:8080/sdps/default.jsp

主檔

- 用戶
- 院舍
- 醫院 / 診所
- 藥物
- 分配到訪
- 院友
- 院友資料
- 院友藥物
- 院友表格

表格

- 藥物記錄表
- 事件記錄表
- 去往覆診表
- 當天派藥時間表
- 院友藥物數目統計表
- 覆診統計

HK0005

- Room : 201
- Room : 202
- Room : 203
- Room : 204
- Room : 205
- Room : 206
- Room : 207
- Room : 208
- Room : 209
- Room : 210
- Room : 212

院友資料

院舍列表 院友列表 新建 保存 刪除 匯出表格

個人資料 擔保人/其它聯繫人 覆診卡和病歷

覆診卡 編輯

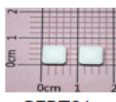

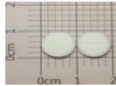
FYK(馮義敬醫院) / CGAT(社區老人評估組)
QMH(瑪麗醫院) / PGT(精神科評估組)
QMH(瑪麗醫院) / Breast Clinic(乳腺外科)

病歷 編輯

Cataract(白內障)@-
Dementia(認知障礙症)@-
Hemifacial spasm(半面痙攣)@-
HTN(高血壓)@-
Psychiatric illness(精神疾病)@-
Trigeminal neuralgia(三叉神經痛)@-

跟進事項 事項記錄 當前用藥

歷史記錄 停止用藥

| 圖片 | 藥物資料 | |
|--|--|---|
|  SERT01 | 1. SERTRALINE (HCL) TABLET 50MG 口服每日一次, 每次25毫克 (0.5粒) (for 190 days) | 10/07/2015 - 15/01/2016 QMH/PGT@10/07/2015 首次服藥: 10/07/2015 |
|  QUET01 | 2. QUETIAPINE (FUMARATE) TABLET 25MG 口服需要時(25%)晚上一次, 每次25毫克 (1粒) (for 190 days) | 10/07/2015 - 15/01/2016 QMH/PGT@10/07/2015 首次服藥: 10/07/2015 |
|  TAMOXIFEN | 3. TAMOXIFEN (CITRATE) TABLET 20MG 口服每日一次, 每次20毫克 (1粒) (for 185 days) | 15/05 - 15/11 QMH/Breast Clinic@15/05 |

Medication Administration Form (MAR form)

(MAR format complies with 安老院舍藥物管理指南 2007)

2015/10/6

MAR FORM

Allergy: No Known Drug Allergy



Print Date: 06/10/2015 14:47:27

PO MAR FORM (01/09/2015-30/09/2015)

| Name * | Res No: | Room-Bed: 206-5 | Gender/Age: F / 94 | Month: 09 | Year: 2015 | 派/服藥 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|--|---|--------------------|-------------------------------------|------------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| | F. FRUSEMIDE (FUROSEMIDE) TABLET 0.5MG 口服每日一次, 每次0.5粒 | 05/06 -03/12 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| | | 1 | 08:00 AM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Notice: 利尿藥/降血壓藥 | | QMHCAR@05/06/2015 First: 05/06/2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | L. METOPROLOL TARTRATE TABLET 50MG 口服每日兩次, 每次0.25粒 | 05/06 -03/12 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| | | 1 | 08:00 AM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 2 | 05:00 PM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Notice: | | QMHCAR@05/06/2015 First: 05/06/2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | L. METFORMIN HCL TABLET 500MG 進餐時口服每日兩次, 每次1粒 | 05/06 -03/12 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| | | 1 | 08:00 AM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 2 | 05:00 PM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Notice: 控制糖尿病; 忌飲酒 | | QMHCAR@05/06/2015 First: 05/06/2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | L. ESOMEPRAZOLE (MAGNESIUM TRIHYDRATE) TABLET 20MG 口服每日一次, 每次1粒 | 05/06 -03/12 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| | | 1 | 08:00 AM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Notice: 抑制胃酸分泌藥; 溶水後服或吞服; 用水吞服, 勿咬碎 | | QMHCAR@05/06/2015 First: 05/06/2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | L. ISOSORBIDE MONONITRATE CR TABLET 10MG 口服早上一次, 每次1.5粒 | 05/06 -03/12 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| | | 1 | 08:00 AM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Notice: 用水吞服, 勿咬碎 | | QMHCAR@05/06/2015 First: 05/06/2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | L. TRIMETAZIDINE DIHYDROCHLORIDE MODIFIED RELEASE TAB 35MG 口服每日兩次, 每次1粒 | 05/06 -03/12 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| | | 1 | 08:00 AM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 2 | 05:00 PM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Notice: 用水吞服, 勿咬碎 | | QMHCAR@05/06/2015 First: 05/06/2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | L. SIMVASTATIN TABLET 20MG 口服晚上一次, 每次1粒 | 05/06 -03/12 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| | | 1 | 08:00 PM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Notice: 降膽固醇藥; 懷孕期間忌用此藥 | | QMHCAR@05/06/2015 First: 05/06/2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | L. ASPIRIN ENTERIC COATED TAB 100MG 進餐時或餐後口服每日一次, 每次1粒 | 05/06 -03/12 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| | | 1 | 08:00 AM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Notice: 抗血小板凝集藥; 此藥含有阿士匹靈; 用水吞服, 勿咬碎; 勿與中和胃酸藥同服 | | QMHCAR@05/06/2015 First: 05/06/2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PO 12 NPO 3 | P/C Staff | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | |
| | Prepare: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Check: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

自動化配藥及包裝系統

Automatic Tablet Dispensing & Packaging System



Multi Dose Medication pouches

藥袋

Class A吸塑包裝

- ✓ 將每輪需要服用的藥物獨立包裝
- ✓ 透濕率低, 可保存至少 28 天
- ✓ 容易打開
- ✓ 可以列印詳細資料

病人資料：房號，床號，性別，姓名

服用日期及時間



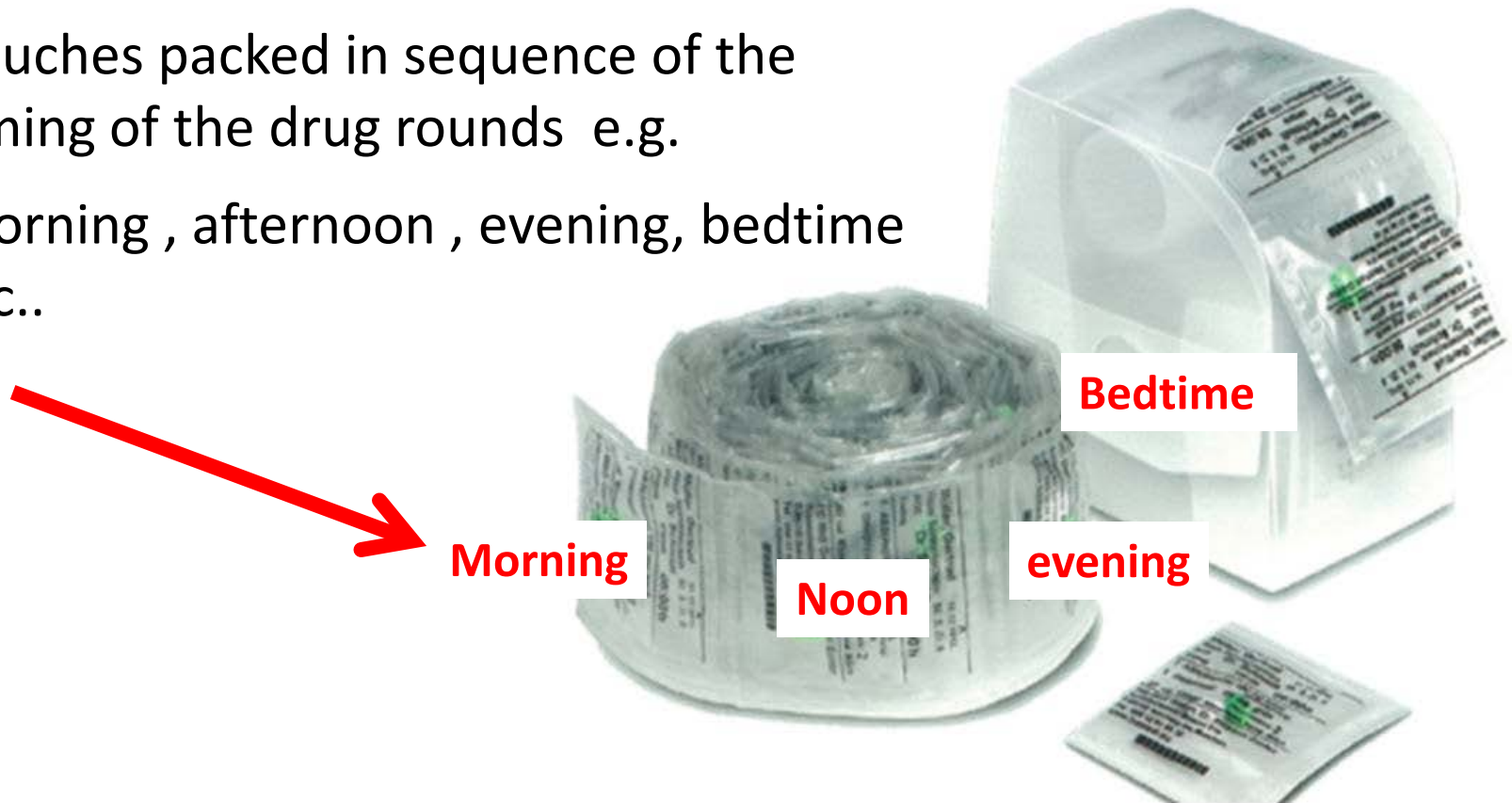
藥物資料：

藥物名稱，Dose，
SIG，形狀，顏色

Vizen核對用Barcode

Multi-Dose Medications packed into rolls

- Each roll packed to guide the drug administration rounds
- Pouches packed in sequence of the timing of the drug rounds e.g.
- Morning , afternoon , evening, bedtime etc..



Automated Dispensing and packaging

- Decrease human touches in dispensing and storing
- Streamline OAH dispensing operations and increases accuracy
- Help OAH eliminate the opportunity for medication errors during dispensing
- Improve residents medication safety

Bar Code Medication Administration (BCMA)

real time recording the tasks

Scan the
drug
bar code



Counter
check



Scan the
Resident ID
& photo
verification



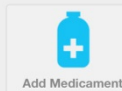
Give drug

Bar Code Medication Administration (BCMA)

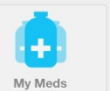
- A. Patient name
- B. Medication name and strengths
- C. Time of administration
- D. Bar code for bedside scanning



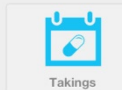
 TrackMyMeds



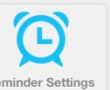
Add Medication



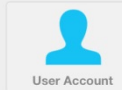
My Meds



Takings



Reminder Settings



User Account

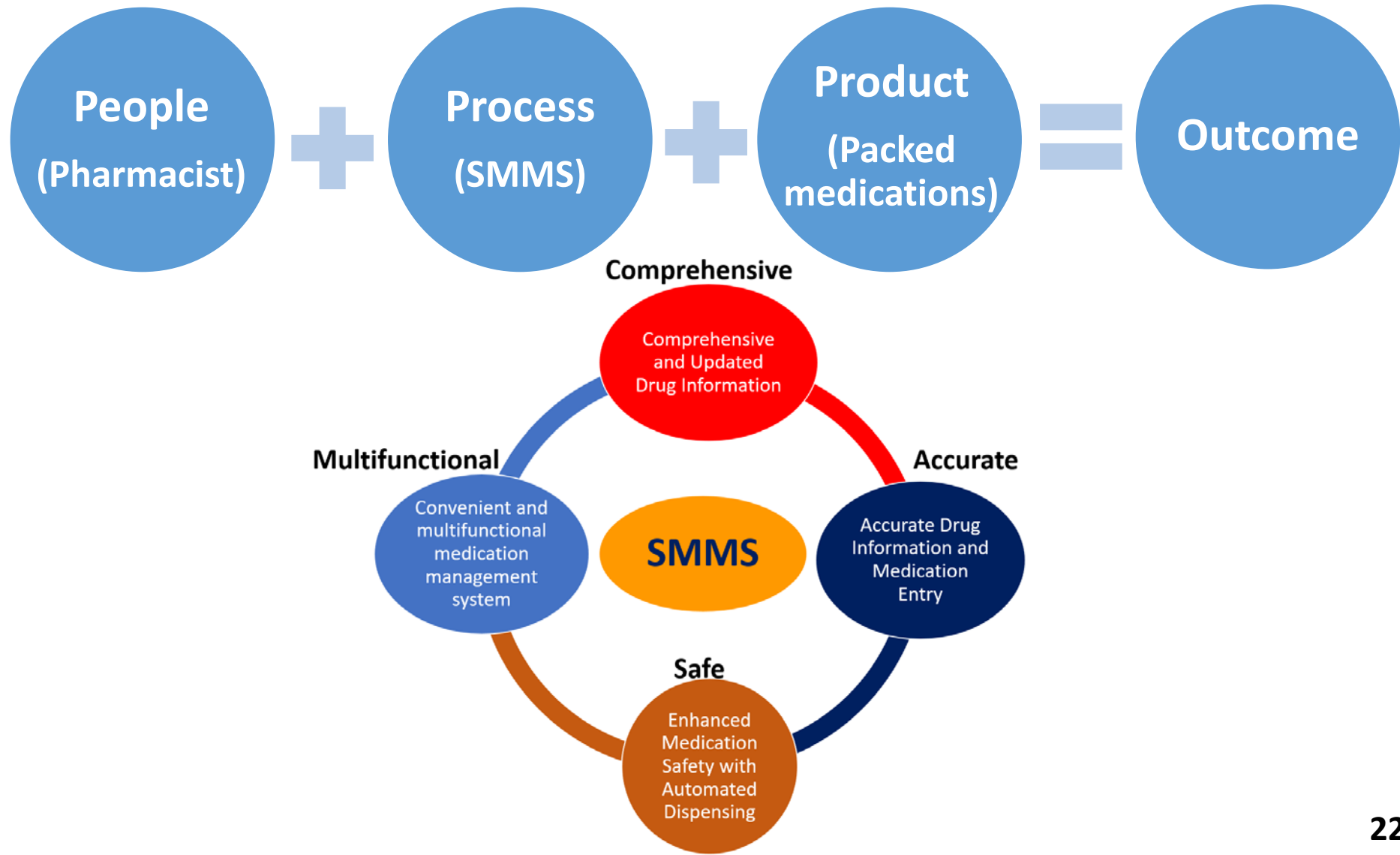


Information

Change the existing scenes at most OAH



Integrated system assisted approaches to handle medication safety at OAH



Conclusion

- Evaluations on service model undertaken and to be published
- Need funding support to continue and expand the service
- Needed not only in the RCHEs
- Hope the society and the HK government can recognize the value of the service model
- To adopt in the future plans and budget as part of elderly service support

THANK YOU!

Q&A

