One-year outcome of a district-based Kwai Tsing Personalized Care Program for patients with severe mental illness using a recovery-orientated case management approach in Hong Kong

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Title

One-year outcome of a district-based Kwai Tsing Personalized Care Programme for patients with severe mental illness using a recovery-orientated case management approach in Hong Kong

Authors

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Kwai Chung Hospital (KCH) Kwai Tsing (KT) district Personalized Care Program (PCP)

2010-11 Policy Address of Hong Kong

Why a new program in Hong Kong?

- International trend towards community care
- Unmet service needs and risks
- Clinical safety and quality
- Evidence-based case management service model
Objectives

- Patient-centered care
- Needs and risks management
- Gate-keeping
- Enhance treatment adherence
- Active user/carer participation and support
- Recovery-focused care
- Workforce development
- Community partnership
Kwai Chung Hospital (KCH) Kwai Tsing (KT) district
Personalized Care Program (PCP)

- Implemented in April 2010
- Case managers (CM)
  - psychiatric nurses and occupational therapists
- Service target: 1515 adult patients with SMI
- Case management model
- Community partnership
Research Objective and Methods

Objective

- To evaluate the treatment effectiveness of KT PCP

Methods

1. 12-month Pre-post Outcome Comparison
2. 12-month Control Group Outcome Comparison
12-month Pre-post Outcome Comparison
Patient Selection Criteria

- Reside in Kwai Tsing District
- ICD 10 Dx Code : F20-29 (SMIs)
- Non PFU (no history of serious violence)
- Adult aged 18-64
- Community patients
- First 102 subjects recruited into KT PCP
- Service utilization profile and clinical-psycho-social profile data (12 month before) and 12 months after recruitment
12-month Control Group Outcome Comparison
Patient Selection Criteria

(1) KT PCP Group
- Same selection criteria of Pre-post Outcome Comparison

(2) Sham Shui Po Standard Community Care (SSP SCC) Matched Control Group
- 102 matched control patients in SSP district
- Service utilization profile data at baseline (12 month before) and 12 months after recruitment
Measurement parameters and instruments

(1) Service utilization outcome

- In-patient (IP) episode
- In-patient length of stay (IP LOS)
- Accident & Emergency Department (AED) attendance due to psychiatric problems
- AED admission (unplanned)
Measurement parameters and instruments

(2) Clinical-psycho-social outcome

- Brief Psychiatric Rating Scale (BPRS)
- Social and Occupational Functioning Assessment Scale (SOFAS)
- Health of Nation Outcome Scales (HoNOS)
- Day time engagement
- Camberwell Assessment of Need (CAN)
- Chinese version of the Involvement Evaluation Questionnaire (C-IEQ)
Data Collection and Statistical Analysis

Data Collection

- HA Clinical Data Analysis and Report System (CDARS)
- Patients and carers interviewed by CM

Statistical analysis (SPSS Version 16.0 for Windows)

- Paired t-test and independent t-test for continuous variables
- Chi-square test for categorical variables
KT Pre-PCP Vs SSP SCC – Baseline Profile (12 Month before service commencement)

- **No statistical difference** in all parameters at baseline analysis
- The two groups are **comparable at baseline profile**.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Kowai Tsing Pre-PCP</th>
<th>Sham Shui Po SCC</th>
<th>Difference No. (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean) (SD)</td>
<td>45.2 (10.24)</td>
<td>42.9 (12.97)</td>
<td>2.3 (5)</td>
<td>0.562 (ns)</td>
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<tr>
<td>Sex</td>
<td>54% Male</td>
<td>49% Male</td>
<td>--</td>
<td>0.484 * (ns)</td>
</tr>
<tr>
<td>Total IP episodes</td>
<td>54</td>
<td>62</td>
<td>-8 (15)</td>
<td>0.452 (ns)</td>
</tr>
<tr>
<td>Total LOS</td>
<td>1,856 days</td>
<td>2,836 days</td>
<td>-980 (53)</td>
<td>0.12 (ns)</td>
</tr>
<tr>
<td>Total unplanned admissions</td>
<td>2</td>
<td>1</td>
<td>1 (50)</td>
<td>0.563 (ns)</td>
</tr>
<tr>
<td>Total AED attendances (for psy. problems)</td>
<td>51</td>
<td>44</td>
<td>7 (14)</td>
<td>0.566 (ns)</td>
</tr>
</tbody>
</table>

*ns=not statistical significant*  
*Pearson Chi-square test*
Results – Statistically Significant Improvement

(1) Service Utilization Outcome Comparison

<table>
<thead>
<tr>
<th></th>
<th>Pre-post</th>
<th>KT PCP Vs SSP SCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Episode</td>
<td>↓73%*</td>
<td>↓71%*</td>
</tr>
<tr>
<td>LOS</td>
<td>↓70%*</td>
<td>↓77%*</td>
</tr>
<tr>
<td>AED attendances</td>
<td>↓78%*</td>
<td>↓77%*</td>
</tr>
</tbody>
</table>

*p<0.01
Results – Statistically Significant Improvement

(2) Clinical-psycho-social Outcome Comparison (Pre-post)

<table>
<thead>
<tr>
<th>Outcome Description</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatric symptoms (BPRS score)</td>
<td>↓13%*</td>
</tr>
<tr>
<td>HoNOS score</td>
<td>↓30%*</td>
</tr>
<tr>
<td>Social and occupational functioning (SOFAS score)</td>
<td>↑13%*</td>
</tr>
<tr>
<td>Unmet needs of patients (CAN score)</td>
<td>↓68%*</td>
</tr>
<tr>
<td>Overall carers’ burden (C-IEQ score)</td>
<td>↓30%*</td>
</tr>
</tbody>
</table>

*p<0.01
Conclusion

(1) KCH KT PCP program
- Reduce avoidable service utilization
- Improves clinical-psycho-social profile of patients with SMI
- Reduces burden of carers
- Successful result supports the expansion of this case management service model to other districts of Hong Kong

(2) District-based PCP service model
- A viable option in Hong Kong to revolutionize future service model to enhance the recovery and social inclusion of patients with SMI in the community
Strengths of the research

1. First study of this innovative PCP service model in Hong Kong

2. Multiple clinical-psycho-social domains in the assessment in addition to service utilization parameters

3. Multiple validated assessment tools to achieve standardized objective measurements

4. Include a control group from SSP SCC to increase the robustness of the research design
Limitations and future research recommendation

1. Longer follow-up period to see the full effect
2. Use blinded rater to reduce rater bias
3. Do research on cost-effectiveness
BACK-UP SLIDES FOR Q&A
Kwai Chung Hospital (KCH) Kwai Tsing (KT) district
Personalized Care Program (PCP)

2010-11 Policy Address of Hong Kong
- District-based PCP for patients with severe mental illness (SMI)

Why a new program in Hong Kong?
- International trend towards community care
- Unmet service needs and risks
- Clinical safety and quality
- Valued-based shared care with patients/carers and support
- Cost-effective district-based community mental health team (CMHT)
- Evidence-based case management service model

KCH Kwai Tsing Personalized Care Programme
Unmet service need

- About 22% of the global burden of DALYs has been attributed to mental disorders, mostly due to the chronically disabling nature of depression, schizophrenia and bipolar disorders and other mental disorders (1).

- The World Health Report 2001 on Mental Health “New Understanding, New Hope” has recommended that community care has a better effect than institutional treatment on the outcome and quality of life of individuals with chronic mental diseases (2).

- Shifting patients from mental hospitals to care in the community is also cost effective and respects human rights. Mental health services should therefore be provided in the community.

- However, there was also concern that under-funding in the deinstitutionalization process without safe quality community care support had produced an influx of the homeless, unemployed, offenders with increased risk of violence to themselves and public, and suicide particularly in people suffering from SMI or co-morbidity (3). There were also reports of increases in medical noncompliance and hospital readmission (4).

- As a reaction to some of these less desirable ramifications of deinstitutionalization, various models of community care were developed.

Why a new need-risk-driven, value-based, quality-focused, outcome-guided, recovery-orientated, district-based personalized care model for SMI patients in Hong Kong?

1. Clinical reasons
   - **Risk reduction**: violence to others and suicide
   - *Enhance outcome towards recovery not only maintenance*: advances in pharmacology and in cognitive therapies allow many patients to be treated successfully and to recover full health or to maintain their lives successfully with good functioning, social inclusion and quality of life, which is best predicted by level of unmet needs.
   - **Ensure good service compliance** for better outcome and avoiding wastage of our resources

2. Value-based reasons
   - **Shared care**: modern concepts of self-management and person-centered care mean that it is no longer acceptable to treat patients as passive recipients of services
   - **Support to families and carers**

3. Socio-economic reasons
   - **Reduction of burden of illness and lost productivity**

4. Service system and cost-effectiveness reasons
   - **Huge caseload** unable to be managed by traditional CPS service model
   - **More cost-effective management** by district-based general adult team with CMHT model

KCH Kwai Tsing Personalized Care Programme
Why using case management model?
International evidence

Systematic reviews and meta-analyses showed the evidence for effectiveness of case management models as follows (1-5)

1. Healthcare service utilization:
   - reduced number of hospital days, cost of hospital care and hospital admission, especially among patients who are high service users;

2. Clinical-psycho-social domains:
   - improved clinical symptomatology, quality of life, housing stability, independent living, social functioning, employment, engagement and compliance with services, family and patient satisfaction; reduced family burden.

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Why using case management model?
Local evidence

- A 2-year randomized controlled trial conducted in KCH supported by research fund has proven that the case management model is a cost-effective way to discharge long stay schizophrenic patients and keep them in community with no undue readmission or deterioration in mental state. It showed better discharge rates; lower length of stay (LOS), higher adherences to community treatment programs, and better outcome measures on mental state as well as on quality of life. The increased discharge rate did not generate untoward social consequences, like delinquency or violence (1).

- A similar study in CPH with case management model of care on 20 chronic schizophrenic patients also demonstrated a significant reduction of LOS and number of readmissions (2).

Why district-based risk-need-driven case management approach for severe mentally ill (SMI)?

1. Well integrated district-based community mental health team (CMHT) that jointly manage and co-locate key elements of local acute mental health services, achieve the most positive outcomes for patients in terms of: (1)
   - Preventing avoidable admissions
   - Fewer delayed discharges and shorter duration of stay
   - Improved understanding and flexibility of staff skills
   - Better informed and coordinated care planning and risk management
   - Improved cost-effectiveness

2. addresses district population-specific service needs; allows greater capability to respond to sudden and irregular crises; provides deeper coverage of services for community SMI patients by case managers possessing generic core competencies and discipline-specific expertise; who include a flexible staff mix of psychiatric nurses, occupational therapists, social workers; improves efficiency and cost-effectiveness of service delivery.


KCH Kwai Tsing Personalized Care Programme
12-month Pre-post Outcome Comparison Framework

Patient Selection

12M Before PCP Count-back period Period 1
12 Months
First 102 cases recruited
12 Months
12M After PCP Follow-up period Period 2

Service utilization outcome

Clinical-psycho-social outcome

KCH Kwai Tsing Personalized Care Programme
12-month Control Group Outcome Comparison
Patient Selection Criteria

(1) KT PCP Group
- Same selection criteria of Pre-post Outcome Comparison

(2) SSP SCC Matched Control Group
- 950 community patients residing in SSP district matched for demographic, clinical (diagnosis) and risk profile (non-PFU) identified
- Random selection of 102 patients from these matched patients
- Service utilization profile data at baseline (12 month before) and 12 months after recruitment was compared between the 2 groups
12-month Control Group Outcome Comparison Framework

SSP SCC Group
- 950 cases identified
- 102 cases recruited by random sampling

Baseline 12 Months

KT PCP Group
- First 102 cases recruited
- Baseline 12 Months

Service utilization outcome

KCH Kwai Tsing Personalized Care Programme
12-month Pre-post Outcome Comparison Framework

**Patient Selection Criteria**
- Reside in Kwai Tsing District
- ICD 10 Dx Code: F20-29 (SMIs)
- Non PFU
- Adult aged 18-64
- Non-inpatient

**Date of recruitment**
- 102 cases recruited

**Service utilization outcome**
- IP episode
- IP LOS
- AED attendance
- AED admission (unplanned)

**Clinical-psycho-social outcome**
- BPRS, SOFAS, HoNOS
- Day time engagement
- CAN
- IEQ

KCH Kwai Tsing Personalized Care Programme
12-month Control Group Outcome Comparison Framework

Patient Selection Criteria
- Reside in Sham Shui Po District
- ICD 10 Dx Code: F20-29 (SMIs)
- Non PFU
- Adult aged 18-64
- Non-inpatient as at 1/4/2010

SSP Standard Community Care
(950 cases identified)

Kwai Tsing PCP

1st 102 cases recruited

Date of recruitment

Service utilization
- IP episode
- IP LOS
- AED attendance
- Unplanned admission

102 cases recruited
By random sampling

Baseline 12 Months

KCH Kwai Tsing Personalized Care Programme
12-month Pre-post Service Utilization Outcome Comparison

- 102 participants completed assessment
- 54% Male, mean age 45

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Period 1 (12M Before PCP)</th>
<th>Period 2 (12M After PCP)</th>
<th>Difference No. (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total IP episodes</td>
<td>54</td>
<td>15</td>
<td>39 (73)</td>
<td>0.000**</td>
</tr>
<tr>
<td>Total LOS</td>
<td>1,856 days</td>
<td>551 days</td>
<td>1305 (70)</td>
<td>0.000 **</td>
</tr>
<tr>
<td>Total unplanned admissions</td>
<td>2</td>
<td>0</td>
<td>2 (100)</td>
<td>0.158</td>
</tr>
<tr>
<td>AED attendances</td>
<td>51</td>
<td>11</td>
<td>40 (78)</td>
<td>0.000 **</td>
</tr>
</tbody>
</table>

- Significant improvement found in all parameters post 12 months PCP service

**p<0.01
<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
<th>Difference</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. BPRS (mean) (SD)</strong></td>
<td><strong>25.2 (7.2)</strong></td>
<td><strong>21.9 (6.0)</strong></td>
<td><strong>3.3 (13)</strong></td>
<td>**0.000 **</td>
</tr>
<tr>
<td><strong>2. HoNOS (mean) (SD)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total score</td>
<td><strong>7.39 (4.79)</strong></td>
<td><strong>5.17 (4.88)</strong></td>
<td><strong>2.22 (30)</strong></td>
<td>**0.000 **</td>
</tr>
<tr>
<td>Behavioral</td>
<td><strong>0.44 (0.86)</strong></td>
<td><strong>0.29 (0.95)</strong></td>
<td><strong>0.15 (34)</strong></td>
<td><strong>0.071</strong></td>
</tr>
<tr>
<td>Impairment</td>
<td><strong>0.74 (1.20)</strong></td>
<td><strong>0.62 (1.07)</strong></td>
<td><strong>0.12 (16)</strong></td>
<td><strong>0.070</strong></td>
</tr>
<tr>
<td>Symptomatic</td>
<td><strong>3.26 (2.17)</strong></td>
<td><strong>2.24 (2.05)</strong></td>
<td><strong>1.02 (31)</strong></td>
<td>**0.000 **</td>
</tr>
<tr>
<td>Social</td>
<td><strong>2.95 (2.31)</strong></td>
<td><strong>1.98 (2.09)</strong></td>
<td><strong>0.97 (32)</strong></td>
<td>**0.000 **</td>
</tr>
<tr>
<td><strong>3. SOFAS (mean) (SD)</strong></td>
<td><strong>59.2 (11.4)</strong></td>
<td><strong>66.6 (11.0)</strong></td>
<td><strong>-7.4 (13)</strong></td>
<td>**0.000 **</td>
</tr>
<tr>
<td><strong>4. Camberwell Assessment of Need</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unmet need rated by patient</td>
<td><strong>165</strong></td>
<td><strong>53</strong></td>
<td><strong>112 (68)</strong></td>
<td>**0.000 **</td>
</tr>
<tr>
<td>Unmet need rated by staff</td>
<td><strong>209</strong></td>
<td><strong>67</strong></td>
<td><strong>142 (68)</strong></td>
<td>**0.000 **</td>
</tr>
<tr>
<td>Unmet need rated by carer</td>
<td><strong>91</strong></td>
<td><strong>25</strong></td>
<td><strong>66 (73)</strong></td>
<td>**0.000 **</td>
</tr>
</tbody>
</table>

** ** p<0.01
### 12-month Pre-post Clinical-psycho-social Outcome Comparison- 2

<table>
<thead>
<tr>
<th>5. Day-time Engagement (no. of patients)</th>
<th>Before</th>
<th>After</th>
<th>Difference No. (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job placement (SWS, SE &amp; OE)</td>
<td>29</td>
<td>36</td>
<td>-7 (24)</td>
<td>0.071 *</td>
</tr>
<tr>
<td>Day training (DH, ICCMW)</td>
<td>17</td>
<td>26</td>
<td>-9 (53)</td>
<td>(ns)</td>
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<tr>
<td>No day engagement</td>
<td>56</td>
<td>40</td>
<td>16 (29)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Involvement Evaluation Questionnaire (mean) (SD)</th>
<th>Before</th>
<th>After</th>
<th>Difference</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score</td>
<td>30.4 (19.0)</td>
<td>21.4 (17.4)</td>
<td>9 (30)</td>
<td>0.000 **</td>
</tr>
<tr>
<td>Urging</td>
<td>7.53 (4.44)</td>
<td>4.58 (3.82)</td>
<td>2.95 (39)</td>
<td>0.000 **</td>
</tr>
<tr>
<td>Supervision</td>
<td>7.13 (5.10)</td>
<td>5.65 (5.35)</td>
<td>1.48 (21)</td>
<td>0.000 **</td>
</tr>
<tr>
<td>Tension</td>
<td>5.95 (5.25)</td>
<td>3.90 (4.9)</td>
<td>2.05 (34)</td>
<td>0.000 **</td>
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<tr>
<td>Worrying</td>
<td>9.75 (6.49)</td>
<td>7.23 (5.43)</td>
<td>2.52 (26)</td>
<td>0.001 **</td>
</tr>
</tbody>
</table>

* Pearson Chi-square test  
ns=not statistical significant  
** p<0.01
KT PCP Vs. SSP Standard Community Care (SCC) – 12 Month Outcome Comparison (after service commencement)

- Statistical significant improvement in total IP episodes, total LOS and total AED attendances in PCP group as compared to SSP group
- For SSP SCC group, some improvement noted but was not significant

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Kwai Tsing Post-PCP</th>
<th>SSP SCC</th>
<th>Difference No. (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total IP episode</td>
<td>15</td>
<td>51</td>
<td>-36 (71)</td>
<td>0.002**</td>
</tr>
<tr>
<td>Total LOS</td>
<td>551 days</td>
<td>2397 days</td>
<td>-1846 (77)</td>
<td>0.004 **</td>
</tr>
<tr>
<td>Total unplanned admission</td>
<td>0</td>
<td>2</td>
<td>-2 (100)</td>
<td>0.319 (ns)</td>
</tr>
<tr>
<td>Total AED attendance (psy)</td>
<td>11</td>
<td>47</td>
<td>-36 (77)</td>
<td>0.006**</td>
</tr>
</tbody>
</table>

** p<0.01

ns=not statistical significant

*KCH Kwai Tsing Personalized Care Programme*
Results – Statistically Significant Improvement

(1) Service Utilization Outcome Comparison
- ↓IP episode (↓73% (Pre-post), ↓71% (controlled), p<0.01)
- ↓LOS (↓70% (Pre-post), ↓77% (controlled), p<0.01)
- ↓AED attendances (↓78%, (Pre-post), ↓77% (controlled), p<0.01)

(2) Clinical-psycho-social Outcome Comparison (Pre-post)
- ↓psychiatric symptoms (↓13% by BPRS score, p<0.01)
- ↓HoNOS score by 30%, p<0.01
- ↑functioning (↑13% by SOFAS score, p<0.01)
- ↓unmet needs rated by patient/staff/carer (↓68%, ↓68%, ↓73%, p<0.01)
- ↓overall carers’ burden (↓ 30%, p<0.01)
Service Provision by Case Managers (CM)

- Intensive community support was provided for the PCP group in the following areas:
  - Illness and medication management
  - Psychological intervention
  - Living skills training
  - Vocational guidance
  - Enhancement of social wellbeing
  - Family and carer support
  - Liaison with community partners

- During 12 months follow-up period, our CMs have provided around 2 contacts per patient per month with each community visit at least lasting for 30 minutes.
Limitations

1. The follow-up period is not long enough to see the full effect
2. Rater bias may affect the results
3. Subjective evaluation tool such as user satisfaction survey may help to further substantiate the treatment effectiveness
Recommendations

1. Longer follow-up period e.g. >1 year
2. Exploration on involvement of blinded rater
3. Adding subjective domain for evaluation
4. Consideration of cost-effectiveness analysis
PCP Target Deliverables (Pilot in 2010/2011)

KWUN TONG
4,253/1560

YUEN LONG
3,415/1515

KWAI TSING
4,033/1515

KCH Kwai Tsing Personalized Care Programme
PCP Program Objectives

1. To develop a community-based personalized (patient-centered) care program using a case management model

2. To provide coordinated care based on needs and risk assessment (needs and risk management)

3. To prevent avoidable hospitalization by better engagement (gate-keeping)

4. To reduce disabilities and enhance recovery by promoting social inclusion (recovery-focused care)

5. To establish a district-based platform for better service coordination (community partnership)

6. To build up professional workforce to meet future service reform (workforce development)
PCP Scope of Service

1. Severely mentally ill (SMI) patients with moderate to high risk in the community receiving mental health services in HA system

2. Adults with age range of 18 to 64

3. Living in pilot districts (Kwun Tong, Kwai Tsing (KT), Yuen Long) (implemented in April 2010)

4. Patients will be followed up for 1 year
PCP Guiding Principles

1. Personalised care – put patients at the centre, respect and understand their strength, goals, aspirations, needs and difficulties.

2. Holistic approach to recovery encompassing physical, psychological, emotional and social needs.


4. Promoting hope, empowerment, self-management, and social inclusion throughout the recovery journey.

5. Working in partnership – constructive relationships with patients, families, carers, and community networks.

KCH Kwai Tsing Personalized Care Programme
Key Roles and Responsibilities of a Case Manager

- Conduct holistic needs, risk and clinical assessments
- Work out individual care plans
- Develop a supportive & collaborative long-term relationship with patients, carers, families and community partners
- Be a point of contact and accountability
- Provide and coordinate recovery-focused interventions
- Document and report progress

KCH Kwai Tsing Personalized Care Programme
PCP Training Program for Case Manager

Asia Australia Mental Health (AAMH) and the CUHK experts will be invited to organize CM training in Jul. 2010, Nov. 2010, Aug 2011, and Dec 2011 respectively.
Care Pathway for patients with SMI in PCP

**Early Engagement in PCP**

- Ongoing Constructive relationship
- Identify resources
- Discuss roles
- Disease specific Intervention
- Provide information
- Share common experience

**Comprehensive Assessment**

- Bio-Psycho-Social risks & needs
  - Negative side
    - Risk/ Unmet Needs
  - Positive side
    - Strength, Resilience, Aspiration
- Identify resources & Indexing
- Goal Planning

**Personalized care package**

- Collaborate with patient, carers
- Phase /Disease specific intervention
- Recovery & Rehabilitation Strategies
- Skills Enhancement
- Cognitive Therapy Psychoeducation

**Collaboration of Internal/External Partners**

- Phase-specific Intervention
- Liaise with **Internal Partners**
  - DH, RSOT, CPS, AED/APN, SOPC, PICUs/PACUs
- Develop district platform with **external partners**
  - GPs, GOPCs, Carers
  - Private Psychiatrist
  - District Councilors, NGOs, SWD, ICCMW, Housing Authority, DAC

**Linking to Community Resources**

- Full psycho-social support for recovery & rehabilitation
- Linkage with community partners
- Exit strategies

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Hybrid Model (Clinical Case Management Model + Strength Model)
PCP workflow and care pathway

- Referrals
- Case Managers
- Needs & Risk Assessment
- Risk Stratification
- Level of care
- On-going
- Individual care plan
- Clinical assessments & documentation
- Life domains:
  - Work
  - Community resources
  - Mental & Physical health
  - Relationship
  - Living skills
  - Housing
  - Carers & Community partners (ICCMWs)

KCH Kwai Tsing Personalized Care Programme
Referral criteria to KT PCP

- PFU (S) and PFU (T) status
- patient on conditional discharge
- risk of violence
- risk of suicide
- living alone or with poor social support
- having young and dependent child (ren) or vulnerable family member(s) under his care
- poor drug compliance
- poor compliance to SOPC follow up
- Any other condition deemed fit by clinicians
# Risk Stratification and Level of Care

<table>
<thead>
<tr>
<th>Level of risk</th>
<th>Clinical Considerations</th>
<th>Level of Care</th>
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<tbody>
<tr>
<td>Low risk</td>
<td>- Few risk factors and significant protective factors&lt;br&gt;- Supportive family&lt;br&gt;- Stable mental state&lt;br&gt;- Engaged and cooperative&lt;br&gt;- Little significant history of violent/suicide/neglect</td>
<td>Increase protective factors&lt;br&gt;Ongoing support and monitoring&lt;br&gt;Implement recovery-focus intervention&lt;br&gt;Involves family and significant others&lt;br&gt;Standard&lt;br&gt;- Monthly contact for risk and needs ax</td>
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<tr>
<td>Medium risk</td>
<td>- Some risk factors and few protective factors&lt;br&gt;- Inadequate social &amp; family support&lt;br&gt;- Fair mental state&lt;br&gt;- Engaged and cooperative&lt;br&gt;- History of violent/suicide/neglect&lt;br&gt;- Participating events</td>
<td>Increase protective factors&lt;br&gt;Increase frequency of contact&lt;br&gt;Closely monitoring&lt;br&gt;encourage recovery and social inclusion&lt;br&gt;Involves family and significant others&lt;br&gt;Medium&lt;br&gt;- Increase frequency&lt;br&gt;- at least monthly contact for risk and needs ax&lt;br&gt;- closely monitoring&lt;br&gt;- Early FU/consider admission</td>
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<td>High risk</td>
<td>- Significant risk factors and few protective factors&lt;br&gt;- Limited social &amp; family support&lt;br&gt;- Significant psychosis and uncooperative&lt;br&gt;- Impulsive, agitation, poor judgement&lt;br&gt;- Not improved even after intervention</td>
<td>Intensive monitoring&lt;br&gt;Warn others of the risk&lt;br&gt;Consult supervisor/CMO&lt;br&gt;Consider admission voluntarily or involuntarily&lt;br&gt;High&lt;br&gt;- Intensive monitoring&lt;br&gt;- Frequency contact for risk management&lt;br&gt;- Early FU/consider admission</td>
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**KCH Kwai Tsing Personalized Care Programme**
Operational Principles

1. Each patient is assigned a case manager and the service duration is not less than one year to deliver phase-specific interventions for patients under the PCP.

2. Case manager of the PCP provides an extended hours service covering 365 days within the year and continuous service to the patient disregard of their in-patient or out-patient status. Crisis intervention will be provided when necessary.

3. The service hours are from 8:00 am to 8:00 pm (Monday to Friday) and 8:30 am to 1:00 pm (Saturday, Sunday, Public Holiday and Statutory Holiday).

4. All case managers will be assigned to work on the extended hour duty pattern by roster. There will be at least one case manager to perform duty in non office hour.
Operational Principles

5. Case manager works closely with his/her supervisor and the CMO along the care pathway to monitor the patient’s mental state and continuously reviews the Individualized Service Plan (ISP) according to the changes of needs and risks.

6. Case manager delivers personalized care package to patient, ensures continuity of care, collaborates with internal and external community partners via regular multi-disciplinary clinical meetings, service co-location, expertise sharing, mobilization of community resources to strengthen pre-discharge risks-needs assessment and post-discharge community support to enhance recovery and social inclusion of patients in the community.

7. Psychiatrist in-charge will provide overall medical supervision on the management of patients under the PCP. Non office hour medical support will be provided to case managers.