Key Factors for High Quality PD program

PD Masterclass workshop
Putrajaya, KL

6th October 2018

Dr Marjorie Foo
Department of Renal Medicine
Singapore General Hospital
What is high quality PD program?

- Is it value
- Can high quality = value?
- From whose Perspective
- How can we “measure it”?
High Quality?

General consensus

......
Establishing a Successful Home Dialysis Program

Jose A. Diaz-Buxo  Terri L. Crawford-Bonadio  Donna St. Pierre
Katherine M. Ingram
Fresenius Medical Care – North America, Lexington, Mass., USA

- Infrastructure
- Manpower
- Patients: what is the minimum or maximum?
- Service: on call support, strong education component and training
- Policies and procedure, economic and regulatory considerations
- Sustainability

SUCCESS =
- Improve quality and extent patient life
- Reduces the cost to society
- Reduces demand on scarce resources (nursing etc)
- Profitable to provider...... sustainability
Quality: home based therapy truly home based?

PATIENT
Assessable targets
RRF
Kt/V CCT
Clinical assessment
Frailty assessment
Symptom assessment
Regular well being assessment
with interviews and questionnaire
Family engagement on treatment plan, prognosis and patients choice

FACILITY / PROGRAM
Documentation of patient care
Clinical with solute clearance with international standards
and non clinical QOL personalized therapy
What quality care is not...

<table>
<thead>
<tr>
<th>More care does not equal better</th>
</tr>
</thead>
<tbody>
<tr>
<td>More expensive care is not necessarily better care</td>
</tr>
</tbody>
</table>

The latest care is not always the greatest care

Quality for others may not be quality for ME!

### Quality Care (provider / patients perspective)

- **Safe**
- **Effective**
  - Providing service to those who will benefit from them (avoid overuse, misuse and underuse)
- **Patient-centred**
  - Care that respects and responds to patients values, preferences and needs
- **Timely / responsive**
  - Reducing delays
- **Efficient**
  - Avoid waste: supplies, time and money
- **Equitable**
  - Equal care to all regardless of gender, ethnicity, geographical location, social or economic status
Why Choose Quality Dialysis

Quality Dialysis is committed to delivering professional staff-assisted, responsive, patient centered, hemodialysis and peritoneal dialysis services to patients and their families in the comfort of their own home.

We know that the advent of a health challenge like kidney failure can be a cause of great concern and discomfort. You have questions and need answers that will allow you to make informed decisions for you and your loved ones. The staff of Quality Dialysis wants you to know that “We are here for you!”

ABOUT US

- 24 hour service
- Lab test
- Medication
- Patient care conference
HIGH QUALITY PERITONEAL DIALYSIS (PD) PROGRAM
Improving Outcomes for ESRD Patients: Shifting the Quality Paradigm

What Matters Most

HRQOL

Measures of Effectiveness

Mortality  Hospitalization  PT/Experience

Complex Programs

Fluid overload  Mod mgmt  Diabetes  Limb loss  MBD mgmt  EOL care

CVD  Infections  Safety  Depression  Missed tx  Others...

The Fundamentals

Hemoglobin  K/V  Weight gain  CVC / AVF  PTH  Phosphorus

Iron  URR  Sodium  Albumin  Calcium  Others...

Quality PD program

Value

Cost effectiveness, equity

Benchmarking/ QI

KPI, QI

Services provided

On call support, education, PET

Manpower: the TEAM

Multidisciplinary team

Manpower: The Team

The PD team should consist of a multidisciplinary team of:

- **NURSES**
  - for clinical outcome ……patient and technique
- **MSW**
  - for psychosocial and financial issues
- **Pharmacists**
  - Ensuring adherence and timely taking of medication
- **Dietitian**
  - for clinical outcome…patient survival, better nutrition with associated reduction in morbidity and mortality
- **Coordinators**
  - Coordination for seamless transfers between modality
- **Physicians / Surgeon**
  - To ensure survival of the program and responsible for education and training of nurses and allied health
## Nurses training program

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Trainer</th>
<th>Time</th>
<th>Day 2</th>
<th>Trainer</th>
<th>Time</th>
<th>Day 3</th>
<th>Trainer</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>A &amp; P of kidneys and its functions</td>
<td>Dr</td>
<td>0:30</td>
<td>A &amp; P of the the Peritoneal membrane</td>
<td>Dr</td>
<td>0:30</td>
<td>Non-infectious complications of PD</td>
<td>Nurse</td>
<td>0:30</td>
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<tr>
<td>Treatment options for ESRD</td>
<td>Dr</td>
<td>0:20</td>
<td>Investigations needed in PD therapy</td>
<td>Dr</td>
<td>0:30</td>
<td>Long-term Complications in PD</td>
<td>Dr</td>
<td>0:30</td>
</tr>
<tr>
<td>Introduction of PD theory</td>
<td>Dr</td>
<td>0:30</td>
<td>PET and Ktv procedures</td>
<td>Nurse</td>
<td>0:30</td>
<td>Follow-up Care of PD patients</td>
<td>Nurse</td>
<td>0:30</td>
</tr>
<tr>
<td>Success of a PD Programme</td>
<td>Nurse</td>
<td>0:30</td>
<td>Home setting and daily monitoring</td>
<td>Nurse</td>
<td>0:10</td>
<td>Common Drugs used in PD Therapy</td>
<td>Dr</td>
<td>0:30</td>
</tr>
<tr>
<td>CAPD vs APD Modalities</td>
<td>Nurse</td>
<td>0:20</td>
<td>Catheter related trouble shooting</td>
<td>Nurse</td>
<td>0:30</td>
<td>Importance of a good Nutrition</td>
<td>Dr</td>
<td>0:30</td>
</tr>
<tr>
<td>Qualities of a good PD Nurse</td>
<td>Nurse</td>
<td>0:30</td>
<td>Adequacy &amp; Fluid Management</td>
<td>Dr</td>
<td>0:30</td>
<td>Managing Diabetes in PD Patient</td>
<td>Dr</td>
<td>0:30</td>
</tr>
<tr>
<td>Care of the TK Catheter</td>
<td>Nurse</td>
<td>0:20</td>
<td>Nursing Management of Peritonitis</td>
<td>Nurse</td>
<td>0:30</td>
<td>Follow-up Care of PD patients</td>
<td>Nurse</td>
<td>0:30</td>
</tr>
<tr>
<td>Care of the Exit site</td>
<td>Nurse</td>
<td>0:30</td>
<td>Peritonitis and Exit Site Infection</td>
<td>Nurse</td>
<td>0:30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3:30</td>
<td></td>
<td></td>
<td>3:40</td>
<td></td>
<td></td>
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<tr>
<td>Components of CAPD and APD</td>
<td>Nurse</td>
<td>0:10</td>
<td>Vendor Presentation of Fresenius system</td>
<td></td>
<td>0:30</td>
<td>Practise Exit Site Dressing</td>
<td>Nurse</td>
<td>0:30</td>
</tr>
<tr>
<td>PD Dalysate in PD Therapy</td>
<td>Vendor</td>
<td>0:30</td>
<td>FMC Andy Disc</td>
<td></td>
<td>0:20</td>
<td>Practise IP medication</td>
<td>Nurse</td>
<td>0:30</td>
</tr>
<tr>
<td>Vendor presentation of Baxter system</td>
<td>Vendor</td>
<td>0:30</td>
<td>FMC Sleep Safe</td>
<td></td>
<td>0:20</td>
<td>Q &amp; A</td>
<td>Dr/Nurse</td>
<td>0:30</td>
</tr>
<tr>
<td>Documentation</td>
<td>Nurse</td>
<td>0:20</td>
<td>Documentation</td>
<td></td>
<td>0:20</td>
<td>Test</td>
<td>Dr/Nurse</td>
<td>1:00</td>
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<tr>
<td>Demo on Ultrabag and Hands on</td>
<td>Vendor</td>
<td>0:45</td>
<td>Demo on Andy Disc and Hands-on</td>
<td></td>
<td>0:45</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Demo on Homechoice and Hands-on</td>
<td>Vendor</td>
<td>0:45</td>
<td>Demo on Sleep Safe and Hands-on</td>
<td></td>
<td>0:45</td>
<td></td>
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</tr>
</tbody>
</table>
Patient re-training in peritoneal dialysis: Why and when it is needed

R Russo¹, L Manili², G Tiraboschi³, K Amar⁴, M De Luca⁵, E Alberghini⁶, P Ghiringhelli⁷, A De Vecchi⁸, MT Porri⁹, G Marinangeli¹⁰, R Rocca¹¹, V Paris¹² and L Ballerini¹²

29% needed reinforcement of knowledge and ability
27% for correct use of drug
47% needed re-training on combine evaluation of infection control and drug use

The need for re-training was greater
in younger patients <55yrs
in pt with lower education degree
pt in early or late phase of PD therapy (<18 mths or > 36mths)
Influence of Peritoneal Dialysis Training Nurses’ Experience on Peritonitis Rates

Kai Ming Chow, Cheuk Chun Szeto, Man Ching Law, Janny Suk Fun Fung, and Philip Kam-Tao Li

Figure 2. Distribution of the Gram-positive peritonitis incidence according to the years of experience. Patients (shaded bar) who were trained by the nurses who had between 2 and 3 yr of experience had the longest median time to the first Gram-positive peritonitis.

The Services

• On call support
• Choice of modality
• Home test and visits
• Home support, maintenance support
• Respite care
Benchmarking and Quality improvement

• Set up KPIs
• To monitor centre performance will require data and feedback and continuous improvement
Possible KPIs for PD program

**OUTCOME KPI**

**Clinical**
- Peritonitis rate
- Exit site infection rate
- Catheter outcome
- Kt/V (% achieve targets)
  - Biochemistry (% achieve targets)
    - Bone: calcium, phosphate, PTH
    - Nutritition: Albumin, potassium
    - Lipids: LDL cholesterol, total cholesterol
- Haematology:
  - Haemoglobin, ferritin, iron, tibc, tsat

**PROCESS KPI**

**Catheter related**
- Listing, cancellation
- Peritonitis protocol
  - % not followed
- Prescription
  - % not correct prescription, deviation, non compliance

**INFRASTRUCTURE KPI**

**Manpower**:
- PD nurse to patient ratio
- Physician to patient ratio
- Retraining of trainer
- Retraining of patients
### Outcomes at a glance

#### Centre statistics as of 31st Dec 2009

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>PD centre</th>
<th>1 year catheter survival (%)</th>
<th>Peritonitis Rates (episode/ptn month)</th>
<th>1st time to peritonitis (months)</th>
<th>% gram +ve peritonitis</th>
<th>% gram -ve peritonitis</th>
<th>% culture -ve peritonitis</th>
<th>Research papers published/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>The First Hospital, Sun Yat Sen University, China</td>
<td>96%</td>
<td>61</td>
<td>54%</td>
<td>41%</td>
<td>78%</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>Hong Kong</td>
<td>Tuen Mun Hospital, HK</td>
<td>NA</td>
<td>38</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
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<tr>
<td>3</td>
<td>Taiwan</td>
<td>CGMH, Taiwan</td>
<td>92%</td>
<td>1 epi / 49.8 ptm</td>
<td>no data</td>
<td>44.80%</td>
<td>24.20%</td>
<td>23.40%</td>
<td>No data</td>
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<tr>
<td>4</td>
<td>China</td>
<td>The Third Hospital, Peking University</td>
<td>80%</td>
<td>60</td>
<td>39</td>
<td>30</td>
<td>25</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>Vietnam</td>
<td>Cho Ray Hospital, Vietnam</td>
<td>87%</td>
<td>1/58 pt month</td>
<td>No</td>
<td>No</td>
<td>54%</td>
<td></td>
<td>No</td>
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<tr>
<td>6</td>
<td>Hong Kong</td>
<td>United Christian Hospital, HK</td>
<td>NA</td>
<td>36</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
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<tr>
<td>7</td>
<td>Hong Kong</td>
<td>Princess Margaret Hospital, HK</td>
<td>NA</td>
<td>36</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
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<tr>
<td>8</td>
<td>Korea</td>
<td>Severance_Sinchon, Korea</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>9</td>
<td>China</td>
<td>The First Hospital, Peking University</td>
<td>85%</td>
<td>63</td>
<td>42</td>
<td>35</td>
<td>30</td>
<td></td>
<td>26</td>
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<tr>
<td>10</td>
<td>Singapore</td>
<td>Singapore General Hospital</td>
<td>NA</td>
<td>45</td>
<td>N/A</td>
<td></td>
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<tr>
<td>11</td>
<td>Korea</td>
<td>Seoul National University Hospital</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>12</td>
<td>China</td>
<td>Nanjing Military General Hospital</td>
<td>100</td>
<td>30.07</td>
<td>16.7</td>
<td>50</td>
<td>50</td>
<td></td>
<td>5</td>
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<tr>
<td>13</td>
<td>Taiwan</td>
<td>KCGMH, Taiwan</td>
<td>no data</td>
<td>1 epi / 49.2 ptm</td>
<td>no data</td>
<td>no data</td>
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<td>no data</td>
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<tr>
<td>14</td>
<td>Taiwan</td>
<td>NTUH, Taiwan</td>
<td>89%</td>
<td>1 epi / 45.4 ptm</td>
<td>no data</td>
<td>40.00%</td>
<td>38.00%</td>
<td>20.00%</td>
<td>no data</td>
</tr>
<tr>
<td>15</td>
<td>China</td>
<td>Renji Hospital, Shanghai Traffic Hospital</td>
<td>N/A</td>
<td>1.32 pt. mo</td>
<td>8 mo</td>
<td>10%</td>
<td>15%</td>
<td>75%</td>
<td>No</td>
</tr>
<tr>
<td>16</td>
<td>China</td>
<td>The First Hospital, Zhejiang University</td>
<td>90%</td>
<td>65</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>17</td>
<td>Thailand</td>
<td>Banphee Hospital (Promitr Branch), Thailand</td>
<td>92%</td>
<td>1:32 pt. mo</td>
<td>8 mo</td>
<td>10%</td>
<td>15%</td>
<td>75%</td>
<td>No</td>
</tr>
<tr>
<td>18</td>
<td>Korea</td>
<td>Donghsan Medical Centre_Daegu, Korea</td>
<td>34.3</td>
<td>49</td>
<td>24.5</td>
<td>26.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Korea</td>
<td>Youngnam University Hospital, Korea</td>
<td>36.3</td>
<td>39</td>
<td>26.4</td>
<td>34.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Centre statistics as of 31st Dec 2009

Singapore General Hospital

Singapore

10

Thailand Banphee Hospital (Promitr Branch), Thailand

92% 1:32 pt. mo 8 mo 10% 15% 75% No
CQI projects

- CQI is a powerful tool for improving outcomes
- Monitoring of outcomes (KPI) is important for providing high quality care
- Successful CQI requires a planned, structured and dedicated approach
QOL
Does QOL affect clinical outcome

HRQoL predict death and hospitalization among HD patient $^{1-3}$

So, what DOES matter to our patients......

Patient-Important Outcomes in Hemodialysis

Ranking

1. Fatigue/energy
2. Resilience/copings
3. Ability to travel
4. Dialysis-free-time
5. Impact on family
6. Ability to work
7. Sleep
8. Anxiety/stress
9. Drop in blood pressure
10. Lack of appetite/taste
11. Vascular access complications
12. Knowledge
13. Depression
14. Mortality

Patient and Caregiver Priorities for Outcomes in Hemodialysis: An International Nominal Group Technique Study

Figure 1. Mean rank scores for outcomes identified in at least 4 groups. *Resilience/copings was originally termed “survival” by patients/caregivers but has been re-titled for clarity of definition; washed out and drained was defined as “feeling sick, drained, tired after dialysis or recovery time after a dialysis session”; and fatigue/energy was defined as “feeling tired and without energy for most of the time”; cardiovascular disease included any disease of the heart and blood vessels (eg, heart attack, stroke, blockage of blood vessels).
Quality of life….. what does it mean to you or your patients?

Live to dialyse or Dialyse to live
SELF REPORTED PATIENT OUTCOMES
PROMS

• SF-12
• KDQOL-SF (kidney disease specific)
• WHOQOL – BREF (Global QOL)
• HADS (hospital anxiety and depression scoring)
• Zarit Burden interview for caregivers
• LC- GAD (physical and cognitive)
Is equity a prerequisite for good quality PD program?
HOW CAN WE MEASURE A QUALITY PD PROGRAM?
How do I know I have a good quality program?
Thanks you for your attention