Appendix 1. Top 30 conditions of high-frequency clinical encounters in primary health care settings in rural China.

Clinical condition	Two-week consultation constituent ratio[1]		Township health center[2]		Village clinics[2]	
	RANK	%	RANK	%	RANK	%
Cold	**1**	28	**1**	13.60	**1**	19.50
Hypertension	**2**	21.8	**4**	7.90	**6**	9.80
Diabetes mellitus	**4**	3.9	**7**	4.60	**8**	4.60
Chronic tracheitis	**8**	2	**2**	9.50	**4**	10.50
Acute tracheitis			**3**	9.00	**3**	10.70
Gastritis	**3**	5.5	**5**	7.50	**5**	10.30
Diarrhea			**6**	5.30	**2**	11.70
Urinary tract infection			**8**	4.50	**9**	2.90
Osteoarthritis	**7**	2.30	**17**	2.40	**18**	0.50
Low back pain	**5**	3.10	**16**	2.50	**15**	0.80
Psoatic strain			**14**	2.60	**14**	0.80
Peptic ulcer			**11**	2.90	**11**	1.70
General trauma			**10**	3.10	**13**	1.10
Sciatica			**19**	1.80	**22**	0.30
Child dyspepsia			**9**	3.20	**7**	7.00
Pelvic inflammatory disease			**12**	2.70	**16**	0.60
Vaginitis			**13**	2.70	**17**	0.50
Dysmenorrhoea			**18**	2.30	**19**	0.50
Cholecystitis			**15**	2.60	**12**	1.60
Toothache	**10**	1.30	**22**	1.30	**10**	2.70
Menopausal syndrome			**21**	1.40	**27**	0.10
Cholelithiasis			**20**	1.60	**20**	0.40
Idiopathic headache	**6**	2.50	**25**	0.60	**25**	0.20
Hemorrhoids			**23**	1.10	**21**	0.40
Asthma			**28**	0.60	**26**	0.20
Chronic dermatitis			**29**	0.20	**29**	0.10
Tympanitis			**24**	0.70	**24**	0.20
Conjunctivitis			**27**	0.60	**28**	0.10
Sinusitis			**26**	0.60	**23**	0.30
Ischemic heart disease	**9**	1.5				

[1.] Self-reported two-week consultation constituent ratio by community dwellers, information from the 2013 National Health Service Survey in China.

[2.]Clinicians reported common clinical conditions in primary health care centers by centers' type.

Appendix 2. Methods for checklist and standards development

To evaluate the quality of care in primary health care institutions, key diagnosis and treatment points of common and frequently-occurring diseases will be developed. The *WHO Handbook for Guideline Development* and evidence-based evaluation principles will be adopted. The main procedures are comprised in the following six steps that will be implemented.

1. Expert group recruitment: Convene a multidisciplinary group consisting of experts in public health, evidence-based medicine/document retrieval, as well as clinical physicians.
2. Data retrieval and literature evaluation: Employ a 5S model to retrieve and incorporate clinical practice guidelines, textbooks, systematic reviews, meta-analysis, and important literature reviews. Retrieve literature from Wanfang, Medlive, MEDLINE, National Guideline Clearinghouse (NGC), National Institute for Health and Care Excellence (NICE), World Health Organization (WHO), DynaMed, and UpToDate. Evaluate the literature using AGREE II, AMSTAR, and QUADAS-2 for the included clinical practice guidelines, systematic reviews, and diagnostic tests, respectively.
3. Preliminary items pool development: Extract essential diagnostic and treatment procedures from the high-quality literature attained.
4. Clinical expert consensus: Apply a 2- to 3-round Delphi method to achieve consensus for diagnosis and treatment. The importance, necessity, and feasibility of the items should be considered in the process of Delphi, and additional medical information must be supplemented in terms of the clinical practice. Furthermore, all items should be classified as: necessary (3 points), selective (2 points), irrelevant (1 points), and erroneous (0 points).
5. Pilot and revise: Conduct a pilot test among 2~3 primary health care settings using the preliminary items. Revise the items and finalize the key diagnosis and treatment point evaluation items.

6. Script development: Develop the script of the target disease based on key diagnosis and treatment point evaluation items before conducting the quality of service evaluation in primary health care institutions.

Appendix 3. Demonstrations of *Cure-Fun* smartphone-based platform current configurations of interview, physical exam and lab texts, and treatment.