



Appendices

Appendix A: Publications on Phase I of the CNHDRC-NICE collaboration for surgical clinical pathways

Appendix B: Instrument for situation analysis

Appendix C: Representation of pathway for COPD (excluding comorbidities)

COPD guideline underpinning inpatient clinical pathway

COPD pathway excluding comorbidities (developed by Qianjiang Central Hospital)

Appendix D: Representation of pathway for stroke (excluding comorbidities)

Cerebral haemorrhage guideline underpinning inpatient clinical pathway

Cerebral haemorrhage pathway (developed by Qianjiang Central Hospital)

Cerebral infarction guideline underpinning inpatient clinical pathway

Cerebral infarction pathway (developed by Hanbin First Hospital, Qianjiang Central Hospital)

TIA guideline underpinning inpatient clinical pathway

TIA pathway (developed by Huangdao People's Hospital)

Appendix E: Case payment rates agreed

Huangdao (City of Qingdao)

Appendix F: Data fields in medical records

Appendix G: Full list of monitoring indicators collected by hospitals

Appendix H: Profiles of pilot sites

Appendix I: Memorandum of Understanding between CNHDRC and NICE, September 2015 (English version)

Appendix J: Detailed results from pilot sites

Hanbin First Hospital

Huangdao (City of Qingdao)

Qianjiang

Wen

Appendix A: Publications on Phase I of the CNHDRC-NICE collaboration for surgical clinical pathways

No.	Citation	Journal	# Download	Abstract	URL (if available)
1	Implications and Path Choice of Optimizing Rural Health Technology	Chinese Health Economic s	43	In recent years, over-treatment, under-treatment and abuse of medical services have become prominent issues in the rural health market in China. As a result, rural health technology optimization has been proposed as a solution to the above issues in the current round of healthcare reform. Optimization of rural health technology requires not only technical capacity building, but also measures for improving institutional arrangements and management process. Clinical pathway management is recommended as the path to optimization of use of health technology in rural health facilities due to its focus on quality, patient safety and service efficiency. However, according to international experiences and the realities in rural China, some key issues need to be addressed before successful implementation of clinical pathway management, namely, compensation mechanisms and incentives, clinical management settings, and continuous capacity building efforts in improving management, technology and information infrastructures.	
2	The Theory and Design of Research on Health Technology Optimization and Compensation Mechanism in Rural Health	Chinese Health Economic s	169	To behave medical practices, improve qualities of care, control unreasonable medical costs, explore the mechanism of two-way interaction between rural hospitals and macro policies of management, under the analytical framework of PRECEDE-PROCEED model and Theory of Mechanism Design, planning the simultaneously put forward of three interventions including clinical pathway management, the reform of compensation mechanism conducted by multiple sectors of governments and information-based supervision, the intervention	

No.	Citation	Journal	# Download	Abstract	URL (if available)
	Facility			study was done in the areas of health XI project. The stepped wedge trial design was used to scale up interventions gradually, and also provide reforms of public hospitals with experiences.	
3	The Method of Outcome Evaluation of Pilot Research on Health Technology Optimization and Compensation Mechanism in Rural Health Facility	Chinese Health Economics	119	Objective: to evaluate if the intervention produces the expected effect. Methods: the quasi-experimental study design of pre-post study with one comparison was applied to evaluate outcomes at middle and final two time points; by comparing the change in medical cost before and after the intervention, to estimate the effect of intervention; by choosing two hospitals which are very similar to intervention hospitals as comparisons, difference in difference was used to compare the difference in changes at pre-post intervention between study group and control group. The qualitative evaluation was used to analyze internal mechanism between interventions and outcomes. Results: the evaluation design was applied to do a staged evaluation of the pilot study, and experts from the World Bank and NICE accepted the design. Conclusion: It is feasible and effective to use quasi-experimental evaluation design to evaluate a project with comprehensive interventions.	
4	The Outcome Evaluation of Pilot Research on Health Technology Optimization and Compensation Mechanism in Rural Health Facility: Based	Chinese Health Economics	354	Objectives: To standardize medical behaviors, control medical cost, optimize diagnosis and treatment technology. Methods: Difference in Difference was applied to compare changes in outcomes over time between intervention group and comparison group. Results: The medical behavior has been somehow standardized, medical cost has been reduced; positivity of medical personnel has been motivated. Conclusion: It is not costly but significant effect of policy choice to synchronously push the bundle of 3 types of reforms including	http://www.oriprobe.com/journals/zgwsjj/2011_7.html

No.	Citation	Journal	# Download	Abstract	URL (if available)
	on the Evaluation Method of Difference in Difference/			management of clinical pathway in hospitals, reform of compensation mechanism by governments and supervision of information system.	
5	Clinical Pathway Development Procedures and Principles in Rural Health Facilities	Chinese Health Economic s	94	Objective: To explore the clinical pathway development principles and procedures to implement clinical pathways in rural China where most health facilities with limited management resource and technology. Methods: To demonstrate the principles and procedures of clinical pathway development with the methods of documentary research, Delphi technique, and pilot intervention study. Results: On the basis of summing up international experience and preceding practice of clinical pathway management in China, specific clinical pathways for rural China pilot medical institutions are developed by the Optimization of Health Technology and Reform in Rural China research team, and also principles and procedures are achieved during the pilot study. Conclusion: It is essential to develop clinical pathway based on vigorous scientific discipline and procedure.	http://www.oriprobe.com/journals/zgwsjj/2011_7.html
6	Clinical Pathway Management Compensation Mechanism Design in Pilot Areas	Chinese Health Economic s	122	Objective: To increase the health facility's and medical staffs' compliance and motivation with clinical pathway management. Methods: Documentary research, Delphi technique, and pilot intervention study. Results: Framework for compensation mechanism adjustment and specific plan for cost calculation are designed which highlight the incentive factors on regulating hospital and medical personnel behaviors in the compensation mechanism, and avoid a zero-sum game end. Conclusion: The clinical pathway management compensation mechanism design must be based on principles	http://www.oriprobe.com/journals/zgwsjj/2011_7.html

No.	Citation	Journal	# Download	Abstract	URL (if available)
				of respecting reality and increasing stakeholders' benefit.	
7	The Cases Study for Development and Implementation of Clinical Pathway Information Management Software	Chinese Health Economics	152	<p>Objective: To introduce the key role and corresponding implementation requirements of clinical pathway information management software during the process of pilot research of clinical pathway. Methods: To analyze the development and implementation of clinical pathway information management software using the methods of literature review, intervention research and site investigation. Results: According to the experience of Qianjiang District, Chongqing Municipality and Hanbin District, Ankang City, Shannxi Province, the reasonable designing of clinical pathway information management software, the willing, technology environment, mechanism of training and communication mechanism of pilot hospital are the necessary conditions for success in such intervention research. Conclusion: The development and implementation of clinical pathway information management software has a significant meaning for effectiveness of such intervention research.</p>	http://www.oriprobe.com/journals/zgwsjj/2011_7.html
8	Analysis of Key Sectors in Improving the Quality of Clinical Pathway Management	Chinese Health Economics	200	<p>Objective: To explore the key sectors in accordance with the management quality of clinical pathway through the pilot study of clinical pathway in Health XI project, and make suggestions to health administrative and hospitals during the process of clinical pathway implementation. Methods: Employing the methods of literature review, qualitative analysis, case study and experience summary. Results: The key sectors of clinical pathway management should include the health technology, supportive conditions, incentive mechanism, and quality supervision, etc. Conclusion: The</p>	

No.	Citation	Journal	# Download	Abstract	URL (if available)
				implementation success of clinical pathway management depends on the corresponding key sectors.	
9	Game Process in Hospital Compensation Mechanism Reform and Corresponding Positive Effects for Hospital Running	Chinese Health Economics	445	Objective: To analyze the game process in hospital compensation mechanism reform and the corresponding positive effects through using the method of mechanism design. Methods: Employing the methods of literature review, intervention research and site investigation to address the problems above. Results: From the aspect of game theory, the hospital compensation mechanism involves different stakeholders, whose benefits will be optimized and guaranteed through a public, fair and equal game process. These two pilot districts provide practical experience and useful reference for logistics above. Conclusion: The hospital compensation mechanism reform can act on the payment system and level of payment of medical insurance effectively. The compensation mechanism reform is the proper choice and tool for public hospital reform, and also the effective measurement to strengthen the internal management of the hospital.	
10	Motivation Analysis of Clinical Pathway Management Implementation of Pilot Hospitals	Chinese Health Economics	126	Objective: To analyze the motivation of clinical pathway management implementation of pilot hospital using rational expectation theory. Methods : Employing the method of intervention research and site investigation to do a fully analysis regarding the motivation of clinical pathway management implementation of pilot hospital. Results: According to the clue to the case of Chongqing Qianjiang Central Hospital, it is said that the motivation comes from the reform expectation of hospital and medical staffs, reasonable compensation mechanism and transparent reform plan. Conclusion:	http://www.oriprobe.com/journals/zgwsjj/2011_8.html

No.	Citation	Journal	# Download	Abstract	URL (if available)
				The hospital and medical staffs are encouraged to get involved further by the rational expectation in accordance with society, patients, and economic self-interest of hospital and medical staffs during clinical pathwaythe implementation, such kinds of expectation can prompt the development of clinical pathway management in hospital positively.	
11	Influencing Factors Analysis of Clinical Pathway Management Admittance Rate in County-Level Hospitals	Chinese Health Economic s	184	To research necessary health policy environment and hospital management elements through analyzing the main influencing factors on clinical pathway management admittance. Methods: Demonstrating the pilot patients'clinical path way admittance by cluster sampling, qualitative interviews and statistical description. Results: it comes that the medical insurance policy and clinical pathway information system are the main factors on clinical pathway admittance. Conclusion: in order to improve the clinical pathway implementation quality, high attention must be paid to relative measures, such as health policy coordination, compensation mechanism with incentive factors, modernized hospital management and information system, etc.	
12	Introduction to Clinical Pathways and Compensation Mechanism Reform in Hanbin District, Shanxi Province	China Health Insurance	84	To regulate medical behaviors, control unreasonable medical costs and explore information based supervision, a comprehensive reform of clinical pathways and case-payment was established in the first hospital in Hanbin district, Shaanxi province in October 2010, which is a part of health XI project pilot research on health technology optimization and compensation mechanism in rural health facility. Clinical pathway was used to improve the medical quality, and case-payment as the incentive measures to hospital in this reform, a clinical pathway information system was also developed as the regulatory tool. Multiple sectors of governments participated in this pilot work, including	



No.	Citation	Journal	# Download	Abstract	URL (if available)
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the local social security department, NCMS management department, administrative department of health and hospitals, the pilot work was proved to be effective and can provide experience to other grade two hospitals.

Appendix B: Instrument for situation analysis

Section 1:Background information		
1.Name of country / state / county etc	2.Population, total (millions)	3.Population growth (annual %)
4.GDP (Current International \$, PPP)	5.GDP growth (annual %)	6.GDP per capita (Current International \$, PPP)
7.GINI coefficient (provide an alternative measure of inequalities if unavailable)	8.Internet users (per 100 people)	9.Total health expenditure as % of GDP



10.Public health expenditure as % GDP	11.Current level of healthcare coverage (% of the population)	
<i>For the following, please indicate if the indices are rising, falling or static, supplementing the response with appropriate time series data.</i>		

12. Life expectancy at birth (total) -Overall, -Urban,-Rural	13. Life expectancy at birth (males) -Overall, -Urban,-Rural	14. Life expectancy at birth (females) -Overall, -Urban,-Rural
15.Under 5 mortality rate (per 1000) -Overall, -Urban,-Rural	16.Maternal mortality rate (per 100,000) -Overall, -Urban,-Rural	17. What are the main causes of death in the country/state? -Overall, -Urban,-Rural

SECTION 2 – key policy priorities
18. What are the key policy priorities and challenges in your country? For example, these could be in relation to: <ul style="list-style-type: none">- Increasing coverage



- Prevention versus treatment
- Particular disease areas
- Out-of-pocket expenditure
- Overall cost containment

SECTION 3 – non communicable disease indicators(Please indicate the jurisdictional level of the data provided, e.g. national, urban, rural, county etc)

<p>19.What is the probability of dying between the ages 30-70 from:</p> <ul style="list-style-type: none">-Coronary heart disease-Stroke-Peripheral artery disease-Rheumatic heart disease-Congenital heart disease-Heart failure-Cancer (all types)	<p>20.What is the prevalence of diabetes among persons aged 25+ years?</p> <p>[Diabetes is defined as fasting plasma glucose ≥ 7.0 mmol/L (126, g/dl) or on treatment for diabetes]</p>	<p>21. What is the prevalence of current daily tobacco smoking among persons aged 15+ years?</p>
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<p>-Diabetes</p> <p>-Chronic respiratory disease</p>		
<p>22. What is the per capita consumption of pure litres of alcohol among persons aged 15+ years; and prevalence of heavy episodic drinking among persons aged 15+ years</p>	<p>23.What is the mean population intake of salt per day?</p>	<p>24. Obesity and physical activity:</p> <p>-What is the prevalence of obesity among persons aged 25+ years; and</p> <p>-What is the prevalence of physical inactivity among persons aged 25+ years</p> <p>[Obesity is defined as Body Mass Index (BMI) equal or greater than 30kg/m². Physical inactivity is defined as < 150 minutes of moderate physical activity or its equivalent per week]</p>
<p>25. What is the prevalence of raised blood pressure among persons aged 25+ years</p>	<p>26.% of people aged 30+ years with a 10 year risk of heart attack or stroke \geq 30%, or existing cardiovascular disease receiving Multidrug therapy</p>	<p>27.What is the prevalence of women between ages 30-49 screened for cervical cancer at least once</p>
<p>28. What is the proportion of breast cancers diagnosed in early stages (I & II)?</p>	<p>29. What is the prevalence of HBsAg carriers among children aged \leq 5 years? [HBsAG is the surface antigen of the</p>	



	hepatitis B virus]	
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SECTION 4: Health system – overview (Please indicate the jurisdictional level of the data provided, e.g. national, urban, rural, county etc)		
<p>30. Please provide an overview of how healthcare is financed (for example, through general taxation, social insurance) and delivered (public, private, mix of public and private provision, etc).</p> <p>Please also describe the extent of out-of-pocket payments.</p>	<p>31. What proportion of healthcare financing is devoted to primary care?</p>	<p>32. Number of physicians per 1000 population</p>
<p>33. Number of nurses per 1000 population</p>	<p>34. How are primary care physicians (in the publicly financed sector) remunerated? (for example, fee-for-service, capitation, salary, a combination of mechanisms)</p>	<p>35. How are hospital and specialist physicians (in the publicly financed sector) remunerated? (for example, fee-for-service, capitation, salary, a combination of mechanisms)</p>
<p>36. Number and size of inpatient care providers (Please distinguish between public and private providers, urban and</p>	<p>37. How are hospitals in the public sector paid? (for example, global budgets, case-</p>	<p>38. What is the average length of stay in acute-care hospitals? (Please distinguish between public and private</p>



rural)	based payments such as DRGs, and so on)	providers)
39. What is the bed occupancy rate (%) in acute-care hospitals? (Please distinguish between public and private providers)		

SECTION 5: Clinical Pathways	
40. Are there defined protocols or 'clinical pathways' for the management of patients in hospital settings? If yes, please indicate: - what protocols/clinical pathways are used - how they are developed - if they are costed; and - what proportion of hospitals use these protocols/clinical pathways	41. Are protocols/clinical pathways used to define case based methods of payment? If so, what proportion of a hospital's income is derived from such case based methods?



SECTION 6: Technology regulation and priority setting mechanisms		
<p>42. What institution/body is responsible for granting pharmaceutical marketing authorisation and for device regulation (based on safety, efficacy, and quality)?</p>	<p>43. Is there a defined outpatient formulary (or formularies)? If so:</p> <ul style="list-style-type: none">- How are decisions made to include/exclude certain drugs on the formulary/formularies- Who pays for the drugs on these formularies? Are there patient co-payments?	<p>44. Is there a publicly financed healthcare 'benefits package' (or 'packages') or explicit positive or negative lists for technologies and services that are publicly financed?</p>
<p>45. What are the key institutions involved in priority setting/defining the package of benefits, and how do they relate to each other? (By "priority setting" we are referring to decisions made at the national and regional level as to which technologies (drugs, devices etc) and services are made available within the healthcare system.)</p>	<p>46. Is evidence of clinical and cost-effectiveness of health technologies (such as drugs, and non-drug services and products) used to support priority setting?</p> <p>Are clinical guidelines used?</p> <p>Is budget impact used as prioritisation criterion?</p>	<p>47. What institutions are involved in the conduct and dissemination of health technology assessment (HTA)/ clinical guidelines?</p> <p>Please differentiate (if necessary) between institutions catering to decision-makers (e.g. government, insurers) and those undertaking HTA as an academic activity.</p>
<p>48. Do HTA/guideline decisions lead to changes in coverage / reimbursement? Please supplement your answer</p>	<p>49. Which organisation(s) is/are responsible for the price setting/fee</p>	<p>50. What institution(s) is/are responsible for monitoring and enforcing healthcare quality/performance standards?</p>



with access data and other evidence as necessary.	regulation of medicines, devices and services in the health sector?	
51. Does the health system carry out accreditation of providers (primary or secondary care)? · If yes, how does it function? · If not, are there plans to introduce such systems?		



Appendix C: Representation of pathway for COPD (excluding comorbidities)

COPD guideline underpinning inpatient clinical pathway

慢性阻塞性肺疾病临床路径

Care pathway of Chronic Obstructive Pulmonary Disease (COPD)

(2009)

Standard inpatient care pathway (CP) for COPD

(1) Indications

Primary diagnosis: acute exacerbation of COPD (ICD-10:J44.001/J44.101)

(2) Diagnosis

Diagnosis should be made on the basis of *the Clinical Guideline for Respiratory Disease* (Compiled by the Chinese Medical Association and published by the People's Medical Publishing House) and *COPD Diagnosis and Treatment Guidelines (2007)* (Group COPD, Chinese Society of Respiratory Diseases)

- i. Past medical history of COPD.
- ii. Abnormal chronic worsening and a need to change routine drugs.
- iii. Acute exacerbation of cough, sputum, shortness of breath and/or gasp, increased sputum volume or changed sputum characteristics, possibly with apparent aggravation of inflammations such as fever.

(3) Treatment options

Diagnosis should be made on the basis of *the Clinical Guideline for Respiratory Disease* (Compiled by the Chinese Medical Association and published by the People's Medical Publishing House) and *COPD Diagnosis and Treatment Guidelines (2007)* (Group COPD, Chinese Society of Respiratory Diseases)

- i. Select the therapeutic schedule according to the conditions.
- ii. Conduct endotracheal intubation and mechanical ventilation if necessary.

(4) Standard length of stay: 10-21 days.

(5) Criteria for CP management

Appendix C: Representation of pathway for COPD (excluding comorbidities)



- i. Primary diagnosis must comply with ICD-10:J44.001/J44.101 - the code for acute exacerbation of COPD.
- ii. Those patients with secondary diagnosis can be covered by the current CP if they do not need special treatment for their secondary diagnosis and if the secondary diagnosis does not have any impact on the implementation of COPD pathway.

(6) Day 1-3 after admission:

- i. Essential tests:
 - a) Blood, urine, stool;
 - b) Liver and renal function, electrolyte, blood gas analysis, coagulation, D-dimer (D-dimer), ESR, C reactive protein (CRP), infectious disease screening (HBV, HCV, syphilis, HIV/AIDS, etc);
 - c) Sputum pathogenic examination;
 - d) Chest imaging, ECG, ultrasound, lung function (when conditions allow).
- ii. Condition-specific tests: chest CT scan, UCG, lower extremity ultrasound.

(7) Treatment principles

- i. Smoking cessation
- ii. Common treatment: oxygen inhalation, rest, etc.
- iii. Condition-specific treatment: cough medicine, expectorant, relieving asthma, etc.
- iv. Antibiotics
- v. Treatment of various complications.

(8) Criteria for discharge

- i. Apparent improvement of conditions
- ii. In stable clinical conditions for over 24 hours

(9) Special considerations

- i. Prolonged length of stay resulted from more diagnoses and treatments for complications.
- ii. Patients with serious conditions may need respiratory support and to be covered by other pathways.

COPD pathway excluding comorbidities (developed by Qianjiang Central Hospital)

Details of prescriptions in full pathway;

Pathway with comorbidities in full pathway.

ICD-10 : J44.001/J44.101 Codes of AECOPD: ICD-10 : J44.001/J44.101

Shortest hospital stay 7 days Longest hospital stay: 21 days ; Actual Length of Stay _____days

住院日数 Hospital stay	住院日 (第 1 天) Admission (Day 1)	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and treatment	询问病史及体格检查 Inquisition of medical history and physical examination		
	进行病情初步评估, 病情严重程度分级 Initial assessment of conditions, grading according to conditions		
	上级医师查房 Ward round by senior doctors		
	明确诊断, 决定诊治方案 Identify diagnosis, determine therapeutic schedule		
	开化验单 write out lab slip		
	完成病历书写 write case history		
重点医嘱 Main prescriptions	(一)一般项目 (1) General items		
	[1]呼吸科护理常规[必选] routine nursing care of respiratory department[compulsory]	呼吸科护理常规 routine nursing care of respiratory department	长期 PRN
	[2]一级护理或二级护理[必选] (二选一) Grade I-II nursing care [compulsory, alternative]		
	医嘱项目 1 prescription 1	一级护理 Grade I nursing care	长期 PRN
	医嘱项目 2 prescription 2	二级护理 Grade II nursing care	长期 PRN
	[3]控制性吸氧[必选] controlled oxygen therapy[compulsory]	持续低流量吸氧 continuous administration low flow oxygen	长期 PRN



[4]留陪人 accompany the patient[compulsory]	留陪伴一人 allow one person accompany the patient	长期 PRN
[5]心电、血压、血氧饱和度监测[可选] Ecg, blood pressure, blood oxygen saturation monitoring[optional]		长期 PRN
医嘱项目 1 prescription 1	持续心电监测 continuous Ecg monitoring	长期 PRN
医嘱项目 2 prescription 2	血氧饱和度监测 blood oxygen saturation monitoring	长期 PRN
[6]吸痰[可选]sputum suctioning[optional]	吸痰 sputum suctioning	长期 PRN
[7]皮试[可选]skin test [optional]	皮试 skin test	临时 SOS
[8]静脉输液[可选]Intravenous Infusion[optional]	静脉输液 Intravenous Infusion	临时 SOS
[9]高频雾化吸入[可选] [9]High frequency atomization inhalation[optional]	高频雾化吸入 High frequency atomization inhalation	长期 PRN
(二)检查 2.tests		
[10]血常规[必选] blood routine [compulsory]	血常规 1 号 blood routine NO.1	临时 SOS
[11]尿常规[必选]urine routine[compulsory]	尿常规 1 号 urine routine NO.1	临时 SOS
[12]大便常规[必选]stool routine[compulsory]	粪便常规 stool routine	临时 SOS
[13]生化全套[必选] full set of biochemistry analysis[compulsory]	肝功 1 号, 肾功 1 号, 电解质 1 号 Liver function NO.1, Renal function NO.1, Electrolytes NO.1	临时 SOS
[14]凝血全套[必选] full coagulation [compulsory]	凝血全套 full coagulation	临时 SOS
[15]血气分析[必选] Blood gas analysis[compulsory]	血气分析 Blood gas analysis	临时 SOS
[16]痰病原学检查[必选] (1-3,1 是必选项目) sputum etiological examination(1-3,1 is compulsory)	痰液细菌涂片+真菌涂片+抗酸杆菌涂片 sputum pathogenic examination+sputum fungus culture+acid-fast bacillus culture	临时 SOS
医嘱项目 1 prescription 1	一般细菌涂片检查[必选]sputum pathogenic examination [compulsory]	临时 SOS
医嘱项目 2 prescription 2	真菌涂片[可选]sputum fungus culture [optional]	临时 SOS
医嘱项目 3 prescription 3	抗酸杆菌涂片[可选]acid-fast	临时 SOS



		bacillus culture [optional]	
[17]痰液培养+药敏[必选]sputum culture+drug allergy[[compulsory]	痰液培养+药敏 sputum culture+drug allergy		临时 SOS
[18]血沉[必选]ESR[compulsory]	血沉 ESR		临时 SOS
[19]心电图[必选]ECG[compulsory]	心电图 ECG		临时 SOS
[20]肺功能检查（包括 MVV）[可选] [20]lung function test(including MVV) [optional]	肺功能检查 lung function test		临时 SOS
[21]胸部正侧位片[可选]front and lateral chest radiographs[optional]	胸部正侧位片 front and lateral chest radiographs		临时 SOS
[22]胸部 CT[可选]chest CT[optional]	胸部 CT chest CT		临时 SOS
[23]腹部超声[可选]abdomen ultrasound[optional]	肝胆胰脾肾彩超 liver ultrasonography,gallbladder ultrasonography,spleen ultrasonography,pancreas ultrasonography		临时 SOS
[24]心脏彩超[可选]Heart Doppler ultrasound[optional]	心脏彩超 Heart Doppler ultrasound		临时 SOS
[25]降钙素原[可选]procalcitonin[optional]	降钙素原 procalcitonin		临时 SOS
[26]N 端脑钠肽前体（BNP）[可选]NT-proBNP[optional]	N 端脑钠肽前体 NT-proBNP[optional]		临时 SOS
[27]肿瘤标志物全套[可选]full set of tumor marker[optional]	肿瘤标志物全套 full set of tumor marker		临时 SOS
[28]肺癌组合[可选] lung cancer screening[optional]	CEA+CA125+NSE+CYFRA21-1		临时 SOS
[29]感染性疾病筛查[可选]infectious diseases screening[optional]	乙肝两对半+艾滋抗体+梅毒抗体 second liver two half-and-half+AIDS antibody+syphilis antibody		临时 SOS
[30]结核抗体[可选]tuberculosis antibody[optional]	结核抗体 tuberculosis antibody		临时 SOS
(三)药剂 3.drugs			
[31]抗生素[可选]（8 选 1-2）antibiotics [optional][1-2 out of the 8]			
1、大环内酯类 macrolides	5%葡萄糖注射液 250ml 5%		长期 PRN



		glucose injection 250ml	
		注射用门冬氨酸阿奇霉素 Azithromycin aspartate for injection	长期 PRN
	2、青霉素 penicillin	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用青霉素钠 benzylpenicillin sodium for injection	长期 PRN
	3、二代头孢菌素 the second generation cephalosporins	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用头孢西丁钠 Cefoxitin Sodium for Injection	长期 PRN
	4、β 内酰胺/酶抑制剂(二选一)β-lactam/β-lactamase inhibitor[alternative]		
	1 组 group 1	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用美洛西林舒巴坦钠 Mezlocillin Sodium and Sulbactam Sodium for injection	长期 PRN
	2 组 group 2	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		派拉西林钠他唑巴坦钠 piperacillin sodium and tazobactam sodium for injection	长期 PRN
	5、头孢哌酮/舒巴坦 Cefoperazone/Sulbactam	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用头孢哌酮舒巴坦钠 cefoperazone sodium and	长期 PRN



		sublactam sodium for injection	
6、三代头孢菌素 the third generation cephalosporins		0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用头孢唑肟钠 Ceftizoxime Sodium for Injection	长期 PRN
7、氟喹诺酮类 Fluoroquinolones		0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		盐酸左氧氟沙星注射液 Levofloxacin Hydrochloride Injection	长期 PRN
8、氨基糖苷类 Aminoglycosides		0.9%氯化钠注射液 250ml 0.9% Sodium Chloride Injection 250ml	长期 PRN
		硫酸阿米卡星注射液 Amikacin Sulfate Injection	长期 PRN
[32]营养支持(可选) (1-2 组, 即最少 1 组, 最多 2 组) nutritional support[optional](1-2)			
	1	复方氨基酸注射液 (18AA) Amino Acid Compound Injection (18AA)	长期 PRN
	2	5%葡萄糖氯化钠注射液 500ml 5% Glucose and Sodium Chloride Injection 500ml	长期 PRN
		10%氯化钾注射液 10% Potassium Chloride Injection	长期 PRN
[33]祛痰剂(必选)expectorant[compulsory]			
		0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN



		盐酸氨溴索注射液 Ambroxol Hydrochloride Injection	长期 PRN
	[34]支气管扩张剂（必选）（二方案选 1-2 种）： bronchodilator[compulsory][alternative]		
	方案一：静脉用药（二选一） option 1: intravenous drip [alternative]		
	1 组 group 1	0.9%氯化钠注射液 250ml 0.9% Sodium Chloride Injection 250ml	长期 PRN
		注射用多索茶碱 Doxofylline for Injection	长期 PRN
	2 组 group 2	0.9%氯化钠注射液 250ml 0.9% Sodium Chloride Injection 250ml	长期 PRN
		喘定（二羟丙茶碱注射液） dyphylline(Diprophylline Injection)	长期 PRN
	方案二：雾化吸入（二选一） option 2:aerosol inhalation (alternative)		
	1 组 group 1	硫酸特布他林注射液 Terbutaline Sulfate Injection	长期 PRN
	2 组 group 2	吸入用复方异丙托溴铵溶液（可选） Ipratropium Bromide Inhalation Solution(optional)	长期 PRN
	[35]糖皮质激素(可选)（三选一） glucocorticoid[optional,1 out of the 3]		
	方案一：静脉滴注 option 1:intravenous drip	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用甲泼尼龙龙琥珀酸钠 Methylprednisolone Sodium Succinate for Injection	长期 PRN
	方案二：静脉滴注 option 2:intravenous drip	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		氢化泼尼松注射液	



		Hydroprednisone Injection	
	方案三：口服 option 3: oral	醋酸泼尼松片 Prednisone Acetate Tablets	长期 PRN
	[36]胃粘膜保护剂(可选)二选一 gastric mucosal protective drugs[optional,alternative]		
	1 组 group 1	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用泮托拉唑钠 pantoprazole sodium for injection	长期 PRN
	2 组 group 2	泮托拉唑肠溶片 Pantoprazole Enteric-Coated Tablets	长期 PRN
	[37]封管液[可选]tube-sealing solution [optional]		
		0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		肝素钠注射液 Heparin Injection	长期 PRN
(四)其他 4.others			
介绍病房环境、设施和设备 introduction of ward, facilities and equipment			
主要护理工作 Main nursing care	入院护理评估，护理计划 nursing case assessment upon admission, nursing plan		
	观察患者情况 observing conditions of patient		
	指导氧疗、吸入治疗 instruction on oxygen therapy and inhalation therapy		
	静脉取血，用药指导 venous blood collection, drug instructions		
	进行戒烟建议和健康宣教 advise on smoking cessation and health education		
协助患者完成实验室检查及辅助检查 help patients with lab test and auxiliary examination			



住院日数 Hospital stay	住院期间（第 2-17 日，最少共 4 天，最多共 16 天） hospitalization(day 2-17, minimum is 4 days,maximum is 16 days)	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SO)
主要诊疗工作 Diagnosis and treatment	上级医师查房 Ward round by senior doctors		
	评估辅助检查的结果 evaluate the results of auxiliary examination		
	病情评估，根据患者病情调整治疗方案，处理可能发生的并发症 evaluate patient's conditions, adjust treatment plan and deal with possible complications		
	观察药物不良反应 observe adverse drug reactions		
	指导吸入装置的正确应用 instruct on the usage of inhaler apparatus		
	住院医师书写病程记录 record keeping by hospital intern		
重点医嘱 Main prescriptions	(一)一般项目 (1) General items		
	[1]呼吸科护理常规 [必选] routine nursing care of respiratory department[compulsory]	呼吸科护理常规 routine nursing care of respiratory department	长期 PRN
	[2]一级护理或二级护理 [必选] 二选一 Grade I-II nursing care [compulsory, alternative]		长期 PRN
	医嘱项目 1 prescription 1	一级护理 Grade I nursing care	长期 PRN
	医嘱项目 2 prescription 2	二级护理 Grade II nursing care	长期 PRN
	[3]留陪人[必选]accompany the patient [compulsory]	留陪伴一人 allow one person accompany the patient	长期 PRN
	[4]心电、血压、血氧饱和度监测[可选]Ecg, blood pressure, blood oxygen saturation monitoring[optional]		长期 PRN
	医嘱项目 1 prescription 1	持续心电监测 continuous Ecg monitoring	长期 PRN
	医嘱项目 2	血氧饱和度监测 blood oxygen saturation monitoring	长期 PRN
	[5]吸痰[可选]sputum suctioning[optional]	吸痰 sputum suctioning	长期 PRN
	[6]皮试[可选]skin test [optional]	皮试 skin test	临时 SOS
	[7]静脉输液[可选]Intravenous Infusion[optional]	静脉输液 Intravenous Infusion	临时 SOS
[8]高频雾化吸入[可选] High frequency atomization inhalation[optional]	高频雾化吸入 High frequency	长期 PRN	



		atomization inhalation	
	(二)检查 2.tests		
	[9]痰病原学检查[可选] (1-3) sputum etiological examination[optional](1-3)	痰液细菌涂片+真菌涂片+抗酸杆菌涂片 sputum pathogenic examination+sputum fungus culture+acid-fast bacillus culture	临时 SOS
	医嘱项目 1 prescription 1	一般细菌涂片检查[可选]sputum pathogenic examination [optional]	临时 SOS
	医嘱项目 2 prescription 2	真菌涂片[可选]sputum fungus culture [optional]	临时 SOS
	医嘱项目 3 prescription 3	抗酸杆菌涂片[可选]acid-fast bacillus culture [optional]	临时 SOS
	[10]痰液培养+药敏[可选]sputum culture+drug allergy[optional]	痰液培养+药敏 sputum culture+drug allergy	临时 SOS
	[11]血气分析[可选] Blood gas analysis[optional]	血气分析 Blood gas analysis	临时 SOS
	[12]血常规[可选]blood routine[optional]	血常规 1 号 blood routine NO.1	临时 SOS
	(三)药剂 3.drugs		
	[13]抗生素(可选) (8 选 1-2) antibiotics [optional][1-2 out of the 8]	根据 COPD 诊疗规范 2011 年版中 COPD 急性加重期抗菌药物应用参考表选择抗菌药物, 具体药物及剂量可作调整 According to the 2011 clinical guidelines for AECOPD, the antibiotics were chosen, the specific and drugs and dosage can be adjusted	
	1、大环内酯类 macrolides	5%葡萄糖注射液 250ml 5% glucose injection 250ml	长期 PRN
		注射用门冬氨酸阿奇霉素 Azithromycin aspartate for injection	长期 PRN
	2、青霉素 penicillin	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN



		注射用青霉素钠 benzylpenicillin sodium for injection	长期 PRN
	3、二代头孢菌素 the second generation cephalosporins	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用头孢西丁钠 Cefoxitin Sodium for Injection	长期 PRN
	4、β 内酰胺/酶抑制剂(二选一)β-lactam/β-lactamase inhibitor[alternative]		
	1 组 group 1	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用美洛西林舒巴坦钠 Mezlocillin Sodium and Sulbactam Sodium for injection	长期 PRN
	2 组 group 2	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		派拉西林钠他唑巴坦钠 piperacillin sodium and tazobactam sodium for injection	长期 PRN
	5、头孢哌酮/舒巴坦 Cefoperazone/Sulbactam	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用头孢哌酮舒巴坦钠 cefoperazone sodium and sulbactam sodium for injection	长期 PRN
	6、三代头孢菌素 the third generation cephalosporins	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用头孢唑肟钠 Ceftizoxime Sodium for Injection	长期 PRN



	7、氟喹诺酮类 Fluoroquinolones	盐酸左氧氟沙星氯化钠注射液 Levofloxacin Hydrochloride and Sodium Chloride Injection	长期 PRN
	8、氨基糖苷类 Aminoglycosides	0.9%氯化钠注射液 250ml 0.9% Sodium Chloride Injection 250ml	长期 PRN
		硫酸阿米卡星注射液 Amikacin Sulfate Injection	长期 PRN
	[14]营养支持(可选) (1-2 组, 即最少 1 组, 最多 2 组) nutritional support[optional](1-2)		
	1	复方氨基酸注射液 (18AA) Amino Acid Compound Injection (18AA)	长期 PRN
	2	5%葡萄糖氯化钠注射液 500ml 5% Glucose and Sodium Chloride Injection 500ml	长期 PRN
		10%氯化钾注射液 10% Potassium Chloride Injection	长期 PRN
	[15]祛痰剂 (必选) expectorant[compulsory]		
		0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		盐酸氨溴索注射液 Ambroxol Hydrochloride Injection	长期 PRN
	[16]支气管扩张剂 (必选) (静脉和雾化可任选其一, 亦可同时使用) bronchodilator[compulsory][alternative or both]		
	方案一: 静脉用药 (二选一) option 1: intravenous drip [alternative]		
	1 组 group 1	0.9%氯化钠注射液 250ml 0.9% Sodium Chloride Injection 250ml	长期 PRN
		注射用多索茶碱 Doxofylline for Injection	长期 PRN



	2 组 group 2	0.9%氯化钠注射液 250ml 0.9% Sodium Chloride Injection 250ml	长期 PRN
		喘定（二羟丙茶碱注射液） dyphylline(Diprophylline Injection)	长期 PRN
	方案二：雾化吸入（二选一） option 2:aerosol inhalation (alternative)		
	1 组 group 1	硫酸特布他林注射液 Terbutaline Sulfate Injection	长期 PRN
	2 组 group 2	吸入用复方异丙托溴铵溶液（可选） Ipratropium Bromide Inhalation Solution(optional)	长期 PRN
	[17]糖皮质激素（可选）（三选一） [17]Glucocorticoid [optional,use 1 out of 3]		
	方案一：静脉滴注 option 1:intravenous drip		0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml
		注射用甲泼尼龙琥珀酸钠 Methylprednisolone Sodium Succinate for Injection	长期 PRN
	方案二：静脉滴注 option 2:intravenous drip		0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml
		氢化泼尼松注射液 Hydroprednisone Injection	
	方案三：口服 option 3: oral		醋酸泼尼松片 Prednisone Acetate Tablets
			长期 PRN
	[18]胃粘膜保护剂(可选)二选一 gastric mucosal protective drugs[optional,alternative]		
	1 组 group 1	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用泮托拉唑钠 pantoprazole sodium for injection	长期 PRN



	2 组 group 2	泮托拉唑肠溶片 Pantoprazole Enteric-Coated Tablets	长期 PRN
	[19]封管液[可选]tube-sealing solution [optional]		
		0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		肝素钠注射液 Heparin Injection	长期 PRN
	(四)其他 4.others		
主要护理工作 Main nursing care	观察患者一般情况及病情变化 observe general conditions of patients and changes of conditions		
	观察疗效及药物反应 observe efficacy and drug reaction		
	指导患者有效的咳嗽排痰方法，指导陪护人员协助患者拍背排痰方法 instruct patients on effective ways of expectoration, instruct accompanies on back-patting practices for cough therapy		
	疾病相关健康教育 Disease-specific health education		
住院日数 Hospital stay	出院前 1-3 天（共 3 天，第 6-20 天期间均可） 1-3 days before discharge（day 6-20, 3 days in total）	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and treatment	上级医师查房 ward round by senior doctors		
	评估治疗效果 assessment of treatment outcomes		
	确定出院日期及出院后治疗方案 decide on date of discharge and post-discharge treatment plan		
	完成上级医师查房记录 complete record of ward round by senior doctors		
重点医嘱 Main prescriptions	(一)一般项目 1.general items		
	[1]呼吸科护理常规[必选]routine nursing care of respiratory department[compulsory]	呼吸科护理常规 routine nursing care of respiratory department	长期 PRN
	[2]二级护理[必选]Grade II nursing care [compulsory]	二级护理 Grade II nursing care	长期 PRN



[3]控制性氧疗 [必选] controlled oxygen therapy[compulsory]	低流量吸氧 low flow oxygen therapy	长期 PRN
[4]高频雾化吸入[可选] [4]High frequency atomization inhalation[optional]	高频雾化吸入 High frequency atomization inhalation	长期 PRN
[5]留陪人[必选]accompany the patient [compulsory]	留陪伴一人 allow one person accompany the patient	长期 PRN
(二)检查 2.tests		
[6]胸部正侧位片或胸部 CT(可选) (二选一) front and lateral chest radiographs or chest CT[optional,alternative]		
选项 1 option 1	胸部正侧位片 front and lateral chest radiographs	临时 SOS
选项 2 option 2	胸部 CT chest CT	临时 SOS
[7]其他异常指标复查 (血常规、血气组合) (可选) reexaminations of abnormal indicators[optional]		临时 SOS
[8]血气分析[可选] Blood gas analysis[optional]	血气分析 Blood gas analysis	临时 SOS
[9]血常规[可选]blood routine[optional]	血常规 1 号 blood routine NO.1	临时 SOS
(三)药剂 3.drugs		
[10]抗生素(可选) (8 选 1-2) antibiotics [optional][1-2 out of the 8]	根据 COPD 诊疗规范 2011 年版中 COPD 急性加重期抗菌药物应用参考表选择抗菌药物, 具体药物及剂量可作调整 According to the 2011 clinical guidelines for AECOPD, the antibiotics were chosen, the specific and drugs and dosage can be ajusted	
1、大环内酯类 macrolides	5%葡萄糖注射液 250ml 5% glucose injection 250ml	长期 PRN
	注射用门冬氨酸阿奇霉素 Azithromycin aspartate for injection	长期 PRN
2、青霉素 penicillin	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN



		注射用青霉素钠 benzylpenicillin sodium for injection	长期 PRN
	3、二代头孢菌素 the second generation cephalosporins	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用头孢西丁钠 Cefoxitin Sodium for Injection	长期 PRN
	4、β 内酰胺/酶抑制剂(二选一) β-lactam/β-lactamase inhibitor[alternative]		
	1 组 group 1	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用美洛西林舒巴坦钠 Mezlocillin Sodium and Sulbactam Sodium for injection	长期 PRN
	2 组 group 2	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		派拉西林钠他唑巴坦钠 piperacillin sodium and tazobactam sodium for injection	长期 PRN
	5、头孢哌酮/舒巴坦 Cefoperazone/Sulbactam	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用头孢哌酮舒巴坦钠 cefoperazone sodium and sulbactam sodium for injection	长期 PRN
	6、三代头孢菌素 the third generation cephalosporins	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用头孢噻肟钠	长期 PRN
	7、氟喹诺酮类 Fluoroquinolones	盐酸左氧氟沙星氯化钠注射液	长期 PRN



		Levofloxacin Hydrochloride and Sodium Chloride Injection	
	8、氨基糖苷类 Aminoglycosides	0.9%氯化钠注射液 250ml 0.9% Sodium Chloride Injection 250ml	长期 PRN
		硫酸阿米卡星注射液 Amikacin Sulfate Injection	长期 PRN
	[11]营养支持(可选) (1-2 组, 即最少 1 组, 最多 2 组) nutritional support[optional](1-2)		
	1	复方氨基酸注射液 (18AA) Amino Acid Compound Injection (18AA)	长期 PRN
	2	5%葡萄糖氯化钠注射液 500ml 5% Glucose and Sodium Chloride Injection 500ml	长期 PRN
		10%氯化钾注射液 10% Potassium Chloride Injection	长期 PRN
	[12]祛痰剂 (必选) expectorant[compulsory]		
		0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		盐酸氨溴索注射液 Ambroxol Hydrochloride Injection	长期 PRN
	[13]支气管扩张剂 (必选) (静脉和雾化可任选其一, 亦可同时使用) bronchodilator[compulsory][alternative]		
	方案一: 静脉用药 (二选一) option 1: intravenous drip [alternative]		
	1 组 group 1	0.9%氯化钠注射液 250ml 0.9% Sodium Chloride Injection 250ml	长期 PRN
		注射用多索茶碱 Doxofylline for Injection	长期 PRN
	2 组 group 2	0.9%氯化钠注射液 250ml 0.9% Sodium Chloride Injection 250ml	长期 PRN



		喘定（二羟丙茶碱注射液） dyphylline(Diprophylline Injection)	长期 PRN
	方案二：雾化吸入（二选一） option 2:aerosol inhalation (alternative)		
	1 组	硫酸特布他林注射液 Terbutaline Sulfate Injection	长期 PRN
	2 组	吸入用复方异丙托溴铵溶液（可选） Ipratropium Bromide Inhalation Solution(optional)	长期 PRN
	[14]胃粘膜保护剂(可选)二选一 gastric mucosal protective drugs[optional,alternative]		
	1 组 group 1	0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		注射用泮托拉唑钠 pantoprazole sodium for injection	长期 PRN
	2 组 group 2	泮托拉唑肠溶片 Pantoprazole Enteric-Coated Tablets	长期 PRN
	[15]封管液[可选]		
		0.9%氯化钠注射液 100ml 0.9% Sodium Chloride Injection 100ml	长期 PRN
		肝素钠注射液 Heparin Injection	长期 PRN
	(四)其他 4.others		
主要护理工作 Main nursing care	观察患者一般情况		
	观察疗效、各种药物作用和副作用		
	指导呼吸康复训练（根据需要）		
	恢复期心理与生活护理		
	出院准备指导		
住院日数 Hospital stay	出院日（7-21 天） discharge(day 7-21)		医嘱类型 Type of prescription



			(PRN/SOS)
主要诊疗工作 Diagnosis and treatment	完成出院小结 complete discharge summary		
	向患者交待出院后注意事项 educate patients on do's and don'ts upon discharge		
	预约复诊日期 make appointment for date of reexamination		
重点医嘱 Main prescriptions	(一)一般项目 (1) General items		
	出院医嘱 prescription upon discharge	今日出院 discharge today	临时 SOS
	(二) 检查 2.tests		
		肺功能检查 (可选) lung function test (optional)	临时 SOS
	(三)药剂 3.drugs		
	出院带药 (必选) discharge medication[compulsory]	盐酸氨溴索片 (可选) Ambroxol Hydrochloride Tablets [optional]	临时 SOS
		多索茶碱胶囊 (可选) Doxofylline Capsules[optional]	临时 SOS
		孟鲁司特片 Montelukast Sodium Tablets	临时 SOS
		沙美特罗氟替卡松粉吸入剂 (可选) Salmeterol Xinafoate and Fluticasone Propionate Powder for Inhalation[optional]	临时 SOS
		硫酸沙丁胺醇气雾剂 (可选) Salbutamol Sulphate Aerosol[optional]	临时 SOS
	(四)家庭氧疗 (可选) 4.home oxygen therapy (optional)		
主要护理工作 Main nursing care	出院注意事项 (戒烟、避免烟尘吸入、坚持康复锻炼、注意保暖、加强营养) Do's and don'ts (quit smoking, no inhalation of smoke and dust, rehabilitation exercise, keeping warm, nutrition)		
	帮助患者办理出院手续 Help patients with discharge procedures		
	出院指导 Discharge instruction		



Appendix D: Representation of pathway for stroke (excluding comorbidities)

Cerebral haemorrhage guideline underpinning inpatient clinical pathway

脑出血临床路径

Care pathway of cerebral hemorrhage

(County hospitals 2012)

Standard inpatient care pathway (CP) for cerebral hemorrhage

(1) Indications

Primary diagnosis: cerebral hemorrhage (ICD-10: I61)

(2) Diagnosis

Diagnosis should be made on the basis of *the Clinical Guideline for Neurologic Diseases* (Compiled by the Chinese Medical Association and published by the People's Medical Publishing House)

- i. Clinical manifestations: acute onset, focal neurologic signs or symptoms along with headache and/or dysfunction of consciousness;
- ii. Hemorrhage confirmed with brain scan.

(3) Treatment options and basis

Diagnosis should be made on the basis of *the Guideline for Neurologic Diseases* (Compiled by the Chinese Medical Association and published by the People's Medical Publishing House)

- i. General treatment: bed rest, stabilize vital signs and clinical status, prevent and treat infection;
- ii. Control blood pressure;
- iii. Control hydrocephalus, lower intracranial pressure;
- iv. Maintain normal temperature;
- v. Prevent and treat epilepsy;
- vi. Conduct surgical procedures if necessary;
- vii. Early rehabilitation care.

(4) Standard length of stay: 14-21 days.



(5) Criteria for CP management

- i. Primary diagnosis must be cerebral hemorrhage (ICD-10: I61) ;
- ii. Those patients with secondary diagnosis can be covered by the current CP if they do not need special treatment for their secondary diagnosis and if the secondary diagnosis does not have any impact on the implementation of cerebral hemorrhage pathway.

(6) Tests

- i. Essential tests:
 - a) Blood and urinalysis
 - b) Liver and renal function, electrolytes, blood glucose, coagulation function.
 - c) Brain and skull CT, chest X-ray, ECG
- ii. Optional tests according to patients' conditions: cardiac enzymes, lipids, bone marrow biopsy (for cerebral hemorrhage caused by hematologic conditions).

(7) Medications

- i. Diuretics: mannitol, furosemide .etc;
- ii. Anti-hypertensives: captopril, enalapril, nitrendipine, and nifedipine. etc;
- iii. Antibiotics referred to the Guidelines for Clinical Application of Antibacterial (Department of Medical Administration (2004) NO.285). Patients without infection do not need to use antibiotics, while patients confirmed to be infected should take antibiotics on the basis of bacterial drug sensitivity.
- iv. Laxative;
- v. Medicines for fluid and electrolyte imbalance
- vi. Hemostatic should be carefully used to cerebral hemorrhage caused by hemorrhagic diseases; insulin and anti-acid medicines should be administered based on the patient's condition.

(8) Monitoring neurological function and vital signs (VS).

- i. Monitoring VS;
- ii. Scoring by NIH scale and GCS scale

(9) Criteria for discharge

- i. Patient is in stable condition
- ii. There are no complications that require further inpatient care



(10) Special considerations

- i. Cerebral hemorrhage patients in a critical condition such as respiratory or circulatory insufficiency, multiple organ dysfunctions should be transferred to ICU and managed by correspondent CP;
- ii. For abnormal diagnostic test results, reexamination is required and the cause of the abnormality needs to be analyzed, esp. those concerning prolonged length of stay and increased hospitalization costs.
- iii. Worsening condition, with complications that require for further diagnosis and treatment, which may lead to prolonged length of stay and increased hospitalization costs.
- iv. Cerebral hemorrhage may cause worsening conditions of previous comorbidities, which requires more care and may result in prolonged length of stay and increased hospitalization costs.

Cerebral haemorrhage pathway (developed by Qianjiang Central Hospital)

Details of prescriptions in full pathway;

Pathway with comorbidities in full pathway.

ICD-10 : I61 Code of disease : ICD-10 : I61

Shortest hospital stay:8 days Longest hospital stay:21 days Average Length of stay:15 days

住院日数 Hospital stay	第 1 天 (住院日) Day 1 (Admission)	医嘱名称 Prescription	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and treatment	病史采集及体格检查 (包括 NIHSS 评分) Inquisition of medical history and physical examination (including NIHSS scoring)		
	评估基本生命体征 Initial assessment of basic vital signs		
	入院评估 admission assessment		
	完成首次病程记录及入院记录重症需及时主治直至主任医师查房、神经外科或多科会诊, 必要时转科手术。complete the first medical history and admission records (severe cases need ward round by attending doctors or chief doctor timely,counsultation with neurosurgeon or interdisciplinary consultation, transfer the patients if necessary)		
重点医嘱 Main	(一)一般项目 1.general items		



prescriptions	神经内科护理常规 neurology nursing routine	长期 PRN	
	留置针护理常规（可选） remaining needle nursing routine(optional)		
	吸痰护理（可选） Sputum suction(optional)		
	一级护理 Grade I nursing care	长期 PRN	
	或 特级护理 or intensive nursing care	长期 PRN	
	或 二级护理 or Grade II nursing care	长期 PRN	
	低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN	
	测血压 Blood pressure	长期 PRN	
	吸氧（可选） Oxygen Inhalation(optional)	长期 PRN	
	心电监护（可选） ECG mornitoring(optional)	长期 PRN	
	血氧饱和度监测 Oxygen saturation mornitoring	长期 PRN	
	监测血压（可选） Blood pressure monitoring (optional)	长期 PRN	
	留置导尿（可选） indwelling catheter(optional)	长期 PRN	
	留置胃管（可选） indwelling gastric tube(optional)	长期 PRN	
	保留导尿（可选） keeping catheter(optional)	长期 PRN	
	(二)检查 2.tests	血常规 blood routine	临时 SOS
		尿常规 urine routine	临时 SOS
		大便常规 stool routine	临时 SOS
		生化全套（肝功能，肾功能，电解质，血糖，血脂，心肌酶谱，同型半胱氨酸） biochemical examination(Liverfunction,renalfunction, electrolyte, blood glucose, blood lipid,myocardial enzymes,HCY)	临时 SOS
		凝血功能 coagulation function	临时 SOS
		血气分析（可选） blood gas analysis (optional)	临时 SOS
		感染性疾病筛查(艾滋、梅毒) infection screening: AIDS, Syphilis	临时 SOS
	头颅 CT skull CT	临时 SOS	
	胸片 chest X-ray	临时 SOS	
	床边心电图 besideMECG	临时 SOS	



	头颅 MRI (可选) skull MRI(optional)	临时 SOS
	头颅 MRA(可选) skull MRA(optional)	临时 SOS
	头颅 CTA (可选) skull CTA(optional)	临时 SOS
	腹部彩超 (可选) Abdominal ultrasonography(optional)	临时 SOS
	心脏超声 (可选) cardiac uhrasonography(optional)	
	置胃管 (可选) insertion of gastric tube(optional)	临时 SOS
	鼻饲 (可选, 与支持治疗二选一) nasal feeding(optional,choose between nasal feeding and supportive treatment)	长期 PRN
	(三)处置与手术 3.procedures and surgeries	
	康复科医生会诊 (可选) consultation with Rehabilitation Physicians(optional)	临时 SOS
	(四)药剂 4.drugs	
	脱水剂: (可选, 可交替使用, 用 1~3 种) diuretics: (optional,alternate use,use 1-3 drugs)	
	1.甘露醇 (可选) 1.mannitol(optional)	长期 PRN
	2.呋塞米 (可选) 2.furosemide(optinal)	长期 PRN
	3. 0.9%氯化钠注射液或 5%葡萄糖液 3.0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	七叶皂苷钠 (可选) sodium aescinate(optional)	长期 PRN
	4.白蛋白 (可选) 4.albumin(optional)	长期 PRN
	5.甘油果糖氯化钠 (可选) 5.Glycerol Fructose and Sodium Chloride Injection(optional)	长期 PRN
	质子泵抑制剂: (可选, 2 选 1) proton pump inhibitor : (optional,alternative)	
	1.兰索拉挫 (可选) 1.Lansoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN
	2.泮托拉唑 (可选) 2.pantoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN



	支持治疗（可选，选 1-2 种）supportive treatment:(optional,choose 1 or 2 drugs below)	
	1.5%葡萄糖液 5% glucose solution	临时 SOS
	脂溶性维生素（II）（可选）Fat-soluble Vitamin Injection(II)(optional)	
	水溶性维生素（可选）water-soluble vitamins(optional)	
	2.复方氨基酸液（可选）compound amino acid solution(optional)	临时 SOS
	3.复方氯化钠注射液（可选）Compound Sodium Chloride Injection(optional)	临时 SOS
	4.10%氯化钾（可选）10% Potassium Chloride Injection(optional)	
	神经细胞营养剂：（可选，4 选 1）nerve nutrition agent（optional,choose 1 out 4）	
	1.小牛血清注射液（可选）1.deproteinised calf blood injection(optional)	
	0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	2.神经节苷脂（可选）2.Ganglioside(optional)	长期 PRN
	0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	3.奥拉西坦（可选）3.Oxiracetam(optional)	长期 PRN
	0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	4.鼠神经生长因子（可选）4.Mouse Nerve Growth Factor(optional)	长期 PRN
	促醒剂：（可选，3 选 1）wake-promoting agents（optional,choose 1 out 3）	



		1.甲氯酚酯 1.meclofenoxate	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		2.醒脑静（可选） 2.Xingnaojing(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		3.纳美芬（可选） 3.nalmefene(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		(五)其他 5.others	
主要护理工作 Main nursing care	入院卫生教育 Health education on admission		
	入院护理评估 Nursing assessment on admission		
	患者检查指导 Instruct patients on tests		
	住院基础护理 Basic nursing care Basic nursing care on admission		
住院日数 Hospital stay	第 2 天 Day 2	医嘱名称 Prescription	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and treatment	主治医师查，书写上级医师查房记录 Ward round by attending doctor and keep record of senior doctors		
	评价神经功能状态 Evaluation of nerval function		
	并发症的评估与处理 assessment and treatment of complications		
	评估辅助检查结果 assess auxiliary examinations		
	必要时多学科会诊 consultation with different departements if necessary		
	开始康复治疗 start rehabilitation treatment		
	需手术者转神经外科 Transfer to neurosurgery department when patients need surgeries		
记录会诊意见 Keeping record of consultation			



重点医嘱 Main prescriptions	(一)一般项目 1.general items			
		神经内科护理常规 neurology nursing routine	长期 PRN	
		留置针护理常规 (可选) Internal medicine nursing routine(optional)		
		吸痰护理 (可选) Sputum suction(optional)		
		一级护理 Grade I nursing care	长期 PRN	
		或特级护理 or intensive nursing care		
		或二级护理 or Grade II nursing care		
		低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN	
		测血压 Blood pressure		
		置胃管 (可选) insertion of gastric tube(optional)		
		鼻饲注食 (可选) nasal feeding(optional)		
		吸氧 (可选) Oxygen Inhalation(optional)	长期 PRN	
		心电监护 (可选) ECG monitoring(optional)		
		监测血压 (可选) Blood pressure monitoring (optional)		
		血氧饱和度监测 (可选) Oxygen saturation monitoring(optional)		
		留置导尿 (可选) indwelling catheter(optional)		
		保留导尿 (可选) keeping catheter(optional)	长期 PRN	
		(二)检查 2.tests	复查异常化验 (可选) retest abnormal laboratory test (optional)	临时 SOS
			复查头 CT (可选) Reexamine skull CT (optional)	临时 SOS
		(三)处置与手术 3.procedures and surgeries		
			康复科医生会诊 (可选) consultation with Rehabilitation Physicians(optional)	临时 SOS
	(四)药剂 4.drugs			
		脱水剂: (可选, 可交替使用, 用 1~3 种) diuretics: (optional, alternate use, use 1-3 drugs)		
		1.甘露醇 (可选) 1.mannitol(optional)	长期 PRN	



	2.呋塞米（可选）2.furosemide(optinal)	长期 PRN
	3. 0.9%氯化钠注射液或 5%葡萄糖液 3.0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	七叶皂苷钠（可选）sodium aescinate(optional)	长期 PRN
	4.白蛋白（可选）4.albumin(optional)	长期 PRN
	5.甘油果糖氯化钠（可选） 5.Glycerol Fructose and Sodium Chloride Injection(optional)	长期 PRN
	质子泵抑制剂：（可选，2 选 1）proton pump inhibitor : (optional,alternative)	
	1.兰索拉挫（可选）1.Lansoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN
	2.泮托拉唑（可选）2.pantoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN
	支持治疗（可选，选 1-2 种）supportive treatment:(optional,choose 1 or 2 drugs below)	
	1.5%葡萄糖液 5% glucose solution	临时 SOS
	脂溶性维生素（II）（可选）Fat-soluble Vitamin Injection(II)(optional)	
	水溶性维生素（可选）water-soluble vitamins(optional)	
	2.复方氨基酸液（可选）compound amino acid solution(optional)	临时 SOS
	3.复方氯化钠注射液（可选）Compound Sodium Chloride Injection(optional)	临时 SOS
	4.10%氯化钾（可选）10% Potassium Chloride Injection(optional)	
	神经细胞营养剂：（可选，4 选 1）nerve nutrition agent (optional,choose 1 out 4)	



		1.小牛血清注射液（可选） 1.deproteinised calf blood injection(optional)	
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		2.神经节苷脂（可选） 2.Ganglioside(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		3.奥拉西坦（可选） 3.Oxiracetam(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		4.鼠神经生长因子（可选） 4.Mouse Nerve Growth Factor(optional)	长期 PRN
		促醒剂：（可选，3选1） wake-promoting agents（ optional,choose 1 out 3）	
		1.甲氯酚酯 1.meclofenoxate	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		2.醒脑静（可选） 2.Xingnaojing(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		3.纳美芬（可选） 3.nalmefene(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	(五)其他 5.others		
主要护理工作 Main nursing care	护理评估 assess nursing care		
	基础护理 primary nursing care		
	饮食指导 diet guidance		
	观察患者病情变化 observe condition change of patient		
住院日数	第 3 天	医嘱名称	医嘱类型



Hospital stay	Day 3	Prescription	Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and treatment	主任(副主任) 医师查房, 书写上级医师查房记录 ward round by chief or associate chief physician and keep record		
	评价神经功能状态 Evaluation of nerval function		
	必要时会诊 consultation with different departements if necessary		
	康复治疗 rehabilitation treatment		
	需手术者转神经外科 transfer to neurosurgery department if surgery is needed		
重点医嘱 Main prescriptions	(一)一般项目 1.general items		
		神经内科护理常规 neurology nursing routine	长期 PRN
		留置针护理常规 (可选) remaining needle nursing routine(optional)	
		吸痰护理 (可选) Sputum suction(optional)	
		一级护理 Grade I nursing care	长期 PRN
		或特级护理 or intensive nursing care	
		或二级护理 or Grade II nursing care	
		低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN
		测血压 Blood pressure	
		吸氧 (可选) Oxygen Inhalation(optional)	长期 PRN
		心电监护 (可选) ECG monitoring(optional)	
		监测血压 (可选) blood pressure monitoring (optional)	
		血氧饱和度监测 (可选) Oxygen saturation mornitoring(optional)	
	留置导尿 (可选) indwelling catheter(optional)		
	保留导尿 (可选) keeping catheter(optional)	长期 PRN	



	吸痰（可选）sputum aspiration(optional)	临时 SOS
	鼻饲注食（可选）nasal feeding(optional)	
(二)检查 2.tests	复查异常化验 retest abnormal laboratory test	临时 SOS
(三)处置与手术 3.procedures and surgeries		
	康复科医生会诊（可选）consultation with Rehabilitation Physicians(optional)	临时 SOS
(四)药剂 4.drugs		
	脱水剂：（可选，可交替使用，用 1~3 种）diuretics: （optional,alternate use,use 1-3 drugs）	
	1.甘露醇（可选）1.mannitol(optional)	长期 PRN
	2.呋塞米（可选）2.furosemide(optinal)	长期 PRN
	3. 0.9%氯化钠注射液或 5%葡萄糖液 3.0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	七叶皂苷钠（可选）sodium aescinate(optional)	长期 PRN
	4.白蛋白（可选）4.albumin(optional)	长期 PRN
	5.甘油果糖氯化钠（可选） 5.Glycerol Fructose and Sodium Chloride Injection(optional)	长期 PRN
	质子泵抑制剂：（可选，2 选 1）proton pump inhibitor : (optional,alternative)	
	1.兰索拉挫（可选）1.Lansoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN
	2.泮托拉唑（可选）2.pantoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN
	支持治疗（可选，选 1-2 种）supportive treatment:(optional,choose 1 or 2 drugs below)	
	1.5%葡萄糖液 5% glucose solution	临时 SOS
	脂溶性维生素（II）（可选）Fat-soluble Vitamin Injection(II)(optional)	
	水溶性维生素（可选）water-soluble	



	vitamins(optional)	
	2.复方氨基酸液（可选） compound amino acid solution(optional)	临时 SOS
	3.复方氯化钠注射液（可选） Compound Sodium Chloride Injection(optional)	临时 SOS
	4.10%氯化钾（可选） 10% Potassium Chloride Injection(optional)	
	神经细胞营养剂：（可选，4选1） nerve nutrition agent（optional,choose 1 out 4）	
	1.小牛血清注射液（可选） 1.deproteinised calf blood injection(optional)	
	0.9%氯化钠注射液或5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	2.神经节苷脂（可选） 2.Ganglioside(optional)	长期 PRN
	0.9%氯化钠注射液或5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	3.奥拉西坦（可选） 3.Oxiracetam(optional)	长期 PRN
	0.9%氯化钠注射液或5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	4.鼠神经生长因子（可选） 4.Mouse Nerve Growth Factor(optional)	长期 PRN
	促醒剂：（可选，3选1） wake-promoting agents（optional,choose 1 out 3）	
	1.甲氯酚酯 1.meclofenoxate	长期 PRN
	0.9%氯化钠注射液或5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	2.醒脑静（可选） 2.Xingnaojing(optional)	长期 PRN
	0.9%氯化钠注射液或5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN



		3.纳美芬（可选） 3.nalmefene(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	(五)其他 5.others		
主要护理工作 Main nursing care	护理评估 assess nursing care		
	基础护理 primary nursing care		
	饮食指导 diet guidance		
	观察患者病情变化 observe condition change of patient		
住院日数 Hospital stay	第 4 天 Day 4	医嘱名称 Prescription	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and treatment	各级医生查房 Ward round by different level physicians		
	评估辅助检查结果 Assessment of auxiliary examination outcomes		
	评价神经功能状态 Evaluation of nerval function		
	继续防治并发症 Keeping preventing and treating complications		
	必要时相关科室会诊 Joint consultation with related physicians when necessary		
	康复治疗 rehabilitation treatment		
重点医嘱 Main prescriptions	(一)一般项目 1.general items		
		神经内科护理常规 neurology nursing routine	长期 PRN
		留置针护理常规（可选） remaining needle nursing routine(optional)	
		吸痰护理（可选） Sputum suction(optional)	
		一级护理 Grade I nursing care	长期 PRN
		或特级护理 or intensive nursing care	
	或二级护理 or Grade II nursing care		



	低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN
	测血压 Blood pressure	
	吸氧（可选）Oxygen Inhalation(optional)	长期 PRN
	心电监护（可选）ECG monitoring(optional)	
	监测血压（可选）blood pressure monitoring (optional)	
	血氧饱和度监测（可选）Oxygen saturation monitoring(optional)	
	留置导尿（可选）indwelling catheter(optional)	
	保留导尿（可选）keeping catheter(optional)	长期 PRN
	吸痰（可选）sputum aspiration(optional)	临时 SOS
	鼻饲注食（可选，与支持治疗二选一）nasal feeding(optional,choose between nasal feeding and supportive treatment)	
	置胃管（可选）insertion of gastric tube(optional)	
(二)检查 2.tests		
	头颅 MRI（可选）skull MRI(optional)	临时 SOS
	头颅 MRA(可选) skull MRA(optional)	临时 SOS
	头颅 CTA（可选）skull CTA(optional)	临时 SOS
(三)处置与手术 3.procedures and surgeries		
	康复科医生会诊（可选）consultation with Rehabilitation Physicians(optional)	临时 SOS
(四)药剂 4.drugs		
	脱水剂：（可选，可交替使用，用 1~3 种）diuretics: (optional,alternate use,use 1-3 drugs)	
	1.甘露醇（可选）1.mannitol(optional)	长期 PRN
	2.呋塞米（可选）2.furosemide(optinal)	长期 PRN
	3. 0.9%氯化钠注射液或 5%葡萄糖液 3.0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN



	七叶皂苷钠（可选） sodium aescinate(optional)	长期 PRN
	4.白蛋白（可选） 4.albumin(optional)	长期 PRN
	5.甘油果糖氯化钠（可选） 5.Glycerol Fructose and Sodium Chloride Injection(optional)	长期 PRN
	质子泵抑制剂：（可选，2选1） proton pump inhibitor : (optional,alternative)	
	1.兰索拉唑（可选） 1.Lansoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN
	2.泮托拉唑（可选） 2.pantoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN
	支持治疗（可选，选1-2种） supportive treatment:(optional,choose 1 or 2 drugs below)	
	1.5%葡萄糖液 5% glucose solution	临时 SOS
	脂溶性维生素（II）（可选） Fat-soluble Vitamin Injection(II)(optional)	
	水溶性维生素（可选） water-soluble vitamins(optional)	
	2.复方氨基酸液（可选） compound amino acid solution(optional)	临时 SOS
	3.复方氯化钠注射液（可选） Compound Sodium Chloride Injection(optional)	临时 SOS
	4.10%氯化钾（可选） 10% Potassium Chloride Injection(optional)	
	神经细胞营养剂：（可选，4选1） nerve nutrition agent (optional,choose 1 out 4)	
	1.小牛血清注射液（可选） 1.deproteinised calf blood injection(optional)	
	0.9%氯化钠注射液或5%葡萄糖液 0.9% Sodium	长期 PRN



		Chloride Injection or 5% Glucose liquid	
		2.神经节苷脂（可选）2.Ganglioside(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		3.奥拉西坦（可选）3.Oxiracetam(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		4.鼠神经生长因子（可选）4.Mouse Nerve Growth Factor(optional)	长期 PRN
		促醒剂：（可选，3选1）wake-promoting agents（optional,choose 1 out 3）	
		1.甲氯酚酯 1.meclofenoxate	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		2.醒脑静（可选）2.Xingnaojing(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		3.纳美芬（可选）3.nalmefene(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	(五)其他 5.others		
主要护理工作 Main nursing care	正确执行医嘱 exacute prescription properly		
	观察患者病情变化 observe condiction change of patient		
住院日数 Hospital stay	第 5-7 天 Day 5-7	医嘱名称 Prescription	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and	通知患者及其家属明天出院 inform patient and his/her relatives about discharge in the next day		



treatment	向患者交待出院后注意事项，预约复诊日期 inform patient about notes after discharge and make an appointment for return visit			
	如果患者不能出院，在“病程记录”中说明原因和继续治疗的方案 for patient who can not be discharged yet, record the reasons and following treatment plan on the progress note			
重点医嘱 Main prescriptions	(一)一般项目 1.general items			
		神经内科护理常规 neurology nursing routine	长期 PRN	
		留置针护理常规（可选） remaining needle nursing routine(optional)		
		吸痰护理（可选） Sputum suction(optional)		
		二级护理 Grade II nursing care	长期 PRN	
		测血压 Blood pressure		
		低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN	
		置胃管（可选） insertion of gastric tube(optional)		
		鼻饲注食（可选） nasal feeding(optional)		
		明日出院 discharge tomorrow		
		(二)检查 2.tests		
		复查异常化验 retest abnormal laboratory test	临时 SOS	
		复查头 CT（可选） Reexamine skull CT（optional）	临时 SOS	
		(三)处置与手术 3.procedures and surgeries		
		康复科医生会诊（可选） consultation with Rehabilitation Physicians(optional)	临时 SOS	
	(四)药剂 4.drugs			
	脱水剂：（可选，可交替使用，用 1~3 种） diuretics: (optional,alternate use,use 1-3 drugs)			
	1.甘露醇（可选） 1.mannitol(optional)	长期 PRN		
	2.呋塞米（可选） 2.furosemide(optinal)	长期 PRN		
	3. 0.9%氯化钠注射液或 5%葡萄糖液 3.0.9% Sodium	长期 PRN		



	Chloride Injection or 5% Glucose liquid	
	七叶皂苷钠（可选）sodium aescinate(optional)	长期 PRN
	4.白蛋白（可选）4.albumin(optional)	长期 PRN
	5.甘油果糖氯化钠（可选） 5.Glycerol Fructose and Sodium Chloride Injection(optional)	长期 PRN
	质子泵抑制剂：（可选，2选1）proton pump inhibitor : (optional,alternative)	
	1.兰索拉唑（可选）1.Lansoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN
	2.泮托拉唑（可选）2.pantoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN
	支持治疗（可选，选1-2种）supportive treatment:(optional,choose 1 or 2 drugs below)	
	1.5%葡萄糖液 5% glucose solution	临时 SOS
	脂溶性维生素（II）（可选）Fat-soluble Vitamin Injection(II)(optional)	
	水溶性维生素（可选）water-soluble vitamins(optional)	
	2.复方氨基酸液（可选）compound amino acid solution(optional)	临时 SOS
	3.复方氯化钠注射液（可选）Compound Sodium Chloride Injection(optional)	临时 SOS
	4.10%氯化钾（可选）10% Potassium Chloride Injection(optional)	
	神经细胞营养剂：（可选，4选1）nerve nutrition agent（optional,choose 1 out 4）	
	1.小牛血清注射液（可选）1.deproteinised calf blood injection(optional)	



		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		2.神经节苷脂（可选）2.Ganglioside(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		3.奥拉西坦（可选）3.Oxiracetam(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		4.鼠神经生长因子（可选）4.Mouse Nerve Growth Factor(optional)	长期 PRN
		促醒剂：（可选，3选1）wake-promoting agents（optional,choose 1 out 3）	
		1.甲氯酚酯 1.meclofenoxate	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		2.醒脑静（可选）2.Xingnaojing(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		3.纳美芬（可选）3.nalmefene(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	(五)其他 5.others		
主要护理工作 Main nursing care	正确执行医嘱 exacute prescription properly 观察患者病情变化 observe condiction change of patient		
住院日数 Hospital stay	第 8-21 天，出院日 Day 8-21, discharge	医嘱名称 Prescription	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作	再次向患者及家属介绍病出院后注意事项，出院后		



Diagnosis and treatment	治疗及家庭保健 inform patient and his/her relatives about notes,treatment and home health care after discharge		
	患者办理出院手续，出院 go through discharge formalities and discharge		
重点医嘱 Main prescriptions	(一)一般项目 1.general items		
		神经内科护理常规 neurology nursing routine	长期 PRN
		留置针护理常规（可选） remaining needle nursing routine(optional)	
		吸痰护理（可选） Sputum suction(optional)	
		二级护理 Grade II nursing care	
		低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN
		测血压 Blood pressure	
		鼻饲注食（可选，与支持治疗二选一） nasal feeding(optional,choose between nasal feeding and supportive treatment)	
		置胃管（可选） insertion of gastric tube(optional)	
		今日出院 Discharge today	
	(二)检查 2.tests	复查异常化验 retest abnormal laboratory test	临时 SOS
		复查头 CT Reexamine skull CT	临时 SOS
	(三)处置与手术 3.procedures and surgeries		
	(四)药剂 4.drugs		
		脱水剂：（可选，可交替使用，用 1~3 种） diuretics: (optional,alternate use,use 1-3 drugs)	
		1.甘露醇（可选） 1.mannitol(optional)	长期 PRN
		2.呋塞米（可选） 2.furosemide(optinal)	长期 PRN
	3. 0.9%氯化钠注射液或 5%葡萄糖液 3.0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN	
	七叶皂苷钠（可选） sodium aescinate(optional)	长期 PRN	
	4.白蛋白（可选） 4.albumin(optional)	长期 PRN	



	5.甘油果糖氯化钠（可选） 5.Glycerol Fructose and Sodium Chloride Injection(optional)	长期 PRN
	质子泵抑制剂：（可选，2选1） proton pump inhibitor : (optional,alternative)	
	1.兰索拉唑（可选） 1.Lansoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN
	2.泮托拉唑（可选） 2.pantoprazole(optinal)	
	0.9%生理盐水 0.9% physiological saline	长期 PRN
	支持治疗（可选，选1-2种） supportive treatment:(optional,choose 1 or 2 drugs below)	
	1.5%葡萄糖液 5% glucose solution	临时 SOS
	脂溶性维生素（II）（可选） Fat-soluble Vitamin Injection(II)(optional)	
	水溶性维生素（可选） water-soluble vitamins(optional)	
	2.复方氨基酸液（可选） compound amino acid solution(optional)	临时 SOS
	3.复方氯化钠注射液（可选） Compound Sodium Chloride Injection(optional)	临时 SOS
	4.10%氯化钾（可选） 10% Potassium Chloride Injection(optional)	
	神经细胞营养剂：（可选，4选1） nerve nutrition agent (optional,choose 1 out 4)	
	1.小牛血清注射液（可选） 1.deproteinised calf blood injection(optional)	
	0.9%氯化钠注射液或5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
	2.神经节苷脂（可选） 2.Ganglioside(optional)	长期 PRN



		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		3.奥拉西坦（可选）3.Oxiracetam(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		4.鼠神经生长因子（可选）4.Mouse Nerve Growth Factor(optional)	长期 PRN
		促醒剂：（可选，3 选 1）wake-promoting agents（optional,choose 1 out 3）	
		1.甲氯酚酯 1.meclofenoxate	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		2.醒脑静（可选） 2.Xingnaojing(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		3.纳美芬（可选） 3.nalmefene(optional)	长期 PRN
		0.9%氯化钠注射液或 5%葡萄糖液 0.9% Sodium Chloride Injection or 5% Glucose liquid	长期 PRN
		(五)其他 5.others	
主要护理工作 Main nursing care	出院带药服用指导 instructions on take-away drugs		
	特殊护理指导 special nursing care guidance		
	告知复诊时间和地点 inform patient about the time and place of follow-up visit		
	交待常见的药物不良反应 inform patients about the common adverse drug reactions		
	嘱其定期门诊复诊 warn patient to have regular outpatient visit		



Cerebral infarction guideline underpinning inpatient clinical pathway

脑梗死临床路径

Care pathway of cerebral infarction

(County hospitals 2012)

Standard inpatient care pathway of cerebral infarction

(1) Indications

Primary diagnosis : cerebral infarction (ICD-10: I63).

(2) Diagnosis

Diagnosis should be made on the basis of the China guideline for Neurologic Diseases (Compiled by the Chinese Medical Association and published by the People's Medical Publishing House)

- i. Clinical manifestations: acute onset, focal neurologic signs or symptoms along with headache and/or dysfunction of consciousness;
- ii. No hemorrhage confirmed with brain scan.

(3) Treatment options and basis

- i. General treatment:
 - a) Bed rest, stabilize vital signs and clinical status, prevent and treat infection
 - b) Preserve the fluent respiratory tract, Nasal cannula oxygen
 - c) Patients who can not be fed orally should have nasal feeding to maintain the nutrition, aspiration pneumonia should be avoided.
 - d) Control blood pressure
 - e) Decreasing intracranial pressure: when patients manifest increased intracranial pressure, lowering the pressure is recommended, and 20% mannitol is the optional medicine. If patients have severe conditions, decompressive craniectomy is recommended.
 - f) Maintain the temperature at the normal level, physical and drug cooling is recommended if patients' temperature is above 38°C
 - g) Prevent and treat stress ulcer
 - h) Early rehabilitation care
- ii. Special treatments:
 - a) Thrombolytic therapy (within 3-6 hours after the onset)
 - b) Anticoagulation therapy
 - c) Antiplatelet therapy



- d) Defibrase therapy
- e) Neuroprotective therapy
- f) Traditional Chinese Medicine (TCM) treatment

(4) Standard length of stay: 8-14 days.

(5) Criteria for CP management

- i. Primary diagnosis must be cerebral infarction (ICD10: I63);
- ii. Patients with secondary diagnosis can be covered by the current CP if they do not need special treatment for their secondary diagnosis and if the secondary diagnosis does not have any impact on the implementation of cerebral infarction pathway.

(6) Tests

- i. Essential tests:
 - a) Blood and urinalysis
 - b) Liver and renal function, electrolytes, blood glucose, coagulation function
 - c) Brain and skull CT, chest X-ray, ECG
 - d) Optional tests according to patients' conditions: cardiac enzymes, lipids, dual carotid ultrasonography and double vertebral artery ultrasound, TCD, cranial MRI.

(7) Medications

- i. Diuretics: mannitol, furosemide .etc;
- ii. Anti-hypertensives: If patients' SBP is above 180mmHg or DBP is above 110mmHg, medicines such as captopril, enalapril, nitrendipine, and nifedipine are recommended;
- iii. Antibiotics referred to the Guidelines for Clinical Application of Antibacterial (Department of Medical Administration (2004) NO.285). Patients without infection do not need to use antibiotics, while patients confirmed to be infected should take antibiotics on the basis of bacterial drug sensitivity.
- iv. Thrombolytic therapy: urokinase
- v. Anticoagulation therapy: Low molecular weight heparin (LMWH), heparin
- vi. Antiplatelet therapy: aspirin and clopidogrel are recommended
- vii. Laxative
- viii. Prevent and treat stress ulcer: ranitidine, famotidine
- ix. Medicines for fluid and electrolyte imbalance
- x. TCM treatment

(8) Monitoring neurological function and vital signs (VS).

- i. Monitoring VS
- ii. Monitoring focal neurological signs

(9) Criteria for discharge



- i. Patient is in stable condition
- ii. There are no complications that require further inpatient care

(10) Special considerations

- i. Cerebral infarction patients in a critical condition should be transferred to ICU and managed by correspondent CP;
- ii. For abnormal diagnostic test results, reexamination is required and the cause of the abnormality needs to be analyzed, esp. those concerning prolonged length of stay and increased hospitalization costs.
- iii. Worsening condition, with complications that require for further diagnosis and treatment, which may lead to prolonged length of stay and increased hospitalization costs
- iv. Cerebral infarction may cause worsening conditions of previous comorbidities, which requires more care and may result in prolonged length of stay and increased hospitalization costs.

Cerebral infarction pathway (developed by Hanbin First Hospital, Qianjiang Central Hospital)

Details of prescriptions in full pathway;

Pathway with comorbidities in full pathway.

ICD-10 : I63 Code of disease : ICD-10 : I63

Shortest hospital stay:8 days Longest hospital stay:15 days Average Length of stay:10 days

住院日数 Hospital stay	第 1 天 (住院日) Day 1 (Admission)	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and treatment	病史采集及体格检查 (包括 NIHSS 评分) Inquisition of medical history and physical examination (including NIHSS scoring)		
	评估基本生命体征 Initial assessment of basic vital signs		
	入院评估 Admission assessment		
	完成首次病程记录及入院记录(重症需及时主治直至主任医师查房、神经外科或多科会诊, 必要时转科手术) complete the first medical history and admission records (severe cases need ward round by attending doctors or chief doctor timely, consultation with neurosurgeon or interdisciplinary consultation, transfer the patients if necessary)		
	医患沟通, 交待病情 Communicating with patients about their conditions		



重点医嘱 Main prescriptions	(一)一般项目 (1) General items			
		神经内科护理常规 Neurology routine nursing care	长期 PRN	
		一级护理 Grade I nursing care	长期 PRN	
		或二级护理 or Grade II nursing care	长期 PRN	
		低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN	
		吸氧 (可选) Oxygen Inhalation(optional)	长期 PRN	
		病重或病危 (可选) Disease severe or critical	长期 PRN	
		心电监护 (可选) ECG monitoring(optional)	长期 PRN	
		监测血压 (可选) Blood pressure monitoring(optional)	长期 PRN	
		血氧饱和度监测 (可选) Oxygen saturation monitoring(optional)	长期 PRN	
		留置导尿 (可选) Catheter(optional)	临时 SOS	
		保留导尿 (可选) Keeping catheter (optional)	临时 SOS	
		吸痰护理 (可选) Sputum suction(optional)	临时 SOS	
		鼻饲注食 (可选) nasal feeding(optional)	长期 PRN	
		置胃管 (可选) insert stomach tube(optional)	临时 SOS	
		(二)检查 (2) Tests	血常规 Blood test	临时 SOS
			尿常规 Urine test	临时 SOS
			大便常规 Stool test	临时 SOS
			生化全套 (肝功能, 肾功能, 电解质, 血糖, 血脂, 心肌酶谱, 同型半胱氨酸) Biochemical examination(Liver function, Renal function, Electrolytes, Blood glucose, Blood lipid, Myocardial enzymes, HCY)	临时 SOS
			凝血机制 Blood coagulation mechanism	临时 SOS
			血气分析(可选) Blood gas analysis(optional)	临时 SOS
			输血五项 (可选) (感染筛查: 梅毒、艾滋、丙肝、乙肝、谷丙转氨酶) Five infectious indicators for blood transfusion(optional) (Infection screening: Syphilis, AIDS, Hepatitis B or C, GPT)	临时 SOS



	头颅 CT Skull CT	临时 SOS
	胸片或肺 CT Chest X-ray or lung CT	临时 SOS
	床边心电图 Bedside ECD	临时 SOS
	头颅 MRI (可选) Skull MRI(optional)	临时 SOS
	头颅 MRA (可选) Skull MRA(optional)	临时 SOS
	头颅 CTA (可选) Skull CTA(optional)	临时 SOS
	经颅多普勒 (TCD) TCD	临时 SOS
	颈动脉彩超 Carotid ultrasonography(optional)	临时 SOS
	腹部彩超 (可选) Abdominal ultrasonography(optional)	临时 SOS
	心脏超声 (可选) cardiac ultrasonography(optional)	临时 SOS
(三)处置与手术 (3) Procedures and surgeries		
	康复科医生会诊 (可选) Joint consultation with rehabilitation physician	临时 SOS
(四)药剂 (4) Drugs		
	溶栓治疗: (有适应症时用, 可选) Thrombolytic therapy:(patients with indications,optional)	
	1.0.9%生理盐水 1.0.9% normal saline(NS)	临时 SOS
	尿激酶针 Urokinase needle	
	2.0.9%生理盐水 2.0.9% normal saline(NS)	临时 SOS
	rt-PA rt-PA	
	抗血小板药物: (二选一或同时用,必选) Antiplatelet agents: (use alternative or both,required)	
	1.阿司匹林肠溶片 1.Aspirin enteric-coated tablets	长期 PRN
	2.氯吡格雷片 2.Clopidogrel hydrogen sulfate tablets	长期 PRN
	抗动脉粥样硬化药物: (4选1-2, 必选) antiatherosclerotic drugs (use 1-2 out of 4,required)	
	1.阿托伐他汀片或胶囊 1.Atorvastatin tablets or capsules	长期 PRN
	2.瑞舒伐他汀 2.rosuvastatin	长期 PRN



	3.辛伐他汀 3.Simvastatin	长期 PRN
	4.降脂通络胶囊 4.Jiangzhi Tongluo Capsule	长期 PRN
	活血化癥药物：（三选一，必选） Drugs for Activating Blood and Resolving Stasis(use 1 out of 3,required)	
	1.脉络通胶囊 1.Tongmaile capsule	长期 PRN
	2.松龄血脉康胶囊 2.Songling Xuemaikang capsule	长期 PRN
	3.灯盏生脉胶囊 3.Dengzhan Capsules	长期 PRN
	抗凝药物：（三选一，可选） anticoagulant drugs(optional,use 1 out of 3)	
	1.低分子肝素钠 1.Heparinum Natricum Minor Molecularis	长期 PRN
	或低分子肝素钙 or Low Molecular Weight Heparin Calcium	
	2.肝素 2.Heparin	长期 PRN
	0.9%氯化钠 0.9% Sodium Chloride	长期 PRN
	3.华法林 3.warfarin	长期 PRN
	改善脑灌注药物：（以下三选一，可选） Drugs for improving cerebral perfusion (use 1 out of the following 3,optional)	
	1.红花黄色素 1.Safflower Yellow	
	5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
	2.灯盏细辛 2. Erigeron breviscapus	
	生理盐水 NS	长期 PRN
	3.疏血通 3.Shuxuetong	
	5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN



	抗自由基药物: Free redical scavenger	
	1.依达拉奉(可选) 1.Edaravone(optional)	
	0.9%生理盐水(可选) 0.9% NS(optional)	长期 PRN
	神经细胞营养剂(可选, 三选一) Nerve cells nutrient(optional,use 1 out of 3)	
	1.胞二磷胆碱 1.citicoline	长期 PRN
	5%葡萄糖液 5% Glucose liquid	长期 PRN
	2.小牛血清 2.calf serum	长期 PRN
	5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
	3.奥拉西坦 3.oxiracetam	
	5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
	支持治疗: (可选, 二选一)Supportive treatment(optional,use alternative)	
	1. 5%葡萄糖液 1.5% Glucose liquid	临时 SOS
	脂溶性维生素(II) (可选) fat-soluble vitamin (II) (optional)	
	水溶性维生素(可选) water soluble vitamin(optional)	
	2.复方氨基酸液(可选) 2.Compound amino acid solution(optional)	临时 SOS
	3.复方氯化钠注射液(可选) 3.Compound potassium chloride injection(optional)	临时 SOS
	4.10%氯化钾(可选) 4.10% potassium chloride(optional)	
降纤药物: (可选, 二选一)Defibrase drugs(optional,use alternative)		

		1.纤溶酶 1.plasmin	长期 PRN
		5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
		2.蕲蛇酶 2.Acutobin	长期 PRN
		5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
	(五)其他 (5) Others		
主要护理工作 Main nursing care	入院卫生教育 Health education on admission		
	入院护理评估 Nursing assessment on admission		
	患者检查指导 Instruct patients on tests		
	住院基础护理 Basic nursing care on admission		
	脑血管病的健康宣教, 戒烟宣教 Advise on smoking cessation and health education on cerebrovascular disease		
	饮食指导 Instruction on diets		
	观察患者病情变化 Observing conditions of patient		
	测血压、体温、脉搏 Measuring blood pressure,temperature and pulse		
住院日数 Hospital stay	第 2 天 Day 2	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and treatment	主治医师查房, 书写上级医师查房记录 Ward round by chief physician and keep record senior doctors		
	评价神经功能状态 Evaluation of nerval function		
	评估辅助检查结果 Assessment of auxiliary examination outcomes		
	必要时多科会诊 Joint consultation with physicians when necessary		



	开始康复治疗 Start rehabilitation treatment			
	需手术者转神经外科 Transfer to neurosurgery department when patients need surgeries			
	记录会诊意见 Keeping record of consultation			
重点医嘱 Main prescriptions	(一)一般项目 (1) General items			
		一级护理 Grade I nursing care	长期 PRN	
		或二级护理 or Grade II nursing care	长期 PRN	
		神经内科护理常规 (二级护理加收) Neurology routine nursing care(Grade II nursing care added)	长期 PRN	
		低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN	
		吸氧 (可选) Oxygen Inhalation(optional)	长期 PRN	
		心电监护 (可选) ECG mornitoring(optional)	长期 PRN	
		监测血压 (可选) Blood pressure monitoring(optional)	长期 PRN	
		血氧饱和度监测 (可选) Oxygen saturation mornitoring(optional)	长期 PRN	
		留置导尿 (可选) Catheter(optional)	临时 SOS	
		保留导尿 (可选) Keeping catheter (optional)	临时 SOS	
		吸痰护理 (可选) Sputum suction(optional)	临时 SOS	
		鼻饲注食 (可选) nasal feeding(optional)	长期 PRN	
		置胃管 (可选) insert stomach tube(optional)	临时 SOS	
		(二)检查 (2) Tests	复查异常化验 (可选) retest abnormal laboratory test(optional)	临时 SOS
			复查头颅 CT(可选) reexamine skull CT(optional)	临时 SOS
			复查头颅 MRI(可选) reexamine skull MRI(optional)	临时 SOS
			复查头颅 MRA(可选) reexamine skull MRA(optional)	临时 SOS
		(三)处置与手术 (3) Procedures and surgeries		
			康复科医生会诊 (可选) Joint consultation with rehabilitation physician	临时 SOS
	(四)药剂 (4) Drugs			
		抗血小板药物: (二选一或同时用,必选) Antiplatelet		



		agents: (use alternative or both,required)	
		1.阿司匹林肠溶片 1.Aspirin enteric-coated tablets	长期 PRN
		2.氯吡格雷片 2.Clopidogrel hydrogen sulfate tablets	长期 PRN
		抗动脉粥样硬化药物: (4选1-2, 必选) antiatherosclerotic drugs (use 1-2 out of 4,required)	
		1.阿托伐他汀片或胶囊 1.Atorvastatin tablets or capsules	长期 PRN
		2.瑞舒伐他汀 2.rosuvastatin	长期 PRN
		3.辛伐他汀 3.Simvastatin	长期 PRN
		4.降脂通络胶囊 4.Jiangzhi Tongluo Capsule	长期 PRN
		活血化瘀药物: (三选一, 必选) Drugs for Activating Blood and Resolving Stasis(use 1 out of 3,required)	
		1.脉络通胶囊 1.Tongmaile capsule	长期 PRN
		2.松龄血脉康胶囊 2.Songling Xuemaikang capsule	长期 PRN
		3.灯盏生脉胶囊 3.Dengzhan Capsules	长期 PRN
		抗凝药物: (三选一, 可选) anticoagulant drugs(optional,use 1 out of 3)	
		1.低分子肝素钠 1.Heparinum Natricum Minor Molecularis	长期 PRN
		或低分子肝素钙 or Low Molecular Weight Heparin Calcium	
		2.肝素 2.Heparin	长期 PRN
		0.9%氯化钠 0.9% Sodium Chloride	长期 PRN
		3.华法林 3.warfarin	长期 PRN
		改善脑灌注药物: (以下三选一, 可选) Drugs for improving cerebral perfusion (use 1 out of the following	



		3,optional)	
		1.红花黄色素 1.Safflower Yellow	
		5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
		2.灯盏细辛 2. Erigeron breviscapus	
		生理盐水 NS	长期 PRN
		3.疏血通 3.Shuxuetong	
		5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
		抗自由基药物: Free redical scavenger	
		1.依达拉奉 (可选) 1.Edaravone(optional)	
		0.9%生理盐水 (可选) 0.9% NS(optional)	长期 PRN
		神经细胞营养剂 (可选, 三选一) Nerve cells nutrient(optional,use 1 out of 3)	
		1.胞二磷胆碱 1.citicoline	长期 PRN
		5%葡萄糖液 5% Glucose liquid	长期 PRN
		2.小牛血清 2.calf serum	长期 PRN
		5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
		3.奥拉西坦 3.oxiracetam	
		5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
		支持治疗: (可选, 二选一)Supportive treatment(optional,use alternative)	
		1. 5%葡萄糖液 1.5% Glucose liquid	临时 SOS
		脂溶性维生素 (II) (可选) fat-soluble vitamin (II) (optional)	
		水溶性维生素 (可选) water soluble	



		vitamin(optional)	
		2.复方氨基酸液（可选）2.Compound amino acid solution(optional)	临时 SOS
		3.复方氯化钠注射液（可选）3.Compound potassium chloride injection(optional)	临时 SOS
		4.10%氯化钾（可选）4.10% potassium chloride(optional)	
		降纤药物: (可选, 二选一)Defibrase drugs(optional,use alternative)	
		1.纤溶酶 1.plasmin	长期 PRN
		5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
		2.蕲蛇酶 2.Acutobin	长期 PRN
		5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
	(五)其他 (5) Others		
主要护理工作 Main nursing care	护理评估 Nursing assessment		
	基础护理 Basic nursing care		
	脑血管病的健康宣教, 戒烟宣教 Advise on smoking cessation and health education on cerebrovascular disease		
	饮食指导 Instruction on diets		
	观察患者病情变化 Observing conditions of patient		
住院日数 Hospital stay	第 3 天 Day 3	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and	主任(副主任) 医师查房, 书写上级医师查房记录 Ward round by chief physician and keep record senior		



treatment	doctors			
	评价神经功能状态 Evaluation of nerval function			
	必要时会诊 Joint consultation when necessary			
	康复治疗 Rehabilitation treatment			
	需手术者转神经外科 Transfer to neurosurgery department when patients need surgeries			
重点医嘱 Main prescriptions	(一)一般项目 (1) General items			
		一级护理 Grade I nursing care	长期 PRN	
		或二级护理 or Grade II nursing care	长期 PRN	
		神经内科护理常规 Neurology routine nursing care	长期 PRN	
		低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN	
		吸氧 (可选) Oxygen Inhalation(optional)	长期 PRN	
		心电监护 (可选) ECG mornitoring(optional)	长期 PRN	
		监测血压 (可选) Blood pressure monitoring(optional)	长期 PRN	
		血氧饱和度监测 (可选) Oxygen saturation mornitoring(optional)	长期 PRN	
		留置导尿 (可选) Catheter(optional)	临时 SOS	
		保留导尿 (可选) Keeping catheter (optional)	临时 SOS	
		吸痰护理 (可选) Sputum suction(optional)	临时 SOS	
		鼻饲注食 (可选) nasal feeding(optional)	长期 PRN	
		(二)检查 (2) Tests	复查异常化验 (可选) retest abnormal laboratory test(optional)	临时 SOS
		(三)处置与手术 (3) Procedures and surgeries		
			康复科医生会诊 (可选) Joint consultation with rehabilitation physician	临时 SOS
		(四)药剂 (4) Drugs		
		抗血小板药物: (二选一或同时用,必选) Antiplatelet agents: (use alternative or both,required)		
		1.阿司匹林肠溶片 1.Aspirin enteric-coated tablets	长期 PRN	
		2.氯吡格雷片 2.Clopidogrel hydrogen sulfate tablets	长期 PRN	



		抗动脉粥样硬化药物：（4选1-2，必选） antiatherosclerotic drugs （use 1-2 out of 4,required ）	
		1.阿托伐他汀片或胶囊 1.Atorvastatin tablets or capsules	长期 PRN
		2.瑞舒伐他汀 2.rosuvastatin	长期 PRN
		3.辛伐他汀 3.Simvastatin	长期 PRN
		4.降脂通络胶囊 4.Jiangzhi Tongluo Capsule	长期 PRN
		活血化瘀药物：（三选一，必选） Drugs for Activating Blood and Resolving Stasis(use 1 out of 3,required)	
		1.脉络通胶囊 1.Tongmaile capsule	长期 PRN
		2.松龄血脉康胶囊 2.Songling Xuemaikang capsule	长期 PRN
		3.灯盏生脉胶囊 3.Dengzhan Capsules	长期 PRN
		抗凝药物：（三选一，可选） anticoagulant drugs(optional,use 1 out of 3)	
		1.低分子肝素钠 1.Heparinum Natricum Minor Molecularis	长期 PRN
		或低分子肝素钙 or Low Molecular Weight Heparin Calcium	
		2.肝素 2.Heparin	长期 PRN
		0.9%氯化钠 0.9% Sodium Chloride	长期 PRN
		3.华法林 3.warfarin	长期 PRN
		改善脑灌注药物：（以下三选一，可选） Drugs for improving cerebral perfusion (use 1 out of the following 3,optional)	
		1.红花黄色素 1.Safflower Yellow	
		5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN



	2.灯盏细辛 2. Erigeron breviscapus	
	生理盐水 NS	长期 PRN
	3.疏血通 3.Shuxuetong	
	5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
	抗自由基药物: Free redical scavenger	
	1.依达拉奉 (可选) 1.Edaravone(optional)	
	0.9%生理盐水 (可选) 0.9% NS(optional)	长期 PRN
	神经细胞营养剂 (可选, 三选一) Nerve cells nutrient(optional,use 1 out of 3)	
	1.胞二磷胆碱 1.citicoline	长期 PRN
	5%葡萄糖液 5% Glucose liquid	长期 PRN
	2.小牛血清 2.calf serum	长期 PRN
	5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
	3.奥拉西坦 3.oxiracetam	
	5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
	支持治疗: (可选, 二选一)Supportive treatment(optional,use alternative)	
	1. 5%葡萄糖液 1.5% Glucose liquid	临时 SOS
	脂溶性维生素 (II) (可选) fat-soluble vitamin (II) (optional)	
	水溶性维生素 (可选) water soluble vitamin(optional)	
	2.复方氨基酸液 (可选) 2.Compound amino acid solution(optional)	临时 SOS
	3.复方氯化钠注射液 (可选) 3.Compound potassium	临时 SOS



		chloride injection(optional)	
		4.10%氯化钾 (可选) 4.10% potassium chloride(optional)	
		降纤药物: (可选, 二选一)Defibrase drugs(optional,use alternative)	
		1.纤溶酶 1.plasmin	长期 PRN
		5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
		2.蕲蛇酶 2.Acutobin	长期 PRN
		5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
	(五)其他 (5) Others		
主要护理工作 Main nursing care	护理评估 Nursing assessment		
	基础护理 Basic nursing care		
	脑血管病的健康宣教, 戒烟宣教 Advise on smoking cessation and health education on cerebrovascular disease		
	饮食指导 Instruction on diets		
	观察患者病情变化 Observing conditions of patient		
住院日数 Hospital stay	第 4-6 天 Day 4-6	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and treatment	各级医生查房 Ward round by physicians		
	评估辅助检查结果 Assessment of auxiliary examination outcomes		
	评价神经功能状态 Evaluation of nerval function		
	继续防治并发症 Keeping preventing and treating complications		

	必要时相关科室会诊 Joint consultation with related physicians when necessary		
	康复治疗 Rehabilitation treatment		
重点医嘱 Main prescriptions	(一)一般项目 (1) General items		
		神经内科护理常规 Neurology routine nursing care	长期 PRN
		二级护理 Grade II nursing care	长期 PRN
		低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN
		吸氧 (可选) Oxygen Inhalation(optional)	长期 PRN
		心电监护 (可选) ECG monitoring(optional)	长期 PRN
		监测血压 (可选) Blood pressure monitoring(optional)	长期 PRN
		血氧饱和度监测 (可选) Oxygen saturation monitoring(optional)	长期 PRN
		留置导尿 (可选) Catheter(optional)	临时 SOS
		保留导尿 (可选) Keeping catheter (optional)	临时 SOS
		吸痰护理 (可选) Sputum suction(optional)	临时 SOS
		鼻饲注食 (可选) nasal feeding(optional)	长期 PRN
		(二)检查 (2) Tests	
		复查头颅 CT(可选) reexamine skull CT(optional)	临时 SOS
		复查头颅 MRI(可选) reexamine skull MRI(optional)	临时 SOS
		复查头颅 MRA(可选) reexamine skull MRA(optional)	临时 SOS
		(三)处置与手术 (3) Procedures and surgeries	
		(四)药剂 (4) Drugs	
		抗血小板药物: (二选一或同时用,必选) Antiplatelet agents: (use alternative or both,required)	
	1.阿司匹林肠溶片 1.Aspirin enteric-coated tablets	长期 PRN	
	2.氯吡格雷片 2.Clopidogrel hydrogen sulfata tablets	长期 PRN	
	抗动脉粥样硬化药物: (4选1-2, 必选) antiatherosclerotic drugs (use 1-2 out of 4,required)		
	1.阿托伐他汀片或胶囊 1.Atorvastatin tablets or capsules	长期 PRN	



	2.瑞舒伐他汀 2.rosuvastatin	长期 PRN
	3.辛伐他汀 3.Simvastatin	长期 PRN
	4.降脂通络胶囊 4.Jiangzhi Tongluo Capsule	长期 PRN
	活血化瘀药物：（三选一，必选） Drugs for Activating Blood and Resolving Stasis(use 1 out of 3,required)	
	1.脉络通胶囊 1.Tongmaile capsule	长期 PRN
	2.松龄血脉康胶囊 2.Songling Xuemaikang capsule	长期 PRN
	3.灯盏生脉胶囊 3.Dengzhan Capsules	长期 PRN
	抗凝药物：（三选一，可选） anticoagulant drugs(optional,use 1 out of 3)	
	1.低分子肝素钠 1.Heparinum Natricum Minor Molecularis	长期 PRN
	或低分子肝素钙 or Low Molecular Weight Heparin Calcium	
	2.肝素 2.Heparin	长期 PRN
	0.9%氯化钠 0.9% Sodium Chloride	长期 PRN
	3.华法林 3.warfarin	长期 PRN
	改善脑灌注药物：（以下三选一，可选） Drugs for improving cerebral perfusion (use 1 out of the following 3,optional)	
	1.红花黄色素 1.Safflower Yellow	
	5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
	2.灯盏细辛 2. Erigeron breviscapus	
	生理盐水 NS	长期 PRN
	3.疏血通 3.Shuxuetong	
	5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9%	长期 PRN



	NS	
	抗自由基药物: Free redical scavenger	
	1.依达拉奉 (可选) 1.Edaravone(optional)	
	0.9%生理盐水 (可选) 0.9% NS(optional)	长期 PRN
	神经细胞营养剂 (可选, 三选一) Nerve cells nutrient(optional,use 1 out of 3)	
	1.胞二磷胆碱 1.citicoline	长期 PRN
	5%葡萄糖液 5% Glucose liquid	长期 PRN
	2.小牛血清 2.calf serum	长期 PRN
	5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
	3.奥拉西坦 3.oxiracetam	
	5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
	支持治疗: (可选, 二选一)Supportive treatment(optional,use alternative)	
	1. 5%葡萄糖液 1.5% Glucose liquid	临时 SOS
	脂溶性维生素 (II) (可选) fat-soluble vitamin (II) (optional)	
	水溶性维生素 (可选) water soluble vitamin(optional)	
	2.复方氨基酸液 (可选) 2.Compound amino acid solution(optional)	临时 SOS
	3.复方氯化钠注射液 (可选) 3.Compound potassium chloride injection(optional)	临时 SOS
	4.10%氯化钾 (可选) 4.10% potassium chloride(optional)	
	降纤药物: (可选, 二选一)Defibrase drugs(optional,use	



		alternative)	
		1.纤溶酶 1.plasmin	长期 PRN
		5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
		2.蕲蛇酶 2.Acutobin	长期 PRN
		5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
	(五)其他 (5) Others		
主要护理工作 Main nursing care	正确执行医嘱 Correctly perform prescriptions		
	观察患者病情变化 Observing conditions of patient		
住院日数 Hospital stay	第 7~14 天 (出院前 1 天) Day 7-14 (Before Discharge)	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Diagnosis and treatment	通知患者及其家属明日出院 Inform patients and his/her families of discharging tomorrow		
	向患者交待出院后注意事项, 预约复诊日期 Educate patients on do's and don'ts upon discharge and make appointment for date of reexamination		
	如果患者不能出院, 在“病程记录”中说明原因和继续治疗的方案 Record follow-on treatment and reasons if patients can not be discharged		
重点医嘱 Main prescriptions	(一)一般项目 (1) General items		
		神经内科护理常规 Neurology routine nursing care	长期 PRN
		二级护理 Grade II nursing care	长期 PRN
		低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN
		鼻饲注食 (可选) nasal feeding(optional)	长期 PRN
	置胃管 (可选) insert stomach tube(optional)	临时 SOS	



	(二)检查 (2) Tests	复查异常化验 (可选) retest abnormal laboratory test(optional)	临时 SOS
		复查头颅 CT(可选) reexamine skull CT(optional)	临时 SOS
		复查头颅 MRI(可选) reexamine skull MRI(optional)	临时 SOS
	(三)处置与手术 (3) Procedures and surgeries		
	(四)药剂 (4) Drugs		
		抗血小板药物: (二选一或同时用,必选) Antiplatelet agents: (use alternative or both,required)	
		1.阿司匹林肠溶片 1.Aspirin enteric-coated tablets	长期 PRN
		2.氯吡格雷片 2.Clopidogrel hydrogen sulfate tablets	长期 PRN
		抗动脉粥样硬化药物: (4选1-2, 必选) antiatherosclerotic drugs (use 1-2 out of 4,required)	
		1.阿托伐他汀片或胶囊 1.Atorvastatin tablets or capsules	长期 PRN
		2.瑞舒伐他汀 2.rosuvastatin	长期 PRN
		3.辛伐他汀 3.Simvastatin	长期 PRN
		4.降脂通络胶囊 4.Jiangzhi Tongluo Capsule	长期 PRN
		活血化瘀药物: (三选一, 必选) Drugs for Activating Blood and Resolving Stasis(use 1 out of 3,required)	
		1.脉络通胶囊 1.Tongmaile capsule	长期 PRN
		2.松龄血脉康胶囊 2.Songling Xuemaikang capsule	长期 PRN
		3.灯盏生脉胶囊 3.Dengzhan Capsules	长期 PRN
	抗凝药物: (三选一, 可选) anticoagulant drugs(optional,use 1 out of 3)		
	1.低分子肝素钠 1.Heparinum Natricum Minor Molecularis	长期 PRN	
	或低分子肝素钙 or Low Molecular Weight Heparin		



	Calcium	
	2.肝素 2.Heparin	长期 PRN
	0.9%氯化钠 0.9% Sodium Chloride	长期 PRN
	3.华法林 3.warfarin	长期 PRN
	改善脑灌注药物：（以下三选一，可选） Drugs for improving cerebral perfusion (use 1 out of the following 3,optional)	
	1.红花黄色素 1.Safflower Yellow	
	5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
	2.灯盏细辛 2. Erigeron breviscapus	
	生理盐水 NS	长期 PRN
	3.疏血通 3.Shuxuetong	
	5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
	抗自由基药物： Free redical scavenger	
	1.依达拉奉（可选） 1.Edaravone(optional)	
	0.9%生理盐水（可选） 0.9% NS(optional)	长期 PRN
	神经细胞营养剂（可选，三选一） Nerve cells nutrient(optional,use 1 out of 3)	
	1.胞二磷胆碱 1.citicoline	长期 PRN
	5%葡萄糖液 5% Glucose liquid	长期 PRN
	2.小牛血清 2.calf serum	长期 PRN
	5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
	3.奥拉西坦 3.oxiracetam	
	5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN



		支持治疗: (可选, 二选一) Supportive treatment (optional, use alternative)	
		1. 5%葡萄糖液 1.5% Glucose liquid	临时 SOS
		脂溶性维生素 (II) (可选) fat-soluble vitamin (II) (optional)	
		水溶性维生素 (可选) water soluble vitamin (optional)	
		2. 复方氨基酸液 (可选) 2. Compound amino acid solution (optional)	临时 SOS
		3. 复方氯化钠注射液 (可选) 3. Compound potassium chloride injection (optional)	临时 SOS
		4. 10%氯化钾 (可选) 4. 10% potassium chloride (optional)	
		降纤药物: (可选, 二选一) Defibrase drugs (optional, use alternative)	
		1. 纤溶酶 1. plasmin	长期 PRN
		5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
		2. 蕲蛇酶 2. Acutobin	长期 PRN
		5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
		(五)其他 (5) Others	
主要护理工作 Main nursing care	正确执行医嘱 Correctly perform prescriptions 观察患者病情变化 Observing conditions of patient		
住院日数 Hospital stay	第 8-15 天 (出院日) Day 8-15 (Discharge)	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)



主要诊疗工作 Diagnosis and treatment	再次向患者及家属介绍病出院后注意事项，出院后治疗及家庭保健 Educate patients on do's and don'ts, treatments and family health care after discharge		
	患者办理出院手续，出院 Patients check out, discharge		
重点医嘱 Main prescriptions	(一)一般项目 (1) General items		
		神经内科护理常规 Neurology routine nursing care	长期 PRN
		二级护理 Grade II nursing care	长期 PRN
		低盐低脂饮食或流质饮食或暂禁食 Low-fat and low-salt diet or dietliquid diet or temporarily fasting	长期 PRN
		今日出院 discharge today	临时 SOS
	(二)检查 (2) Tests	复查异常化验 (可选) retest abnormal laboratory test(optional)	临时 SOS
		复查头颅 CT(可选) reexamine skull CT(optional)	临时 SOS
		复查头颅 MRI(可选) reexamine skull MRI(optional)	临时 SOS
	(三)处置与手术 (3) Procedures and surgeries		
	(四)药剂 (4) Drugs		
		抗血小板药物: (二选一或同时用,必选) Antiplatelet agents: (use alternative or both,required)	
		1.阿司匹林肠溶片 1.Aspirin enteric-coated tablets	长期 PRN
		2.氯吡格雷片 2.Clopidogrel hydrogen sulfate tablets	长期 PRN
		抗动脉粥样硬化药物: (4选1-2, 必选) antiatherosclerotic drugs (use 1-2 out of 4,required)	
		1.阿托伐他汀片或胶囊 1.Atorvastatin tablets or capsules	长期 PRN
		2.瑞舒伐他汀 2.rosuvastatin	长期 PRN
	3.辛伐他汀 3.Simvastatin	长期 PRN	
	4.降脂通络胶囊 4.Jiangzhi Tongluo Capsule	长期 PRN	
	活血化瘀药物: (三选一, 必选) Drugs for		



		Activating Blood and Resolving Stasis(use 1 out of 3,required)	
		1.脉络通胶囊 1.Tongmaile capsule	长期 PRN
		2.松龄血脉康胶囊 2.Songling Xuemaikang capsule	长期 PRN
		3.灯盏生脉胶囊 3.Dengzhan Capsules	长期 PRN
		抗凝药物：（三选一，可选） anticoagulant drugs(optional,use 1 out of 3)	
		1.低分子肝素钠 1.Heparinum Natricum Minor Molecularis	长期 PRN
		或低分子肝素钙 or Low Molecular Weight Heparin Calcium	
		2.肝素 2.Heparin	长期 PRN
		0.9%氯化钠 0.9% Sodium Chloride	长期 PRN
		3.华法林 3.warfarin	长期 PRN
		改善脑灌注药物：（以下三选一，可选） Drugs for improving cerebral perfusion (use 1 out of the following 3,optional)	
		1.红花黄色素 1.Safflower Yellow	
		5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
		2.灯盏细辛 2. Erigeron breviscapus	
		生理盐水 NS	长期 PRN
		3.疏血通 3.Shuxuetong	
		5%葡萄糖液或生理盐水 5% Glucose liquid or 0.9% NS	长期 PRN
	抗自由基药物： Free redical scavenger		
	1.依达拉奉（可选） 1.Edaravone(optional)		
	0.9%生理盐水（可选） 0.9% NS(optional)	长期 PRN	



		神经细胞营养剂（可选，三选一） Nerve cells nutrient(optional,use 1 out of 3)	
		1.胞二磷胆碱 1.citicoline	长期 PRN
		5%葡萄糖液 5% Glucose liquid	长期 PRN
		2.小牛血清 2.calf serum	长期 PRN
		5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
		3.奥拉西坦 3.oxiracetam	
		5%葡萄糖注射液或生理盐水 5% Glucose injection or 0.9% NS	长期 PRN
		支持治疗：(可选，二选一)Supportive treatment(optional,use alternative)	
		1. 5%葡萄糖液 1.5% Glucose liquid	临时 SOS
		脂溶性维生素（II）（可选） fat-soluble vitamin（II）(optional)	
		水溶性维生素（可选） water soluble vitamin(optional)	
		2.复方氨基酸液（可选） 2.Compound amino acid solution(optional)	临时 SOS
		3.复方氯化钠注射液（可选） 3.Compound potassium chloride injection(optional)	临时 SOS
		4.10%氯化钾（可选） 4.10% potassium chloride(optional)	
	(五)其他 (5) Others		
主要护理工作 Main nursing care	出院带药服用指导 Instruction on take-away drugs		
	特殊护理指导 Instruction on special nursing care		
	告知复诊时间和地点 Tell patients time and place of reexamination		
	交待常见的药物不良反应 Inform patients about		



	common adverse drug reaction		
	嘱其定期门诊复诊 Inform patients about regular follow-up visit		



TIA guideline underpinning inpatient clinical pathway

短暂性脑缺血发作临床路径

S Care pathway for transient ischemic attack (TIA)

(County hospitals 2012)

Standard inpatient care pathway for TIA

(1) Indications

Primary diagnosis is transient ischemic attack: vertebral basilar artery syndrome (ICD-10 : G45.0) , Carotid artery syndrome (cerebral hemisphere) (ICD-10 : G45.1)

(2) Diagnosis

Diagnosis should be made on the basis of *the Clinical Guideline for Neurology* compiled by the Chinese Medical Association and published by the People's Medical Publishing House in December, 2006. And the diagnosis should also be based on *the Clinical Guideline for the Secondary Prevention of Ischemic Stroke and Transient Ischemic Attack* compiled by the Cerebrovascular Disease Group, Neurology Committee, Chinese Medical Association in 2010.

- i. Sudden attack with appearance of focal neurological symptoms and signs
- ii. Usually having more than 10 minutes' duration of neurological symptoms and signs, recovery within an hour, but maybe with repeated attacks
- iii. Epilepsy is excluded
- iv. No acute cerebral infarction found by neurological imaging test

(3) Treatment options

The treatment should be made on the basis of *the Clinical Guideline for Neurology* compiled by the Chinese Medical Association and published by the People's Medical Publishing House. And the treatment should also be based on *the Clinical Guideline for the Secondary Prevention of Ischemic Stroke and Transient Ischemic Attack* compiled by the Cerebrovascular Disease Group, Neurology Committee, Chinese Medical Association in 2010.

- i. Conduct overall pathological examination and design care plan
- ii. Provide care for platelet aggregation
- iii. Provide anti-coagulation therapy for those with repeated attacks

Appendix D: Representation of pathway for stroke (excluding comorbidities)



- iv. Take care of causes of diseases, risk factors and complications
- v. Provide percutaneous transluminal angioplasty (PTA) (stent angioplasty or balloon dilatation) for patients with angiostenosis and meet the standard for the intervention.

(4) Standard length of stay: 9-14 days.

(5) Criteria for CP management

- i. Primary diagnosis must be transient ischemic attack: vertebral basilar artery syndrome (ICD-10 : G45.0) , Carotid artery syndrome (cerebral hemisphere) (ICD-10 : G45.1).
- ii. Those patients with secondary diagnosis can be covered by the current CP if they do not need special treatment for their secondary diagnosis and if the secondary diagnosis does not have any impact on the implementation of TIA pathway.

(6) Tests

- i. Essential tests:
 - a) Blood, urine and stool
 - b) Liver function, renal function, electrolytes, blood sugar, blood lipid level, and blood coagulation function
 - c) ECG, skull and brain MRI/CT, CVUS
- ii. Optional tests according to patients' conditions: homocysteine (HCY), TCD , CTA, MRA or DSA, UCG, chest image.

(7) Medications

- i. Anti-coagulation drugs: only after contraindications excluded 1) heparin plus warfarin, 2) oral warfarin, 3) low molecular heparin
Unfractionated heparin (UFH): normal saline (NS) 48ml + heparin 2ml, 4ml/hour, pumped in 72 hours, test the blood coagulation function every 6 hours.

Low molecular weight heparin (LMWH): 5000u, by peri-umbilical subcutaneous injection every 12 hours.

Warfarin: the dose should be 6mg for the first dose, and 3mg for the second day, patients should have blood collected on the third admission day. The dose should be adjusted on the basis of PT and AT. The patients' PT and AT should be maintained from 15% to 25% (or 20%-30%, for outpatients it should be 25%-35%), or INR should be from 2 to 3. For inpatients admitted, the blood coagulation function should be conducted every day, and adjusted to one week



when patients have stable conditions. Patients with stable conditions for several weeks can reexamine the blood coagulation function every month and the dose of warfarin should be maintained from 1mg to 3mg.

- a) Anti-coagulation therapy can be conducted for patients with repeated attacks of TIA
 - b) For patients with non cardiogenic TIA and having symptoms such as aortic atheroscleroma, basilar artery fusiform aneurysms, carotid artery dissection, patent foramen ovale (PFO) with deep venous thrombosis (DVT) or atrial septal aneurysm, anti-coagulation therapy can be considered.
 - c) For patients with atrial fibrillation (including paroxysmal atrial fibrillation), oral warfarin is recommended as anti-coagulation therapy. Warfarin should be titrated to an INR of 2.0 to 3.0.
 - d) For patients having acute myocardial infarction with left ventricular artery thrombus in addition to TIA, using warfarin as anti-coagulation therapy for at least 3 months and up to one year, the dose should be titrated to an INR 2.0 to 3.0.
- ii. Anti-platelet aggregation drugs: aspirin 50mg-325mg, clopidogrel 75mg.
- a) For patients with non cardiogenic embolic TIA, anti-platelet aggregation drugs are recommended to prevent recurrence of TIA. Some patients also require anti-coagulation therapy.
 - b) The primary option for anti-platelet aggregation drugs should be monotherapy such as clopidogrel and aspirin.
 - c) Dual anti-platelet drugs are not recommended, with the exception of patients with acute coronary artery disease (e.g. unstable angina, myocardial infarction without Q wave) or in the case of recent stent angioplasty, combined medication such as clopidogrel and aspirin is recommended.
- iii. Blood lipid lowering drugs such as statins are recommended if necessary: simvastatin 20mg/day, fluvastatin 40mg/day.
- a) If TIA patients have arteriosclerosis, LDL-C \geq 100mg/dl (2.6mol/L), and without coronary heart disease history, intensive lipid-lowering with statins are recommended to prevent the stroke, the target level is <70mg/dl (1.8mol/L) and decreased by 50%.
 - b) Before or during statin therapy, clinical symptoms such as myalgia and changes in liver enzymes (GPT and AST) and creatinine kinase (CK) should be regularly monitored. If the indicators are constantly abnormal and other influencing factors are excluded, the dose should be decreased or the therapy should be ceased. Elderly people with major organ dysfunction or taking multiple medications should be monitored for adverse reactions and new medications added with caution.
 - c) For patients with a history of cerebral hemorrhage or those at high risk of cerebral hemorrhage, the risks and benefits should be balanced, and statins should be carefully used.
- iv. Brain cell metabolism agent: Citicoline 0.5-1.0g/day, aceglutamide 0.9g/day.
- v. Traditional Chinese Medicine (TCM): Salvia TMP, Dangong.



(8) Criteria for discharge

- i. Patient is in stable condition
- ii. There are no complications that require further inpatient care

(9) Special considerations

- i. For abnormal diagnostic test results, reexamination is required and the cause of the abnormality needs to be analyzed, esp. those concerning prolonged length of stay and increased hospitalization costs.
- ii. Worsening condition, with complications that require for further diagnosis and treatment, which may lead to prolonged length of stay and increased hospitalization costs.
- iii. TIA may cause worsening conditions of previous comorbidities, which requires more care and may result in prolonged length of stay and increased hospitalization costs.
- iv. Patients with cerebral infarction during their hospital stay need to quit the current TIA pathway and be managed by the CP for cerebral infarction.

TIA pathway (developed by Huangdao People's Hospital)

Details of prescriptions in full pathway;

Pathway with comorbidities in full pathway.

Minimum Length of Stay:5 days, Maximum Length of Stay: 10 days, actual Length of Stay _____ days

住院日数 hospital stay	第 1 天 (住院日) Day 1(admission)	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Main diagnosis and treatment	询问病史，体格检查 Inquisition of medical history and physical examination		
	查看既往辅助检查：头颅 CT/MRI Check previous auxiliary examination: skull CT/MRI		
	医患沟通 Communicate with patients Communicate with patients		
	开化验单及相关检查单 Write out lab slip and related checklist		
	ABCD 评价 ABCD assessment		
	完成病历记录书写 Complete medical record		
重点医嘱 main prescriptions	(一)一般项目 1. General items1	内科护理常规 Nursing routine of neurology department	长期 PRN
		一级护理 Grade I nursing care	长期 PRN
		或二级护理 or grade II nursing care	
		低盐低脂饮食 Low-fat and low-salt diet	长期 PRN
		测血压 Measuring blood pressure	长期 PRN
		留陪人 accompany the patient	长期 PRN
	(二) 检查 2.tests	血常规 blood routine	临时 SOS



	尿常规 urine routines	临时 SOS
	大便常规 stool routines	临时 SOS
	生化全套（肝功能，肾功能，电解质，血糖，血脂，心肌酶谱）Biochemical examination(Liverfunction,renalfunction, electrolyte, blood glucose, blood lipid,myocardial enzymes)	临时 SOS
	凝血机制（可选）coagulation(optional)	临时 SOS
	输血五项（感染筛查）（可选）5 infectious indicators for blood transfusion(infection screening)(optional)	临时 SOS
	风湿组合（可选）Measuring rheumatism indicators(optional)	临时 SOS
	抗核抗体测定（可选）Measuring antinuclear antibodies(ANA)(optional)	临时 SOS
	抗核提取物抗体测定（可选）Measuring anti-ENA(optional)	临时 SOS
	胸部正侧位片 front and lateral chest radiographs	临时 SOS
	十二导心电图 12 leads ECG	临时 SOS
	颅脑 CT Skull CT	临时 SOS
	颅脑 MRI(可选)skull MRI(optional)	临时 SOS
	颅脑 MRA(可选)skull MRA(optional)	临时 SOS
	颈部血管超声 Carotid ultrasound	临时 SOS
	头颈段 CTA（可选）head-and-neck CTA(optional)	临时 SOS
	(三) 药剂 3.drugs	
	以下可选，三选一 optional,choose 1 out of 3 drugs below	
	1.血塞通 Xuesaitong (Sanqi Panax Notoginseng)	长期 PRN
	生理盐水 Sodium Chloride Injection	



	2.红花 Carthamus tinctorius	长期 PRN
	生理盐水 Sodium Chloride Injection 或 5%葡萄糖 or 5% glucose injection	
	3.银杏达莫针 Ginkgo Leaf Extract and Dipyridamole Injection	长期 PRN
	生理盐水 Sodium Chloride Injection	
	以下可选，二选一 optional,choose 1 out of 2 drugs below	
	1.马来酸桂哌齐特 Cinepazide Maleate Injection	长期 PRN
	生理盐水 Sodium Chloride Injection	
	2.长春西汀注射液 vinpocetine injection	长期 PRN
	生理盐水 Sodium Chloride Injection	
	或 5%葡萄糖 or 5% glucose injection	
	阿司匹林肠溶片 Aspirin Enteric-coated Tablets	长期 PRN
	氯吡格雷（可选）clopidogrel（optional）	长期 PRN
	以下可选，三选一 optional,choose 1 out of 3 drugs below	
	1.低分子肝素钠 Low-molecular-weight heparin sodium	长期 PRN
	或低分子肝素钙 or Low-molecular-weight heparin calium	
	2.肝素 heparin	长期 PRN
	0.9%氯化钠 Sodium Chloride Injection	长期 PRN
	3.华法林 warfarin	长期 PRN
	以下必选，三选一 compulsory, choose 1 out of 3 drugs below	
1.可定瑞舒伐他汀 Crestor Rosuvastatin tablet	长期 PRN	

		2.托妥瑞舒伐他汀 tuotuo Rosuvastatin tablet	长期 PRN
		3.阿托伐他汀 Atorvastatin	长期 PRN
		羟乙基淀粉（可选）hydroxyethyl starch（optional）	长期 PRN
		尼莫地平（可选）Nimodipine（optional）	长期 PRN
		氟桂利嗪（可选）Flunarizine（optional）	长期 PRN
		倍他司汀（可选）Betahistine（optional）	长期 PRN
		胃复安（可选）Metoclopramide（optional）	临时 SOS
		异丙嗪注射液（可选）Promethazine injection（optional）	临时 SOS
主要护理工作 Main nursing care	入院宣教、护理评估 Health education upon admission, nursing case assessment		
	正确执行医嘱 Correctly perform prescriptions		
	观察患者病情变化 Observe conditions of patient		
住院日数 hospital stay	第 2 天 Day 2	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Main diagnosis and treatment	上级医师查房，完成查房记录 Ward round by senior doctors and complete record		
	完善相关检查，评估辅助检查结果，分析病因 Help patients with auxiliary examination, assess auxiliary examination outcomes, analyse cause of disease		
	医患沟通 Communicate with patients		
	根据病情调整治疗方案 Adjust treatment according to conditions		
	必要时请相关科室会诊 Joint consultation with related physicians if necessary		



重点医嘱 main prescriptions	(一)一般项目 1. General items	内科护理常规 Nursing routine of neurology department	长期 PRN
		一级护理 Grade I nursing care	长期 PRN
		或二级护理 or grade II nursing care	
		低盐低脂饮食 Low-fat and low-salt diet	长期 PRN
		测血压 Measuring blood pressure	长期 PRN
		留陪人 accompany the patient	长期 PRN
	(二) 检查 2.tests		
	必要时复查异常的检查 Reexaminations of abnormal indicators if necessary	PT/INR (使用华法林) (可选) PT/INR (use warfarin) (optional)	临时 SOS
		APTT(使用肝素) (可选) APTT (use heparin) (optional)	临时 SOS
		血常规(可选)blood routine(optional)	临时 SOS
	(三)处置与手术 3.procedures and surgeries	院内会诊 Joint consultation within hospital	临时 SOS
	(四)药剂 4.drugs		
		以下可选, 三选一 optional,choose 1 out of 3 drugs below	
		1.血塞通 Xuesaitong (Sanqi Panax Notoginseng)	长期 PRN
		生理盐水 Sodium Chloride Injection	
		或 5%葡萄糖 or 5% glucose injection	
		2.红花 Carthamus tinctorius	长期 PRN
		生理盐水 Sodium Chloride Injection	
	或 5%葡萄糖 or 5% glucose injection		
	3.银杏达莫针 Ginkgo Leaf Extract and Dipyridamole Injection	长期 PRN	
	生理盐水 Sodium Chloride Injection		
	以下可选, 二选一 optional,choose 1 out of 2 drugs below		



	1.马来酸桂哌齐特 Cinepazide Maleate Injection	长期 PRN
	生理盐水 Sodium Chloride Injection	
	2.长春西汀注射液 vinpocetine injection	长期 PRN
	生理盐水 Sodium Chloride Injection	
	或 5%葡萄糖 or 5% glucose injection	
	阿司匹林肠溶片 Aspirin Enteric-coated Tablets	长期 PRN
	氯吡格雷（可选）clopidogrel（optional）	长期 PRN
	以下可选，三选一 optional,choose 1 out of 3 drugs below	
	1.低分子肝素钠 Low-molecular-weight heparin sodium	长期 PRN
	或低分子或低分子肝素钙 Low-molecular-weight heparin calium	
	2.肝素 heparin	长期 PRN
	0.9%氯化钠 Sodium Chloride Injection	长期 PRN
	3.华法林 warfarin	长期 PRN
	以下必选，三选一 compulsory, choose 1 out of 3 drugs below	
	1.可定瑞舒伐他汀 Crestor Rosuvastatin tablet	长期 PRN
	2.托妥瑞舒伐他汀 tuotuo Rosuvastatin tablet	长期 PRN
	3.阿托伐他汀 Atorvastatin	长期 PRN
羟乙基淀粉（可选）hydroxyethyl starch（optional）	长期 PRN	
尼莫地平（可选）Nimodipine（optional）	长期 PRN	
氟桂利嗪（可选）Flunarizine（optional）	长期 PRN	
倍他司汀（可选）Betahistine（optional）	长期 PRN	
胃复安（可选）Metoclopramide（optional）	临时 SOS	



		异丙嗪注射液（可选） Promethazine injection (optional)	临时 SOS
	(五)其他 others		
主要护理工作 Main nursing care	正确执行医嘱 Correctly perform prescriptions		
	观察患者病情变化 Observe conditions of patient		
住院日数 hospital stay	第 3 天 Day 3	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作	上级医师查房，完成查房记录 Ward round by senior doctors and complete record		
	根据病情调整治疗方案 Adjust treatment according to conditions		
	评估辅助检查结果，分析病因，必要时相关科室会诊 Assess auxiliary examination outcomes, analyse cause of disease, joint consultation with related physicians if necessary		
	医患沟通 Communicate with patients		
	记录会诊意见 Record consultation comments		



重点医嘱 main	(一)一般项目 1. General items	内科护理常规 Nursing routine of neurology department	长期 PRN
		一级护理 Grade I nursing care	长期 PRN
		或二级护理 or grade II nursing care	
		低盐低脂饮食 Low-fat and low-salt diet	长期 PRN
		测血压 Measuring blood pressure	长期 PRN
		留陪人 accompany the patient	长期 PRN
	(二) 检查 2.tests		
	必要时复查异常的检查 Reexaminations of abnormal indicators if necessary	PT/INR (使用华法林) (可选) PT/INR ((use warfarin) (optional)	临时 SOS
		APTT(使用肝素) (可选) APTT (use heparin) (optional)	临时 SOS
	(三)处置与手术 3.procedures and surgeries	院内会诊 Joint consultation within hospital	临时 SOS
	(四)药剂 4.drugs		
		以下可选, 三选一 optional,choose 1 out of 3 drugs below	
		1.血塞通 Xuesaitong (Sanqi Panax Notoginseng)	长期 PRN
		生理盐水 Sodium Chloride Injection	
	或 5%葡萄糖 or 5% glucose injection		
	2.红花 Carthamus tinctorius	长期 PRN	
	生理盐水 Sodium Chloride Injection		
	或 5%葡萄糖 or 5% glucose injection		
	3.银杏达莫针 Ginkgo Leaf Extract and Dipyridamole Injection	长期 PRN	
	生理盐水 Sodium Chloride Injection		



		以下可选，二选一 optional,choose 1 out of 2 drugs below	
	1.马来酸桂哌齐特 Cinepazide Maleate Injection		长期 PRN
	生理盐水 Sodium Chloride Injection		
	2.长春西汀注射液 vinpocetine injection		长期 PRN
	生理盐水 Sodium Chloride Injection		
	或 5%葡萄糖 or 5% glucose injection		
	阿司匹林肠溶片 Aspirin Enteric-coated Tablets		长期 PRN
	氯吡格雷（可选） clopidogrel（optional）		长期 PRN
		以下可选，三选一 optional,choose 1 out of 3 drugs below	
	1.低分子肝素钠 Low-molecular-weight heparin sodium		长期 PRN
	或低分子或低分子肝素钙 or Low-molecular-weight heparin calium 钙		
	2.肝素 heparin		长期 PRN
	0.9%氯化钠 Sodium Chloride Injection		长期 PRN
	3.华法林 warfarin		长期 PRN
		以下必选，三选一 compulsory, choose 1 out of 3 drugs below	
	1.可定瑞舒伐他汀 Crestor Rosuvastatin tablet		长期 PRN
	2.托妥瑞舒伐他汀 tuotuo Rosuvastatin tablet		长期 PRN
	3.阿托伐他汀 Atorvastatin		长期 PRN
	羟乙基淀粉（可选） hydroxyethyl starch（optional）		长期 PRN
	尼莫地平（可选） Nimodipine（optional）		长期 PRN



		氟桂利嗪（可选） Flunarizine（optional）	长期 PRN
		倍他司汀（可选） Betahistine（optional）	长期 PRN
		胃复安（可选） Metoclopramide（optional）	临时 SOS
		异丙嗪注射液（可选） Promethazine injection（optional）	临时 SOS
	(五)其他 others		
主要护理工作 Main nursing work	正确执行医嘱 Correctly perform prescriptions		
	观察患者病情变化 Observe conditions of patient		
住院日数 hospital stay	第 4-9 天（出院前 1 天） Day4-9（the day before discharge）	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Main diagnosis and treatment	通知患者及家属明日出院 Inform patients and his/her relatives of the discharge day		
	交待出院后注意事项， 预约复诊日期 Educate patients on do's and don'ts upon discharge, make appointment for date		



	of reexamination 若病人不能出院，在病程记录中记录原因及继续治疗方案 Record follow-on treatment and reasons if patients can not be discharged		
重点医嘱 main prescriptions	(一)一般项目 1. General items	内科护理常规 Nursing routine of neurology department	长期 PRN
		一级护理 Grade I nursing care	长期 PRN
		或二级护理 or grade II nursing care	
		低盐低脂饮食 Low-fat and low-salt diet	长期 PRN
		测血压 Measuring blood pressure	长期 PRN
		留陪人 accompany the patient	长期 PRN
	(二) 检查 2.tests		
	必要时复查异常的检查 Reexaminations of abnormal indicators if necessary	PT/INR (使用华法林) (可选) PT/INR (use warfarin) (optional)	临时 SOS
		APTT(使用肝素) (可选) APTT (use heparin) (optional)	临时 SOS
	(三)处置与手术 3.procedures and surgeries		
	(四)药剂 4.drugs		
		以下可选，三选一 optional,choose 1 out of 3 drugs below	
		1.血塞通 Xuesaitong (Sanqi Panax Notoginseng)	长期 PRN
	生理盐水 Sodium Chloride Injection		
	或 5%葡萄糖 or 5% glucose injection		
	2.红花 Carthamus tinctorius	长期 PRN	
	生理盐水 Sodium Chloride Injection		
	或 5%葡萄糖 or 5% glucose injection		
	3.银杏达莫针 Ginkgo Leaf Extract and	长期 PRN	



	Dipyridamole Injection	
	生理盐水 Sodium Chloride Injection	
	以下可选，二选一 optional,choose 1 out of 2 drugs below	
	1.马来酸桂哌齐特 Cinepazide Maleate Injection	长期 PRN
	生理盐水 Sodium Chloride Injection	
	2.长春西汀注射液 vinpocetine injection	长期 PRN
	生理盐水 Sodium Chloride Injection	
	或 5%葡萄糖 or 5% glucose injection	
	阿司匹林肠溶片 Aspirin Enteric-coated Tablets	长期 PRN
	氯吡格雷（可选）clopidogrel（optional）	长期 PRN
	以下可选，三选一 optional,choose 1 out of 3 drugs below	
	1.低分子肝素钠 Low-molecular-weight heparin sodium	长期 PRN
	或低分子或低分子肝素钙 or Low-molecular-weight heparin calium 钙	
	2.肝素 heparin	长期 PRN
	0.9%氯化钠 Sodium Chloride Injection	长期 PRN
	3.华法林 warfarin	长期 PRN
	以下必选，三选一 compulsory, choose 1 out of 3 drugs below	
	1.可定瑞舒伐他汀 Crestor Rosuvastatin tablet	长期 PRN
	2.托妥瑞舒伐他汀 tuotuo Rosuvastatin tablet	长期 PRN
	3.阿托伐他汀 Atorvastatin	长期 PRN
	羟乙基淀粉（可选）hydroxyethyl starch（	长期 PRN



		optional)	
		尼莫地平 (可选) Nimodipine (optional)	长期 PRN
		氟桂利嗪 (可选) Flunarizine (optional)	长期 PRN
		倍他司汀 (可选) Betahistine (optional)	长期 PRN
		胃复安 (可选) Metoclopramide (optional)	临时 SOS
		异丙嗪注射液 (可选) Promethazine injection (optional)	临时 SOS
主要护理工作 Main nursing care	正确执行医嘱 Correctly perform prescriptions		
	观察患者病情变化 Observe conditions of patient		
住院日数 hospital stay	第 5-10 天 (出院日) Day 5-10(discharge day)	医嘱名称 Prescriptions	医嘱类型 Type of prescription (PRN/SOS)
主要诊疗工作 Main diagnosis and treatment	向病人及家属介绍出院后注意事项 Educate patients and their relatives on do's and don'ts upon discharge		
	患者办理出院手续, 出院 Patients check out, discharge		
	转科、转院办理相应手续 Complete procedures and transfer to other departments or hospitals		
重点医嘱 main prescriptions	(一)一般项目 1. General items	内科护理常规 Nursing routine of neurology department	长期 PRN
		一级护理 Grade I nursing care	长期 PRN
		或二级护理 or grade II nursing care	
		低盐低脂饮食 Low-fat and low-salt diet	长期 PRN
		测血压 Measuring blood pressure	长期 PRN
		留陪人 accompany the patient	长期 PRN
	(二) 药剂 2.drugs		



		以下可选，三选一 optional,choose 1 out of 3 drugs below	
		1.血塞通 Xuesaitong (Sanqi Panax Notoginseng)	长期 PRN
		生理盐水 Sodium Chloride Injection	
		或 5%葡萄糖 or 5% glucose injection	
		2.红花 Carthamus tinctorius	长期 PRN
		生理盐水 Sodium Chloride Injection	
		或 5%葡萄糖 or 5% glucose injection	
		3.银杏达莫针 Ginkgo Leaf Extract and Dipyridamole Injection	长期 PRN
		生理盐水 Sodium Chloride Injection	
		以下可选，二选一 optional,choose 1 out of 2 drugs below	
		1.马来酸桂哌齐特 Cinepazide Maleate Injection	长期 PRN
		生理盐水 Sodium Chloride Injection	
		2.长春西汀注射液 vinpocetine injection	长期 PRN
		生理盐水 Sodium Chloride Injection	
		或 5%葡萄糖 or 5% glucose injection	
		阿司匹林肠溶片 Aspirin Enteric-coated Tablets	长期 PRN
		氯吡格雷（可选） clopidogrel（optional）	长期 PRN
	以下可选，三选一 optional,choose 1 out of 3 drugs below		
	1.低分子肝素钠 Low-molecular-weight heparin sodium	长期 PRN	
	或低分子或低分子肝素钙 or Low-molecular-weight heparin calium 钙		
	2.肝素 heparin	长期 PRN	
	0.9%氯化钠 Sodium Chloride Injection	长期 PRN	



		3.华法林 warfarin	长期 PRN
		以下必选，三选一 compulsory, choose 1 out of 3 drugs below	
		1.可定瑞舒伐他汀 Crestor Rosuvastatin tablet	长期 PRN
		2.托妥瑞舒伐他汀 tuotuo Rosuvastatin tablet	长期 PRN
		3.阿托伐他汀 Atorvastatin	长期 PRN
		羟乙基淀粉（可选）hydroxyethyl starch（optional）	长期 PRN
		尼莫地平（可选）Nimodipine（optional）	长期 PRN
		氟桂利嗪（可选）Flunarizine（optional）	长期 PRN
		倍他司汀（可选）Betahistine（optional）	长期 PRN
		胃复安（可选）Metoclopramide（optional）	临时 SOS
	(三)其他 3.others	出院 Discharge	临时 SOS
主要护理工作 Main nursing care	出院带药服药指导：可给予抗栓（抗血小板或抗凝药）、他汀、控制血压血糖及其他相关疾病药物。Instruction on take-away drugs, such as antithrombotic drugs (antiplatelet drugs or anticoagulant drugs), statins, antihypertensive agents, antidiabetic agents and other drugs against related diseases		
	特殊护理指导 Instruction on special nursing care		
	告知复诊地点及时间 Tell patients time and place of reexamination		
	交待常见的药物不良反应，嘱定期复诊 Inform patients about common adverse drug reaction and regular follow-up visit		

Appendix E: Case payment rates agreed

Huangdao (City of Qingdao)

China-UK Clinical Pathways and Payment Reform Collaboration Project:

Fixed Payment Rate for Diseases, Reimbursement and Out-of-Pocket (OOP) Payment Rate

Disease	Fixed Payment (Yuan)	New Corporative Medical Scheme (NCMS) Patients		Urban Employees Insurance Patients		Urban Residents Insurance Patients	
		OOP payment (25%)	NCME Reimbursement	OOP payment (18%)	Insurance reimbursement	OOP payment (25%)	Insurance reimbursement
Chronic Obstructive Pulmonary Disease (COPD) ¹	11000	2750	8250	1980	9020	2750	8250
With 1 complication or comorbidity	11500	2875	8625	2070	9430	2875	8625
With 2 complications or comorbidities	11800	2950	8850	2124	9676	2950	8850
With 3 complications or comorbidities	12100	3025	9075	2178	9922	3025	9075
With 4 complications or comorbidities	12300	3075	9225	2214	10086	3075	9225
With 5 complications or comorbidities	12400	3100	9300	2232	10168	3100	9300
Transient ischemic attack (TIA) ²	6700	1675	5025	1206	5494	1675	5025
With 1 complication or comorbidity	7200	1800	5400	1296	5904	1800	5400



With 2 complications or comorbidities	7500	1875	5625	1350	6150	1875	5625
Cerebral hemorrhage ³ (with rehabilitation)	14100	3525	10575	2538	11562	3525	10575
With 1 complication or comorbidity	14600	3650	10950	2628	11972	3650	10950
With 2 complications or comorbidities	14900	3725	11175	2682	12218	3725	11175
With 3 complications or comorbidities	15200	3800	11400	2736	12464	3800	11400
With 4 complications or comorbidities	15400	3850	11550	2772	12628	3850	11550
With lung infection only	17900	4475	13425	3222	14678	4475	13425
With lung infection and 1 complication or comorbidity	18400	4600	13800	3312	15088	4600	13800
With lung infection and 2 complications or comorbidities	18700	4675	14025	3366	15334	4675	14025
With lung infection and 3 complications or comorbidities	19000	4750	14250	3420	15580	4750	14250
With lung infection and 4 complications or comorbidities	19200	4800	14400	3456	15744	4800	14400
Cerebral infarction ⁴ (with rehabilitation)	10200	2550	7650	1836	8364	2550	7650
With 1 complication or comorbidity	10700	2675	8025	1926	8774	2675	8025



With 2 complications or comorbidities	11000	2750	8250	1980	9020	2750	8250
With 3 complications or comorbidities	11300	2825	8475	2034	9266	2825	8475
With 4 complications or comorbidities	11500	2875	8625	2070	9430	2875	8625
With lung infection only	13000	3250	9750	2340	10660	3250	9750
With lung infection and 1 complication or comorbidity	13500	3375	10125	2430	11070	3375	10125
With lung infection and 2 complications or comorbidities	13800	3450	10350	2484	11316	3450	10350
With lung infection and 3 complications or comorbidities	14100	3525	10575	2538	11562	3525	10575
With lung infection and 4 complications or comorbidities	14300	3575	10725	2574	11726	3575	10725

Notes:

1. Chronic Obstructive Pulmonary Disease (COPD) complications and comorbidities include hypertension, diabetes, high blood pressure, diabetes, coronary heart disease, pulmonary heart disease and respiratory failure.
2. Transient ischemic attack (TIA) comorbidities include high blood pressure and diabetes.
3. Cerebral hemorrhage complications and comorbidities include high blood pressure, epilepsy, diabetes and herniation.
4. Cerebral infarction complications and comorbidities include high blood pressure, epilepsy, diabetes and herniation

Appendix F: Data fields in medical records

Patient's basic information								
Hospitalization ID	Name	Gender	DoB	Age	National ID number	Occupation	Type of Insurance	Insurance number
Information about condition and treatments								
Resource be hospitalized	Time of hospitalization	Name of department to be admitted	Time of Discharge	Name of department to be discharged	Length of Stay	Admitted to clinical pathway management?	Diagnosis in outpatient or emergency services	ICD code
Major diagnosis of discharge with ICD code	Other Diagnosis with ICD code (co-morbidities)-1	Other Diagnosis with ICD code (co-morbidities)-2	Other Diagnosis with ICD code (co-morbidities)-3	Other Diagnosis with ICD code (co-morbidities)-4	The name of surgery with ICD code	Status of discharge (died, recovery, or referral to other places, etc)		
Information on medical expenditures								
Total expenditure								



Expenditure sub-components:								
fee for bed	fee for care services	fee for western medicine	fee for patent herbal medicine	fee for TCM (Traditional Chinese Medicine)	fee for laboratory tests	fee for treatment	fee for surgery	fee for examination
	fee for B ultrasonography	fee for colour duplex ultrasonography	fee for CT scan	fee for EKG	fee for MRI	fee for medical consumables	fee for rehabilitation	others
Medical expenditure covered by insurance								
OOP (out of pocket) expenditure								

Appendix G: Full list of monitoring indicators collected by hospitals

序号 No.	指标名称 Name of Indicator	慢性阻塞性肺疾病 COPD	脑出血 Cerebral haemorrhage	脑梗死 Cerebral infarction	短暂性脑缺血 TIA
一、工作量指标 Indicator for Workload					
1	住院患者总人数 NO. of total inpatient patients				
2	入径患者总人数 NO. of patients who were admitted into pathway				
3	完成路径患者人数 NO. of Patients who went through the Pathway in success (PPIS)				
4	变异患者人数 NO. of Patients who suffered variation (PSM)				
二、效率指标 Indicator for Efficiency					
5	平均住院日 (天) (完成路径患者、其他住院患者) Length of Stay (PPIS, other patients)				
6	完成路径患者中添加路径外医嘱项目总数 The prescriptions No. of additional items out of pathway among PPIS				
三、效果指标 Indicator for Effectiveness					
7	病种死亡率 (%) Case fatality rate				
8	院感发生率 (%) (完成路径患者、其他住院患者) Hospital Infections rate (PPIS, other patients)				
9	患者满意度 (%) (完成路径患者、其他住院患者) Satisfaction rate (PPIS, other patients)				
10	EQ-5D 量表接受调查患者人数 (完成路径患者、其他住院患者) The patient No. of EQ-5D survey(PPIS, other patients)				
四、抗菌药物使用指标 Indicator for Usage of Antibiotics					
11	抗生素使用人数 (完成路径患者、其他住院患者)				



序号 No.	指标名称 Name of Indicator	慢性阻塞性肺疾病 COPD	脑出血 Cerebral haemorrhage	脑梗死 Cerebral infarction	短暂性脑缺血 TIA
12	The patient No. of antibiotics (PPIS, other patients) 两联抗生素使用人数 (完成路径患者、其他住院患者) The patient No. of two kinds of antibiotics(PPIS, other patients)				
13	三联抗生素使用人数 (完成路径患者、其他住院患者) The patient No. of triple antibiotics(PPIS, other patients)				
14	抗生素平均使用天数 (完成路径患者、其他住院患者) The average days of antibiotics use(PPIS, other patients)				
五、卫生经济学指标 Indicator for health economics					
15	住院总费用 (完成路径患者、其他住院患者) The total expenditure of inpatients patients (PPIS, other patients)				
16	次均费用 (完成路径患者、其他住院患者) The average expenditure of inpatient patient--AEP(PPIS, other patients) 1) 其中, 药物平均费用 (完成路径患者、其他住院患者) The average expenditure of medicine accounting for AEP (PPIS, other patients) 2) 其中, 耗材平均费用 (完成路径患者、其他住院患者) The average expenditure of medical materials accounting for AEP(PPIS, other patients) 3) 其中, 化验/检查平均费用 (完成路径患者、其他住院患者) The average expenditure of Laboratory/Examination accounting for AEP(PPIS, other patients)				
17	城镇职工医疗保险患者平均自付费用 (完成路径患者、其他住院患者) The average OOP among patients covered by health insurance for urban employees(PPIS, other patients)				
18	城镇居民医疗保险患者平均自付费用 (完成路径患者、其他住院患者)				



序号 No.	指标名称 Name of Indicator	慢性阻塞性肺疾病 COPD	脑出血 Cerebral haemorrhage	脑梗死 Cerebral infarction	短暂性脑缺血 TIA
19	The average OOP among patients covered by health insurance for urban inhabitants(PPIS, other patients) 新农合医疗保险患者平均自付费用 (完成路径患者、其他住院患者) The average OOP among patients covered by New Cooperative Medical Scheme-NCMS (PPIS, other patients)				
六、疾病临床指标统计 Indicator for disease					
20	接受急性期康复路径患者人数 (完成路径患者、其他住院患者) The patient No. of patient receiving acute-rehabilitation treatment(PPIS, other patients)				
21	肺功能检查患者人数 (完成路径患者、其他住院患者) The patient No. of patient receiving lung function test (PPIS, other patients)				
22	头颅 CT 检查患者人数 (完成路径患者、其他住院患者) The patient No. of patient receiving skull and brain CT test (PPIS, other patients)				
23	使用单独用低分子肝素患者人数 (完成路径患者、其他住院患者) The patient No. of patient receiving low molecular heparin (PPIS, other patients)				
24	使用阿司匹林患者人数 (完成路径患者、其他住院患者) The patient No. of patient receiving aspirin (PPIS, other patients)				
25	使用氯吡格雷患者人数 (完成路径患者、其他住院患者) The patient No. of patient receiving clopidogrel(PPIS, other patients)				
26	使用甘露醇患者人数 (完成路径患者、其他住院患者) The patient No. of patient receiving mannitol (PPIS, other patients)				
27	使用呋塞米患者人数 (完成路径患者、其他住院患者)				



序号 No.	指标名称 Name of Indicator	慢性阻塞性肺疾病 COPD	脑出血 Cerebral haemorrhage	脑梗死 Cerebral infarction	短暂性脑缺血 TIA
28	The patient No. of patient receiving furosemide(PPIS, other patients) 使用尿激酶患者人数（完成路径患者、其他住院患者） The patient No. of patient receiving urokinase (PPIS, other patients)				

Notes

1. Only inpatient patients with target conditions are considered.
2. Hanbin pilot hospital can collect the data of cerebral infarction spreading over three sub-pathways with different severity of illness.
3. Within some pilot hospitals, the patients with same condition will allocate into variable departments. To deal with this, we will standardize and integrate the number of patients in accordance with condition.
4. In some pilot areas, the health insurances of urban employees, urban inhabitants and NCMS have been adjusted practically. Please fill in the form accordingly.



Appendix H: Profiles of pilot sites

Hanbin

District characteristics

Hanbin is located in a relatively underdeveloped area in western China, and has been designated by government as “national poverty districts”, eligible for special subsidies from the central authorities. Medical services are constrained by economic status.

Policy environment

Since 2010, the district of Hanbin implemented a mixed payment system for hospital inpatients, which included single-disease fixed payment, fee-for-bed days payment, and fee-for-service payment. Hanbin district required that fee-for-service inpatients should account for 5% or less of total inpatients in healthcare facilities. Under the care pathway’s single disease fixed payment, patients should pay 20% and the basic medical insurance should pay 80%. The medical insurance department has implemented the self-management method (“keep surplus; pay for excess services”), which gives responsibility to healthcare facilities to pay or keep whatever is over or below the allocated balance.

Hanbin district saw a need to establish a comprehensive grassroots healthcare facility network and healthcare service management system with adequate task division, service standards, multilevel diagnosis and treatment, two-way referral, separation of acute and chronic disease, and effective operation. In order to meet the need, Hanbin district joined the project, “Enhancing evidence-based decision making and achieving basic healthcare service for all: China integrated care pathways and payment method reform implementation and dissemination” (herein, referred as the project)

Pilot hospital characteristics

As the main implementation health facility of the project, the Hanbin First Hospital is a level-2A hospital, with 250 registered beds (382 beds in total). Departments of the hospital include General Medicine, Surgery, Obstetrics and Gynecology, Orthopedics, Pediatrics, Ear, Nose and Throat, Chinese and Western Integrative Medicine, Emergency Services, and more.

Huangdao (City of Qingdao)

District characteristics

Huangdao is located in eastern China. There is high population density and is comparatively economically developed. Huangdao ranks as one of the top 100 economically developed districts in China, with a per capita GDP of 74,508 RMB in 2012, close to economic level of Shanghai, Jiangsu and other developed areas.

Policy environment

In January 2015, Qingdao Health Insurance was reorganized on a city-level, rearranging urban employees, urban residents and NCMS enrollees into two insurance programs: “Employee Social Healthcare Insurance” and “Resident Social Healthcare Insurance.” It was stipulated that all insured persons in the city of Qingdao (approximately 8.1 million people)



have access to a 3-tiered healthcare insurance system: basic healthcare coverage, catastrophic disease coverage, and catastrophic disease aide.

Pilot hospital characteristics

Huangdao District People's Hospital is a secondary level general hospital, occupying an area of 51,960 square meters, and a total business space construction area of 77,011 square meters. It incorporates healthcare, rehabilitation, teaching and education, research, and emergency services. There are 29 clinical departments in this hospital, 926 open beds, and annual revenue of 396 million CNY. Prior to the implementation of this project, clinical pathways have been utilized in other clinical departments in this hospital, mainly for surgical interventions, such as cesarean section. In total, 49 clinical pathways have been implemented in the hospital.

Qianjiang

District characteristics

Qianjiang District is located in the southeast part of Chongqing City, near Wuling Mountain and bordering Hunan, Hubei, and Guizhou provinces. It is 250 km away from the city with the following regional characteristics: elderly, young, marginal, and mountainous. The region covers an area of 2,402 square km, with a total population of 526,800. Among them, ethnic minorities make up 72.8% of the population, mainly consisting of Tujia and Miao ethnic minorities. The county is a national poverty reduction and development focus district. The district has on average 1.4 physicians per 1,000 people; 0.95 nurse per 1,000 people; and 3.5 open beds per 1,000 people. Qianjiang district is one of the first project districts in the China-UK health collaboration project.

Policy environment

The second phase of the China-UK collaboration project “Strengthening evidence-based decision-making and promoting basic universal healthcare coverage” coincides with the country's new round of medical and health system reform. The pilot project also experienced some impact brought about by changes in external policies.

Overall, health policies in Qianjiang District have the following key characteristics:

- **Implementation of basic public health service equalization:** The main strategy is to adopt a three-tier management system for diabetes and other common chronic illnesses. The first tier focuses on village clinics; village doctors regularly organize health examinations; health education is conducted through home visits. Second tier focuses on township health centres. Third tier is led by secondary general hospitals.
- **Implementation of the essential drug system:** Municipal health administrative departments are responsible for supplementing and formulating the local essential drug list based on the national essential drug list. Using online bidding methods, a centralized procurement and distribution is implemented, with township as a unit. A zero mark-up policy for essential drugs will be used at village and township levels. Special financial subsidy is maintained at five million CNY per year. The policy requires that all government-run primary healthcare institutions stock and use



essential drugs. Secondary level or above public healthcare institutions must stock and prioritize the use of essential drugs. For hospitals included in the district and county-level Public Hospital Reform Pilot, the proportion of essential drugs utilization and sales must be 50% or above of the hospital's total utilization and sales of medications. For other secondary hospitals, it must be 40% or above; tertiary hospitals' essential drugs sales proportion must be 25% or above.

- **Health insurance access and affordability:** Based on the urban employee basic insurance scheme, the district established and improved urban and rural residents' equitable access to the urban-rural cooperative healthcare insurance scheme. Reimbursement method consists mainly of fee-for-service and global budget payment methods, but also other models were explored such as single disease fixed payment, fee-per-bed-day, and other mixed payment models. For pilot diseases managed by clinical pathways as part of the Phase I China-UK collaboration project, single-disease case payment was implemented. At the same time, restrictions on drug expenses were introduced in healthcare institutions, as a method to control increasing drug expenses.
- **County-level public hospital reform, clinical pathway management:** In October 2010, under the influence of the phase one of the China-UK collaboration project, the World Bank / British grants, and the China Rural Health Development Project, "Optimization of clinical diagnosis and treatment technologies in rural healthcare institutions," Qianjiang Central Hospital implemented a single-disease clinical pathway management "3+1" model, which was also implemented in Qianjiang District Maternal and Child Health Hospital and Qianjiang Traditional Chinese Medicine Hospital.

Pilot hospital characteristics

Qianjiang Central Hospital is the only national level-two tertiary general hospital in the Southeast Chongqing area. It is also one of the oldest pilot hospitals in the China-UK collaboration project, with a wealth of experience in clinical pathway management.



Qianjiang Central Hospital overview (2011)

Personnel

- Beds: 706
- Staff: 870
- Professional ranks: 15 (senior); 61 (vice-senior); 180 (intermediate)

Service summary

- Outpatient visits: 280,000
- Patient discharges: 22,000
- Discharged patients' average length of hospital stay: 8.76 days

Wen

District characteristics

Wenxian is located in the city of Jiaozuo, Henan province, located in western China. The total area is 481.3 km², with a total population of 422,000 and per capita GDP of 5,000 CNY.

Policy environment

The new rural cooperative medical scheme (NRCMS) management office implemented a mixed payment system including global budget and single disease payment, with a 90% coverage rate.

Pilot hospital characteristics

Wenxian People's Hospital is a level-2A hospital, equipped with 1,000 beds. Prior to joining the project, the hospital had implemented clinical pathway management program for 62 simple diseases, with relevant experiences in the development, application and management of clinical pathways.



Appendix I: Memorandum of Understanding between CNHDRC and NICE September 2015 (English version)

**China National Health Development Research Center In National Health And Family
Planning Commission**

National Institute of Health and Care Excellence, UK

**Cooperation on the process, methods and research to develop clinical guidelines and
quality standards for China**

Memorandum Of Understanding

The objective of this MOU is to implement the proposed bilateral cooperation scoped out during the “People to People Dialogue” between China and UK Governments in London, September 2015. The China National Health Development Research Center (CNHDRC) and the National Institute for Health and Care Excellence (NICE), UK, are signatories to the technical cooperation memorandum of understanding for cooperation on the process, methods and research to develop clinical guidelines and quality standards, in China.

CNHDRC is a national think tank affiliated to the People's Republic of China Health and Family Planning Commission. Its main responsibilities are to conduct research to inform national healthcare reform and strategy; participate in the practical implementation of reforms; support the implementation of public health policy; provide advice and recommendations to healthcare policymakers; conduct research and practical application in the fields of healthcare management, policy, health economics, and health technology assessment; and to carry out methods research.

NICE provides national guidance and advice to improve health and social care. Since 1999, NICE has provided the National Health Service, and those who rely on it for their care, with an increasing range of advice on effective, good value healthcare, and gained a reputation for rigour, independence and objectivity. NICE is accountable to its sponsor department, the Department of Health, but operationally it is independent of government. NICE International aims to apply, in a demand-driven way, NICE's experience in health and social care to help build the institutional, informational and human resource capacity required to support evidence-informed resource allocation decisions. The service is well aligned with the Department of Health, the Foreign and Commonwealth Office and the Department for International Development's ambitions for improving global health and promoting health diplomacy, particularly in low and middle-income countries.



Subject to resources being made available, CNHDRC and NICE International agree jointly to conduct research as well as methods and process development to support the generation of Chinese clinical guidelines and quality standards to guide Chinese policy makers, physicians, patients and managers to make decisions based on best practice. CNHDRC will be responsible for convening and drawing on Chinese clinical experts as well as hospital manager, service users and policy makers to draw on the evidence and recommendations from NICE guidelines as well as other high quality international and Chinese sources, ensuring they are most suitable to the Chinese context, the Chinese disease pattern and take into account the feasibility of implementation within the Chinese healthcare delivery system. NICE International will provide technical assistance to develop the process and methods frameworks as well as to carry out evidence reviews and other research to help develop guidelines and quality standards for the Chinese context. Throughout this process NICE International will share its experience, evidence base, clinical guidelines and quality standards with Chinese clinical experts as requested by CNHDRC.

This collaborative project will include pilot work in high priority selected conditions which have high disease and economic burden. Antimicrobial resistance, drawing on NICE's recent (2015) stewardship guideline, will be considered for the pilot.

CNHDRC will be responsible for the selection of the conditions and for convening the Chinese experts for the pilot. CNHDRC will provide Chinese data with regard to the diseases burden and cost of each disease, including treatment. prevention as well as rehabilitation. CNHDRC will identify the pilot hospitals where the preliminary Quality Standards will be tested.

NICE will be responsible for providing technical support, facilitating access to NICE and other related evidence, supplying NICE methods and process guides to be adapted to the Chinese context, sourcing UK clinical and economist experts to support the design and conduct of the research and to quality assure the overall pilot and its products., Senior NHS clinicians sourced by NICE will work with the pilot Chinese hospitals to field test the research results and early quality standards. Always taking into account the hospital circumstances and culture, NICE International, CNHDRC and the pilot hospitals will cooperate to develop a context specific quality standards development framework based on the research during the pilot.

During the five years pilot project, CNHDRC and NICE International will provide training in developing evidence-based guidelines and quality standards to healthcare administrators, hospital administrators, and medical experts and technical analysts in China. In addition, NICE International and CNHDRC will jointly disseminate the experience and lessons learnt from the project with other countries in the region and beyond building on the NICE International and CNHDRC networks.



To ensure the effective promotion and application of the guidelines and the corresponding quality standards, both CNHDRC and NICE International will be responsible for reporting to their respective governance boards and respective sponsor departments the project's progress and results, and to inform their respective policy-makers as to the policy impact of the project. At the same time, both parties will promote the project through various communication channels and conferences and will conduct pilot site visits to raise awareness amongst target audiences.

From the date of signing, the MOU between CNHDRC and NICE is valid for five years. Either party may terminate the MOU with written notice six months in advance. If there are ongoing projects at termination of the MOU, the two sides agree to continue and complete the activities in accordance to the project agreement for the specific pilot.