Developing Home Hemodialysis Program in Hong Kong

Dr. Yuk Lun CHENG
Outline

• Needs
• Model
• Data
• Outcomes
• Challenges
Healthcare Systems in Hong Kong

**Public**
- Food and Health Bureau, HKSAR
- Department of Health

**Private**
- Hospital Service
  - Private Hospitals
- Primary Health Care
  - Private Practitioners
  - Private Chinese Practitioners

Management of Public Health
- Chest Clinics
- Child Assessment Centres
- Clinical Genetic Service Centres
- Dental Clinics
- Dermatology Clinics
- Elderly Health Centres
- Integrated Treatment Centres
- Maternal and Child Health Centres
- Methadone Clinics
- School Dental Clinics
- Social Hygiene Clinics
- Student Health Service Centres
- Travel Health Centres
- Women Health Centres

Management of Public Hospitals
- Public Hospitals
- General Out-patient Clinics
- Special Out-patient Clinics

Take care > 90% population
~ 90-95 RRT patients

Incidence Rate of treated ESRD & Transplant Rate


Hong Kong: Incidence rate of treated ESRD, pmp
Hong Kong: Transplant rate, pmp

USRDS
Need for Augmented HD Service in HA

• Hospital HD service was expected to be saturated.
• Patients with PD failure / high risk PD ~ 80 per year.
• Pilot Home HD in 2006.
• HD Public Private Partnership Programme in 2010.
Early Home HD in HK
Single centre experience 1978 - 1985

- Not fulfill hospital HD criteria: 25 (71.4%)
- No hospital vacancy: 7 (20%)
- HBV carrier: 3 (8.6%)

Ho CP, et al. HKMA CME Bulletin 2014
Keep patients dialyze at home

Nocturnal Home HD (Extended HD)
(mainly observational study)

- Better survival
- ↓ Hospitalization
- ↓ LVH & EPO dose
- Good BP control, excellent phosphorus control
- Better quality of life
Cost of RRT to the Health care service of HA

<table>
<thead>
<tr>
<th>Procedure</th>
<th>First Year</th>
<th>Subsequent Years</th>
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<tbody>
<tr>
<td>Hospital HD</td>
<td>CAD$48,000</td>
<td>HK$300,000</td>
</tr>
<tr>
<td>HD PPP</td>
<td>CAD$40,000</td>
<td>HK$250,000</td>
</tr>
<tr>
<td>NHHD</td>
<td>CAD$32,000</td>
<td>HK$200,000</td>
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<tr>
<td>NHHD (First Year)</td>
<td>CAD$48,000</td>
<td>HK$300,000</td>
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<tr>
<td>NHHD (Subsequent Years)</td>
<td>CAD$32,000</td>
<td>HK$200,000</td>
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<tr>
<td>CAPD</td>
<td>CAD$24,000</td>
<td>HK$150,000</td>
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<tr>
<td>APD (First Year)</td>
<td>CAD$16,000</td>
<td>HK$100,000</td>
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<tr>
<td>APD (Subsequent Years)</td>
<td>CAD$8,000</td>
<td>HK$50,000</td>
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</table>

Legend:
- Patient Payment
- Charity Funded
- HA Funded

HA Convention 2015
Funding Model

HA
HD consumables

Charitable Organization*
HD/RO machine purchase / rental & maintenance

Patient
Water, electricity & miscellaneous

*Hong Kong Jockey Club Charitable Trust
Hong Kong Kidney Foundation
Patient Selection

Hong Kong Jockey Club Charitable Trust

• 200
• Medical indications
• PD 1\textsuperscript{st} policy
  – PD failure
  – High risk PD
    • Underdialysis
    • Frequent PD peritonitis
    • UF failure
  – Contraindication for PD

Hong Kong Kidney Foundation

• 60
• Social indication
• Means test required
• Working group
• Centre set up (separate area but within existing hosp infrastructure).
• Staff
  – Overseas training (doctors and nurses)
  – Local training: train the trainers
  – 24/7 on call support
• Standardization of protocol
• Training program 12 weeks
• Patients
  – Promotion
  – Selection
  – Home visit
  – Regular social activities
Distribution of Nocturnal Home HD Training Centres under HA
Outcomes
(Alternative Day, 6-9 hours per session)

• Improvement in anemia, serum phosphorus & BP, quality of life.
• Reduction in LV mass, anti-hypertensives and phosphate binders.
• Higher employment rate (Vs CAPD).
• Appear better conception rate.

Tang HL, Tong KL. HKMA Medical Bulletin 2012
Personal communication
Patient Survival
(Preliminary analysis of registry data)

Nocturnal Home HD JCCT (n = 31)

All (n = 923)
(Nocturnal home HD JCCT / HA Hosp HD / HA PPP)

<table>
<thead>
<tr>
<th></th>
<th>1-Year</th>
<th>3-Year</th>
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</thead>
<tbody>
<tr>
<td>Nocturnal Home HD JCCT</td>
<td>96.6</td>
<td>92.2</td>
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<tr>
<td>All</td>
<td>81.3</td>
<td>58.9</td>
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</table>

p < 0.019, adjusted to age and gender
Technique Survival
(Preliminary analysis of registry data)

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<th>3-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nocturnal Home HD JCCT</td>
<td>90.2</td>
<td>86.6</td>
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<tr>
<td>HA PPP</td>
<td>89.3</td>
<td>77.0</td>
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<tr>
<td>HA Hosp HD</td>
<td>79.0</td>
<td>75.3</td>
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</table>

p = NS by log rank test
Challenges

• **PD 1\(^{st}\) policy**
  – Vascular access primary failure rate up to 40%
  – Respite HD up to 49% vascular access related
  – Long training time

• **Drop out rate (patient factors up to 42%)**

• **Relatively small living areas**

• **Lack of manpower indicators**
THANK YOU