Xiamen Chronic Disease 3-side Management Experience

Xiamen Health and Family Planning Commission
2016.7. Qingdao
1. Integrated care policies and practices
2. Preliminary results
3. Experience
Xiamen hospitals
Xiamen health system characteristics

1. Inadequate healthcare resource and inequitable allocation, big hospitals concentrate in center

2. Two types of management coexist in community health centers: "facility owned and managed" and "district owned and managed"

3. High% of migrant patients

<table>
<thead>
<tr>
<th>District</th>
<th>level3A comprehensive + specialist / 3 comprehensive + specialist / Planning 3A comprehensive + specialist</th>
<th>level2 comprehensive</th>
<th>Community care center + township hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siming</td>
<td>3+3/0+1/0+0</td>
<td>2</td>
<td>10+0</td>
</tr>
<tr>
<td>Huli</td>
<td>1+0/0+2/2+2</td>
<td>0</td>
<td>5+0</td>
</tr>
<tr>
<td>Jimei</td>
<td>1+0/0+0/1+0</td>
<td>0</td>
<td>4+2</td>
</tr>
<tr>
<td>Haicang</td>
<td>0+0/2+0/1+0</td>
<td>1</td>
<td>3+1</td>
</tr>
<tr>
<td>Tongan</td>
<td>0+0/1+0/0+1</td>
<td>1</td>
<td>2+6</td>
</tr>
<tr>
<td>Xiangan</td>
<td>0+0/2+0/3+0</td>
<td>0</td>
<td>1+4</td>
</tr>
<tr>
<td></td>
<td>5+3/5+3/7+3</td>
<td>4</td>
<td>25+13</td>
</tr>
</tbody>
</table>
1、Policies and practices
Problem oriented — integrated care incentive mechanism

1. Hospital lacks incentive
2. Grassroots facility lacks ability and incentive
3. Patient unsatisfied - lack of drugs in grassroots facility
Policy, mechanism and mode

- Flexible guidance - no one size fits all
- Chronic diseases prioritization - start with two major diseases, gradually expand to others
- Three-side management mode - integrated two-way referral
- Prevention treatment coordination – establish chronic disease prevention and treatment center
- Promote with cooperation – bottleneck oriented, human resource/ price/ finance/ title offices
Timeline of Xiamen chronic disease integrated care development

1.0:
2008-2011 integration of 15 community care centers with 3A hospital

2.0:
2012 Hospital-community integrated management
2013 Specialist and general physician “partnership” ("1+1+X")
2014 Establish “Diabetes community” and form 3–side management mode
  Establish integrated care office
2015 Establish “Hypertension community”, “TB community”
  Assessment, build platform (health management salon, general sharing sessions)

3.0:
2016 Chronic disease prevention and treatment center, expand disease types, double director
3-side mode, provide patients with a comprehensive service network
### 3-sides’ roles

<table>
<thead>
<tr>
<th>Specialist</th>
<th>GP</th>
<th>Health management staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>◆ Diagnosis&lt;br&gt;◆ Develop individualized treatment programs&lt;br&gt;◆ Regular community follow-up&lt;br&gt;◆ GP teaching (TCM)&lt;br&gt;◆ Q2M</td>
<td>◆ Implementation of specialized treatment programs&lt;br&gt;◆ Timely monitor status and provide treatment&lt;br&gt;◆ Interworking with specialist&lt;br&gt;◆ Specialist booking&lt;br&gt;◆ Supervise health management staff&lt;br&gt;Q1M</td>
<td>◆ Assist contact of specialist and GP with patient&lt;br&gt;◆ Manage regular follow-up&lt;br&gt;◆ Strengthen personalized health education&lt;br&gt;◆ Behavioral intervention&lt;br&gt;◆ Q2W</td>
</tr>
</tbody>
</table>
Example:
Diabetes patient comprehensive care network
“Diabetes patient comprehensive care network”
Management flow

- Patient enter network
- History and related forms
- Personalized health assessment
- Personalized Treatment plan
- Regular management and monitor
- Diagnosis, assess complication, establish treatment plan
- Consent and enter network
- DSME Health education
- Health Management staff
- Two-way referral
- GP
- Specialist

Physical examination, blood, urine, bio, electrocardiogram, abdominal ultrasound, glycated hemoglobin, microalbuminuria, eye examination, and related peripheral neuropathy screening assessment.

Monitor treatment plan implementation
Information management: 4 steps

1. Diabetes/hypertension management – registration report system
2. Cooperation platform for district integrated diagnosis and treatment
3. Network integration (diabetes network, hypertension network)
4. Internet + chronic disease application
Management framework

1. HFPC “3in1” office (Integrated care, family doctor sign up, Medical and pension recourse integration)

2. Chronic disease prevention and treatment center

3. Hospital community department (Medical affair, quality management)
Increase grassroots ability and incentive to receive patients

1. Performance incentive mechanism (Finance, HFPC cooperation)

2. Supplement medical staff (Government buy service)

3. Medical insurance adjust quota billing to actual billing

4. Specialist train lower level medical staff; TCM apprentice; specialist rotation, health management staff

5. Family doctor registration

6. Rank and select private grassroots facilities to join integrated care
Increase hospital’s incentive to let go of patients

1. Guide 3A hospitals to transform, downsize, and upgrade (become boutique, not supermarket)

2. Reform hospital reimbursement and incentive mechanism (cancel outpatient subsidy, change to special assistance; hospital stay supplement change to discharge subsidy; increase emergency subsidy rate; price adjustment)

3. Cancel drug add-up and eliminate drug income

4. Incentive for specialist to go to community (training subsidy, outpatient subsidy, 3-side management subsidy)

5. Integrate into hospital director annual assessment target
Increase patients’ will to go to and stay in grassroots facility

1、Complete drug list, increase prescription amount

2、Medical insurance reimbursement ratio and price differentiation
   (Hospital OOP 30%, Grassroots OOP 7%)
   (Grassroots facility free booking, cancel threshold)

3、“Internet+” application

4、Advantage of TCM: “Simple, experience, easy, cheap”
Supporting policies "push action"
Promote synergy “push implement"

1. Municipal government and district government enforce policy and cooperate
2. Finance: grassroots facility performance incentive and service purchase, hospital adjustment subsidy mechanism
3. Medical insurance: grassroots facility actual billing, drug and reimbursement differentiation, cancel threshold
4. Price: hospital price adjustment
5. HR: health management staff position
6. Platform: health management salon, community GP sharing session
7. Assessment: performance assessment, “double director system”
2016 task

1. Strengthen 3-side management for hypertension, diabetes, TB (standard, efficient)

2. Competitively expand disease types (mainly on internal medicine and key diseases, along with high prevalence chronic diseases)

3. Promote 3-side management family doctors sign up

4. Continue to improve incentive mechanism

5. Push forward ‘prevention and treatment coordination’

<table>
<thead>
<tr>
<th>Disease</th>
<th>Recommended hospital</th>
<th>Qualification</th>
</tr>
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<tbody>
<tr>
<td>CVD</td>
<td>CVD Hospital</td>
<td>National clinical specialized center</td>
</tr>
<tr>
<td>Mental disease</td>
<td>Xianyue Hospital</td>
<td>3A specialized, Medical center</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>First Hospital</td>
<td>3A, municipal specialized center</td>
</tr>
<tr>
<td>Chronic Gastrointestinal Disease</td>
<td>Zhongshan hospital</td>
<td>3A, National specialized center, municipal specialized center</td>
</tr>
<tr>
<td>COPD</td>
<td>Second Hospital</td>
<td>3A, Medical center</td>
</tr>
<tr>
<td>Fatty liver</td>
<td>Chinese Medicine Hospital</td>
<td>3A specialized, National specialized center, Medical center</td>
</tr>
<tr>
<td>Chronic gynecological inflammation</td>
<td>Maternal and Child Hospital</td>
<td>3A specialized</td>
</tr>
<tr>
<td>Chronic prostatitis</td>
<td>First Hospital</td>
<td>3A, Medical center</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>Zhongshan Hospital</td>
<td>3A</td>
</tr>
</tbody>
</table>
2、Preliminary results
Effective results (2015)

- Grassroots facility outpatient number increased: 43.67%

- 2015 normal chronic disease outpatient (exclude migrant patients) decreased by 6.02%, Diabetes and hypertension decreased by 22.02% (3A hospital sample)
“Hypertension and Diabetes” outpatient increased in community and decreased in hospital.
Diabetes, hypertension
“3-side management” before and after - grassroots become popular

Note: data from 25284 diabetes and hypertension patients in “diabetes network” and “hypertension network”
Diabetes, hypertension “3-side management” before and after - grassroots become popular

note:
1. Data from 2009-2011 Fujian province public hospital and grassroots medical facility statistical record.
2. Method: Difference in Difference, DID
Diabetes, hypertension
“3-side management” before and after – accessibility improved

● Big hospitals: “2 hour waiting time, 3 minute diagnosis”

● Community: Short waiting time, better diagnosis and management
Diabetes, hypertension
“3-side management” before and after – better
treatment outcome

<table>
<thead>
<tr>
<th>指标</th>
<th>Fasting glucose</th>
<th>Postprandial glucose</th>
<th>Hba1c</th>
</tr>
</thead>
<tbody>
<tr>
<td>入网前</td>
<td>≤7.0mmol/L 13.40%</td>
<td>≤10.0 mmol/L 39.70%</td>
<td>≤6.5 17.30%</td>
</tr>
<tr>
<td>第二季度</td>
<td>25.70%</td>
<td>57.30%</td>
<td>24.13%</td>
</tr>
<tr>
<td>第三季度</td>
<td>57.40%</td>
<td>61.30%</td>
<td>64.80%</td>
</tr>
</tbody>
</table>
Diabetes, hypertension
“3-side management” before and after – better treatment outcome

Note: from 25284 patients in “diabetes and hypertension networks” treatment information; observation time: 6 months
Diabetes, hypertension “3-side management” before and after - improved self-management ability

Diet/ exercise/ adherence/ glucose monitor/ foot care/ high or low glucose management/ self-management total rating
Diabetes, hypertension “3-side management” before and after — lower cost

Person-time medical cost patients in diabetes network

Before: 239.96
After: 174.00

Person-time medical cost patients in hypertension network

Before: 199.01
After: 125.39

Note: data from 25284 patients in networks, cost information
2015 average bed days decreased by 0.57 days compared to 2014, reverted bed days 354645, equivalent to building a hospital with 1100 beds every year, also equivalent to increasing 8% beds in the city.
Municipal public hospital drug cost %

- 2012年: 37.64%
- 2013年: 34.92%
- 2014年: 33.03%
- 2015年: 31.83%
Improved satisfaction rate for medical service

- 3rd party satisfaction survey – 2015 total satisfaction rate for medical service was 85.2, increased by 8.9 points compared to last year, 90% hospital with good performance

- Chinese Academy of Social Sciences “2015 Public Service Blue Book”: Xiamen medical service satisfaction rate ranked 4th among 38 major cities.

- District government, hospital and community center continue to work hard and achieve results
Xiaowei Ma:
“Xiamen choosing chronic disease as a breaking point for integrated care was a good decision.”

“Go step by step, take small steps, do not stop, do not turn back, small victories lead to big success.”
Comments on Xiamen method

Li Ling, health management is like bare foot doctors.

Zhu Hengpeng, chronic disease as a breaking point is good move.

Liu Yuanli, Xiamen reform applies to the Great Health Idea

Wang Hufeng, strengthen the grassroots, improve health, sustainable, flexible example
2015 “Chinese government innovation award”
3. Experience
<table>
<thead>
<tr>
<th>Framework</th>
<th>HFPC</th>
<th>Hospital</th>
<th>Grassroots</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1、framework</td>
<td>Integrated care office, chronic disease center</td>
<td>Community department (medical, quality, outpatient)</td>
<td>Director</td>
<td>District, town, street</td>
</tr>
<tr>
<td>2、chronic disease prioritization</td>
<td>Establish mechanism (strengthened, standardized)</td>
<td>Specialist</td>
<td>Family doctors, health management staff</td>
<td>212</td>
</tr>
<tr>
<td>a. 3-side management</td>
<td>Competitive system</td>
<td>Top hospital, department</td>
<td>Improve ability</td>
<td>Big data</td>
</tr>
<tr>
<td>b. disease</td>
<td>Government, IT</td>
<td>Acknowledgement, information</td>
<td>Confidence, information</td>
<td>Satisfaction, information</td>
</tr>
<tr>
<td>c. support</td>
<td>Establish example, build platform, be flexible</td>
<td>Price adjustment, stabilization, quality pricing</td>
<td>Active participation (sharing)</td>
<td>Save time, energy, money</td>
</tr>
<tr>
<td>d. incentive</td>
<td>Effectiveness, performance, double director</td>
<td>Target (normal outpatient, inpatient), rank adaptation</td>
<td>Performance based incentive</td>
<td>Safe, effective, satisfactory</td>
</tr>
<tr>
<td>e. assessment</td>
<td>Department coordination, graded positioning, prevention-treatment integration</td>
<td>Reimbursement, incentive system, unify perception</td>
<td>Medical, drug, incentive</td>
<td>Confidence</td>
</tr>
<tr>
<td>3、transform problem</td>
<td>Structural adjustment</td>
<td>Diagnosis and treatment mode change, grassroots guidance, reliance, integrated care director, peer leader</td>
<td>Responsible gate keeper</td>
<td>Change behavior</td>
</tr>
</tbody>
</table>
1. Framework ("3in1", chronic disease prevention and treatment center, hospital community department)

2. Strategy (Flexible guidance, chronic disease prioritization, problem oriented, breakpoint selection)

3. Mechanism (3-side management, decision system, resolution system)

4. Integration (Government, HR, finance, pricing, social insurance, IT, Internet + application)

5. Activation (Build platform, example, promotion, competition, assessment)

6. Target (Rank adaptation, quality pricing, encourage public hospital reform, change patient behavior, treatment-prevention integration)

—— Quality care, Adequate care, Efficient care
Thank You

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