

FINAL EVALUATION REPORT

Comprehensive Rural Eye Care Model Project in Yunnan Province

Final

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“Seeing is Believing Phase V”: Comprehensive Rural Eye Care Model for Vulnerable Groups in Yunnan China Project is a successfully completed rural eye care model implemented with integration in existing health system of public eye health sector at four levels. This project has been able to address the major bulk of avoidable blinding diseases to reduce the blindness in Yunnan, China.

We would like to thank all the honourable government officials from the Health Commission, Education Bureau, Disabled Person’s Federation from provincial, prefecture /city and county levels of Yunnan Province, China for their valuable views, comments, suggestion, hospitality and their valuable time at the time of interview. We are grateful and thank all the Hospital Directors, head of eye department, project co-ordinators, trainers, and trainees, all the supportive staffs from project implementing hospitals for sharing the valuable information, providing us the opportunity to observe various hospital and project activities . We are also grateful to primary school teachers and CHWs, who received project training, for their supports. Finally, we would like to extend our thanks to all the project beneficiaries who participated to share their views and provided us consent to access information as appropriate.

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List of acronyms

AHDU.....	Affiliated Hospital of Dali University
BPHSES.....	Basic Public Health Service Equalization Scheme
BoE.....	Bureau of Education
CHW.....	Community Health Worker
CRECM.....	Comprehensive Rural Eye Care Model
CSOM.....	Cataract Surgical Outcome Monitoring
CS.....	Cataract Surgery
DPF.....	Disabled Persons' Federation
DR.....	Diabetes Retinopathy
EENT	Eyes, Ears, Nose and Throat
The Foundation	The Fred Hollows Foundation
KAP.....	Knowledge, Attitude and Practice
NHC	National Health Commission (Former National Health and Family Planning)
MCSO	Monitoring Cataract Surgical Outcome
PBL	Prevention of Blindness
PEC	Primary Eye Care
ToT.....	Training of Trainers
YPRCH	Yunnan Province Red Cross Hospital
YPHC.....	Yunnan Provincial Health Commission
	(Former Health and Family Planning Commission)

EXECUTIVE SUMMARY

COMPREHENSIVE RURAL EYE CARE MODEL PROJECT IN YUNNAN PROVINCE

Final Evaluation

By Yi Pan and Haiyu Yang

BACKGROUND

A pilot project “A Comprehensive Rural Eye Care Model (CRECM) in Yunnan Province-increasing access for disadvantaged groups to universal eye care” which was launched by Fred Hollows Foundation (The Foundation) in April 2016 will be finished in March 2019. The total budget of the project is 1,195,160 USD. The project addresses 3 main causes of avoidable blindness, cataract, RE and DR in a comprehensive way which is strictly in line with the National Prevention of Blindness Plan and The Foundation’s Strategy. The objectives of the project include: to strengthen the capacity of public health personnel to deliver quality, sustainable, comprehensive eye-care services; to increase the availability and accessibility of integrated eye care services within the existing health system in pilot locations; to generate data & evidence to inform eye health planning, improve quality of interventions and document the CRECM; and to strengthen provincial prevention of blindness, hospital management and civil society to advocate for policy development and replication of the CRECM in Yunnan and other provinces in China.

The project is implemented in 4 levels of public system from province, prefecture, county and down to township/village in partnerships with Provincial Health and Family Planning Commission, the Provincial Prevention of Blindness Office and 7 public hospitals, including Yunnan Red Cross Hospital, Affiliated Hospital of Dali University, People’s Hospital of Wenshan Prefecture, People’s Hospital of Binchuan County, People’s Hospital of Nanjian County, People’s Hospital of Qiubei County and People’s Hospital of Yanshan County. Both Dali and Wenshan prefectures are agricultural and mountainous or semi-mountainous areas. Three of the 4 project counties are national poverty-stricken counties.

Evaluation purpose

To assess how successful the Project implementation is, a final evaluation was conducted at the end of year 2018 and early 2019 as the later stage of the Project duration. The specific purpose of the evaluation is to assess to what extent the goal, objectives and outcomes of the Project were achieved.

Key Evaluation Questions:

1. How appropriate was the project's design for meeting priority eye health needs in the Project locations? (EO1)
2. Has the Project fulfilled its goal, objectives and outcomes? What are the successful experience and lessons learnt about the China Rural Eye Care Model? (EO1)
3. To what extent did the Project increase human resource capacity of eye health care in the Project locations? (EO1)
4. What impact did the Project have on increasing local people's accessibility to cataract, DR and RE services? (EO2)
5. To what extent, were strategies and approaches of the CRECM fully or partially applied by local and provincial government? (EO3)
6. To What extent, did the Project contribute to integration/inclusion of eye care into existing health care system? (EO3)
7. To what extent have the barriers for disadvantaged groups and women accessing to eye health service been identified and effectively addressed by the Project? (EO4)
8. What is the likelihood that the project's outcomes will be sustained? (EO1, EO3)

Evaluation Methods

This evaluation employed a mixed set of evaluation methods to address the research questions, including:

- In depth interviews (including focus-group discussions)
- Analysis of project monitoring data
- Document analysis of project reports and project supported research reports
- On-site observation
- On-line questionnaires

Key findings

1. After three years' implementation, the Project has achieved its project goal to develop a model to provide comprehensive rural eye care services in cataract, DR and RE in the underserved regions in Yunnan province that is effective, evidence-based, and replicable. The Project has made meaningful

contribution to improving comprehensive capacity of prevention of blindness in rural areas in Yunnan province.

2. The Project strategies and approaches are generally understood and accepted by the provincial and local health authorities (partners), and are in good line with the national health and education policies, hence are feasible to be applied by different project partners at local and provincial level
3. **The project's design is proven to have met the priority eye health needs in project locations.** Through implementation of a comprehensive set of measures to prevent and treat preventable blindness caused by cataract, diabetic retinopathy and refractive error, the Project has a project design that is relevant to local priority eye health needs.
4. **The capacity building of health human resources is the main achievement and most valuable success of the project.** This achievement is well in line with the National Health Commission's policy priorities to improve the service capacities of county level hospitals and grassroots health professionals.
5. **The evaluation team finds out that the Project intervention, in particular the community screening and school screening, has made major stride in increasing local people's accessibility to cataract, DR and RE services.** All project partners, including interviewed health professionals of all hospitals, gave positive appraisal of the effectiveness and importance of the screening service. They reported that the screening service has been effective and achieved good results and impacts, and believed that it is one of the highlights of the Project. The two way intra hospital departmental referral and screening work, and outreach cataract screening are very likely to continue to exist and operate after the Project completes. The outreach screening work DR, may not be difficult to sustained given exiting difficulties, and as it stands now, due to the shortage in human resources and funding support; but the Project experience is rather valuable as a reference
6. The Project has **raised the importance of developing a functioning eye department, and promoted the integration of the construction of eye department into the latest development plans of project hospitals.** The Project activities enabled the participating health authorities and hospitals at different levels to give increasing priorities to eye health service
7. The barriers for disadvantaged groups and women accessing to eye health service have been well identified and passively addressed by the Project. **The Project took various initiatives to address barriers for disadvantaged groups and women accessing to eye health service.** Noticeable Improvements have been made with the target population's knowledge of cataract, DR and RE, as well as their eye care seeking attitude and behaviour
8. The successful implementation of the project has made it possible to integrate CRECM model elements to local PBL planning. The Project is **good demonstration in how government policies on health service and health facilities can better invest in prevention and control of avoidable blindness and Chronic Diseases (and their complications), and has become a best practice model on moving the service priority to the forefront of prevention.**

Conclusion

Through three years' implementation and piloting, the Project has achieved positive results and impacts. A Comprehensive Rural Eye Health Care Service Model has begun to take shape, and The Foundation has worked effectively with multiple partners to complete the project implementation. The successes explored by the Project will jointly contribute to the comprehensive rural eye care model for China and to be presented to the provincial and national government for its replication in additional provinces and regions.

Recommendations:

1. The Foundation and its key project partners shall explore relevant platform and measures to present and advocate for replication of project supported screening service strategies including screening plan and procedures on Cataract, DR and RE in schools to other parts of Yunnan and China. The Foundation shall make recommendation to relevant government department to include screening service for common blindness-inducing eye diseases in the management of Chronic Diseases. Screening work shall have in place an improved monitoring and evaluation mechanism.
2. Refractive Error: The key response strategy is not limited to medical service delivery when RE occurs, but more importantly, the response should be moved forward to the prevention service. It is valuable to explore a comprehensive service model that delivers health promotion in and out of schools to influence the knowledge, attitudes and practice of youth and children.
3. Capacity building of human resources: It is recommended that The Foundation shall, based on the roles of all stakeholders identified in the Project (not limited to stakeholders from the Health system), continue to assess the professional capacities of eye health professionals at all levels. Based on the assessment results, The Foundation shall collaborate with the Provincial Training Centre to improve systematic and tailored capacity building plan, in an effort to further strengthen the professional and service delivery capacity of eye health professionals.
4. We recommend that after the Project finishes in March 2019, The Foundation work with key executing agencies to design a half year or one year (or longer) follow up action plan, based on each executing agency's contexts and willingness, to secure and further develop the best practice and sustainable strategies and approaches of each executing agency, and make timely summary and diversification of the extension projects.
5. It is a very valuable measure to alleviate the capacity of public health service delivery of CHWs through the support of the county level hospitals. However, the one or two training per year

provided would be hard to achieve its intended results. It is recommended that The Foundation design comprehensive training plan and build up a training scheme that monitors the effectiveness of training and provides follow up support accordingly.

6. Multi-party Collaboration: The Project shall receive more support for its implementation at the grassroots execution level, and form multi-party coordination and communication mechanism at grassroots level. The Foundation shall nurture its capacities and experiences in forging collaborative partnerships with government departments at different levels and social organizations such as Women's Federation, Youth League and Elderly Person's Association, to ensure the effectiveness and sustainability of project implementation.
7. Public campaign and educational activities for target population have achieved noticeable positive results in providing necessary information and raising awareness. However delivering knowledge doesn't necessary result in changing attitude and behaviour. The Project and various stakeholders shall further collaborate to explore effective strategies and to implement intervention programmes, aiming at bringing about comprehensive changes of people's KAP.
8. Documentation and Sum-up of the Project model, including confirmation of key success strategies and approaches of the Project is an important work The Foundation shall do in the future. The documentation and sum-up of the Project model shall be communicated to all project partners via meetings, documentation, model manual and videos, to raise their awareness and reach consensus, so that the project can be sustained and the model can be replicated.

INTRODUCTION

Project background

Yunnan is located in southwestern China, covering an area of 394,000 square kilometers of which 94% is mountainous or semi-mountainous. There are 16 prefectures (cities) and 129 counties (cities and districts) in the province. The total population was 47.71 million in 2016, including 26.22 million rural populations. The per capita disposable income was 28,611 RMB for urban residents and 9,020 RMB for rural residents in 2016. Yunnan is the province in China has the largest number of poverty-stricken counties (73 counties in Yunnan out of 592 across China).² The rural poor population in Yunnan reached 3.73 million in 2016.³ Seventeen percent of total blind people in the world live in China. The major causes of blindness include cataract, diabetic retinopathy (DR), and glaucoma and childhood eye disease. Refractive error (RE) is the leading cause of vision impairment. Under-corrected RE accounts for 90% of visual disability among rural children. The prevalence of diabetes among Chinese adults above age 18 is 9.7% and China has the biggest population of diabetes in the world. Around 20% of diabetes has DR problem. It is estimated that there are 1.5 million people age above 50 with blindness and vision impairment, 3.2 million diabetes and 0.58 million DR patients living in Yunnan. Around 20-30% of students in primary schools and 50-70% of students in middle and high schools are found with RE. Contrary to the demanding needs of eye care, capability of service delivery is weak, especially in rural areas. There are 513 eye doctors across the province and around 1/3 of them can perform cataract surgery, and the quality of surgery is still a concern. The cataract surgery is hardly accessible for people living in remote areas because available services are far way, road conditions are usually poor and cost of transportation is high. Professional optometry services are not available in most county public hospitals. There are less than 20 DR specialists in Yunnan, who are concentrated in provincial hospitals and a few prefectural hospitals. Community health workers (CHWs, refers to physicians in township hospitals, village and school clinics) lack awareness and have a low ability to deliver primary eye care (PEC) in the most rural areas¹.

The Fred Hollows Foundation (The Foundation) launched a 3-year pilot project “A Comprehensive Rural Eye Care Model in Yunnan Province-increasing access for disadvantaged groups to universal eye care” (the project) in April 2016. The total budget of the project is 1,195.160 USD. The project addresses 3 main causes of avoidable blindness, cataract, RE and DR in a comprehensive way. The objectives of the project include: (1) to strengthen the capacity of public health personnel to deliver quality, sustainable, comprehensive eye-care services; (2) to increase the availability and accessibility of integrated eye care services within the existing health system in pilot locations; (3) to generate data & evidence to inform eye health planning, improve quality of interventions and document the Comprehensive Rural Eye Care Model (CRECM); and (4) to strengthen provincial PBL, hospital management and civil society to advocate for policy development and replication of the CRECM in Yunnan and other provinces in China. The

¹ Source of background information and data: The Foundation project documents.

project is implemented in 4 levels of public system from province (also as tertiary), prefecture, county and down to township/village in partnerships with Provincial Health and Family Planning Commission (PHFPC), the provincial PBL office as well as 7 public hospitals, including Yunnan Red Cross Hospital (YRCH), Affiliated Hospital of Dali University (AHDC), People's Hospital of Wenshan Prefecture (Wenshan Hospital), People's Hospital of Binchuan County (Binchuan Hospital), People's Hospital of Nanjian County (Nanjian Hospital), People's Hospital of Qiubei County (Qiubei Hospital) and People's Hospital of Yanshan County (Yanshan Hospital).

METHODOLOGY

Purpose of the evaluation

To assess how successful the Project implementation is, a final evaluation was planned to conduct end of year 2018 and early 2019 as the later stage of the Project duration. The specific purpose of the evaluation is: to assess to what extent the goal, objectives and outcomes of the Project were achieved.

An assessment of impact the Project efforts made on local eye health service provision and accessibilities. The Foundation HQ, The Foundation China Program, the donor (Standard Chartered Bank), the implementation and executive partners, local government departments involved will be the main users of the evaluation report, and the findings of the evaluation will be appropriately utilized in the Project model documentation as evidence for promotion of the model and advocacy for replication. The review report will also be shared with The Foundation Regional and HQ teams for better project design and management in the future.

Evaluation scope and key questions *(full evaluation question list please see annex 1)*

To achieve the purpose of the final evaluation, the objectives (EOs) of the evaluation are:

1. EO1. An assessment of planned outputs and outcomes as stated in the SCB proposal regarding quality and effectiveness
2. EO2. An assessment of impact the Project efforts made on local eye health service provision and accessibilities
3. EO3. An assessment of the likelihood of continuation of benefits from the improved services and established interventions after the Project phased out.
4. EO4. An assessment of equity of access to eye care service improved for vulnerable groups

Evaluation Methods

This evaluation employed a mixed methods approach to address the research questions, including: in-depth interviews (including focus-group discussions); analysis of project monitoring data; document analysis of project reports; on-site observation; and on-line questionnaires.

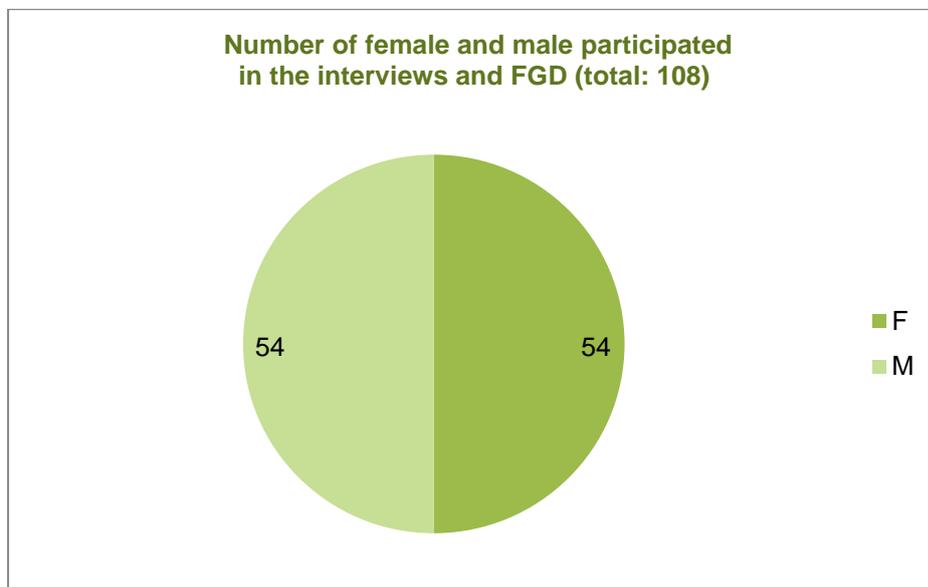
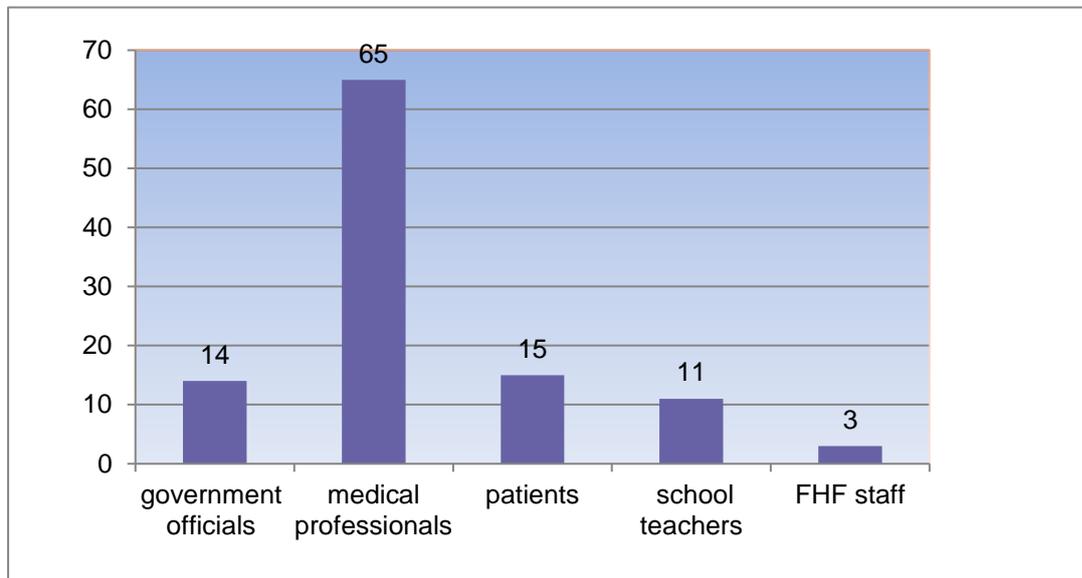
The evaluation design aims to collect data and information from a wide range of project stakeholders to gauge the progress, effectiveness and impacts of the Project. The Evaluation team worked closely with The Foundation before the inception of Evaluation to confirm an evaluation design that fits the project contexts including the purposes of the Project.

In order to ensure the quality of evaluation, the Evaluation team employed a combination of quantitative and qualitative methods in the evaluation. Quantitative methods include both the primary and secondary review and analysis of project produced data (relevant project documents such as project management reports and inception documents, also include several project supported research reports). Qualitative method is the primary method employed in the evaluation, as it produces more data and information that derive directly from the key project stakeholders including government partners and end users of eye health services.

The qualitative methods include focus group discussion (FGD), in-depth individual interview using an outline of interview questions derived from the evaluation objectives, direct observation of procedures and hospital practices and on-line survey.

Field visits were arranged by The Foundation and 7 project site hospitals. A total of 108 people were interviewed in group and in individual interviews. The interviews are mainly taken place in the hospitals and have covered all key stakeholders and project partners from provincial level, city/prefecture and county level, Health Commissions, DPF, Education Bureaus. Seven project hospitals, also township clinics and village health centres were visited. The evaluation was also combined with on-going project activities such school teacher training and CHW training that FGD were arranged during breaks or after training. Project hospitals assisted in contacting and arranging interview list with in-patients who were receiving service or other beneficiaries in community, to achieve consensus prior to the interview. Among these interviewees, 14 are government officials, 65 are health professionals, 15 are direct beneficiaries (patients received health services provided by the Project hospitals), 11 primary school principals and teachers, and 3 staff from The Foundation.

Number of interviewees from different sectors (total: 108)



The Evaluation team also devised an online survey to collect both quantitative and qualitative data regarding the achievement of project goals. A total of 40 participants (22 female and 18 males) took part in the online survey during the evaluation, of which 5 is from Health Commission, 3 are from the Education Bureaus at different levels, 1 is from the DPF, 23 are health professionals from the project hospitals, 4 are school teachers, and 3 staff member from The Foundation. On-line survey is meant for interviewed project partners/practitioners, who are familiar with project management and approaches to supplement their comments to the project, so that the survey doesn't include interviewed patients, school teachers and CHWs—response rate is 40/66 (60%).

The evaluation team carried out desk review of all the relevant documents, outcome/output data provided by The Foundation. The evaluation consultant also participated in The Foundation team briefing and provincial coordination meeting.

Limitations

The final evaluation did not assess quality of the services provided by the trained professionals, which is carried out by medical consultant through medical evaluation by February 2019. Instead, follow up situation of the cataract surgical outcomes monitoring system improvement plan, which was suggested by the Project Mid-term Evaluation was reviewed and analysed.

The evaluation interviewed a wide range of stakeholders such as health authorities, officials of DPF, president of the Project hospitals, eye care professionals and beneficiaries at the provincial, prefectural and county levels. There were a few listed interviewees who were not available during the limit period of field visits. As an alternative, interview through phone calls or online survey were conducted when information collected was not sufficient. With the support from The Foundation, the evaluation team was able to take flexible approach to meet up busy schedules of key stakeholders that most of those on interview list were covered; either by face-to-face interview or telephone interview (plus on-line survey among key stakeholders).

Evaluation team **Ms. Yi Pan** is the leading consultant responsible for coordination, development, implementation and preparation of the evaluation reports. With postgraduate degree in anthropology of development from SOAS, the University of London, she has been employed by reputable UN agencies and international organizations in China, such as UNDP China, Save the Children UK, the Asia Foundation and Medecines Sans Frontieres (Holland). In her 20 years of development work, she has proved substantial experiences in professional developmental consultancy service for INGOS and local NGOs as well as government.

Mr. Haiyu Yang is also a key member of the consultant team responsible for conducting the final evaluation activities and preparing evaluation reports in English and Chinese. He has worked in development sector in China for over 21 years, Yang has provided professional services and consultancies to UNICEF, Save the Children, Plan International, The Center for Child Rights & Corporate Social Responsibility and Office of National Working Committee on Children and Women, and a number of Chinese social organizations on child rights/child protection related training, development project design, review, monitoring and evaluation, in both emergency and development contexts.

An assistant assisted in organizing and processing data, task coordination, collating and report editing.

OTHER CONSIDERATIONS

Ethical issues

The evaluation team fully comply with The Foundation's requirements of confidentiality and The Foundation's Child Protection Policy throughout the evaluation. Prior to field visits to project sites, written notice was organized between The Foundation and YPHC to issue to all project partners with itinerary and interview name list. All interviewees participated in the interviews on voluntary base and

all interviews were conducted in the context of verbal informed consent. Before interviews started the evaluation team members were introduced to the interviewees by The Foundation with explanation that interview information will be used for the Project final evaluation/report purpose only. The same introduction was made available for on-line questionnaires. Anonymity is kept in the report unless The Foundation requests exact source of information.

Communications and learning

The evaluation consultants will support The Foundation China team in sharing findings of the evaluation to stakeholders of the project in project review session. The Foundation China team is responsible to select and utilize suggestions of the evaluation.

KEY FINDINGS

In the online questionnaires, we asked the key project partners about their overall comments and opinions on the Project, of 40 surveyed partners, 32.5% (13) chose “very successful” and 67.5% (27) chose “successful”. The responses to this question demonstrated that all of surveyed partners agreed that the **Project is successful and very successful.** (please see the chart below)

4. Please give your overall comments and opinions on the Project by choosing one answer from the list:

Answers	Number of Participant	Percentage
Very Successful	13	32.5%
Successful	27	67.5%
No Comments	0	0%
Not Successful	0	0%
Very unsuccessful	0	0%
Effective number of Participants completing this question	40	

The response to this question on the overall comments of the Project fits with the overall findings of the Evaluation Team, who discovered through the evaluation that the project is successful in achieving its main goals.

Evaluation Q1. How appropriate was the project's design for meeting priority eye health needs in the Project locations?

1.1 The project's design is proven to have met the priority eye health needs in project locations.

Through implementation of a comprehensive set of measures to prevent and treat preventable blindness caused by cataract, diabetic retinopathy and refractive error, the Project has a project design that is relevant to local priority eye health needs. In the selected pilot sites in Yunnan, rural peasants account for the majority of population, and economic poverty is still prevalent. Compounded by poor ground transportation in the mountains, lower level of education, aging population and many children left behind by their parents, it is relatively more difficult for local people to access affordable quality health care services. As a result, local population is facing more risks in preventable blindness than population from other areas, hence needing more care and services.

The key project partners, including YNPHFPC official, YPRCH management, the Dali University-attached Hospital management, and Yanshan County People's Hospital management, and Nanjian County People's Hospital staff, all expressed similar judgments that the Project is relevant, beneficial for local society, effective and solid, having strong social impacts. The evaluation team discovered that the Project is generally considered a meaningful and valuable endeavor in prevention of blindness.

Several key counterparts who have participated in the online survey also confirmed that "the Project has brought about practical benefits for rural eye patients."

The Project meets the local eye health priority of improved service delivery capacity by health system.

On the service delivery end, despite the paramount local needs, the service delivery capacity in Yunnan Province is seriously lacking, particularly so in the rural areas.

The majority of eye doctors are located in provincial-level hospitals, only a handful of these doctors are working at the prefecture level hospitals.

In most rural areas in Yunnan, grassroots health professionals (referring to doctors at township hospitals and village clinics, as well as school doctors) lack knowledge and capacities in primary eye care service delivery. According to the feedback from senior management of the YPRCH, there were more than 40 counties that are incapable of treating cataract before the project, and after the past couple of years' efforts, including but not limited to the project's contribution, the number have dropped by half.

When it comes to the Vision Center service, health professionals at township hospitals and village clinics possessed zero capacity. The evaluation discovers that the majority of doctors at the Children's Eye Department of the YPRCH are overloaded with their daily work; similar situation is found in other provincial and prefectural hospitals hence unable to meet the larger and wider eye health needs of the province.

In the context described above, the project’s design is focused and clear-cut. The Project aims to explore an innovative model of eye health care at provincial-county-township (village) level, a model with working mechanisms and service mechanism that aims to enhance the capacities of local and grassroots health service agencies and personnel. The executing hospitals of the Project are all motivated to improve and enhance their capacities in both hardware and software aspect, therefore the capacity building components of the Project are meeting these hospitals’ needs and expectations.

*The online questionnaires findings suggest that the **Project design has met the priority eye health needs in project locations well**. Out of 40 survey partners, 20% (8) strongly agreed that the project design has met the priority eye health needs in the project location, and 80% (32) agreed on the comment. The responses to this question demonstrated that all of surveyed partners agreed that the **Project design has met the priority eye health needs in project locations well** (please see the chart below)*

5. Regarding the comment: “The project’s design has met the priority eye health needs in project locations well”. —Please choose an answer that best describes your opinion on this comment.

Answers	totals	percentage
Strongly Agree	8	20%
Agree	32	80%
No Comments	0	0%
Disagree	0	0%
Strongly Disagree	0	0%
Effective number of Participants completing this question	40	

1.2 The project’s design meets the needs of priority eye health policies well.

The project’s design meets the needs of priority eye health policies at local and national, levels :

To date, China remains the nation with largest number of people who are blind and/or visually impaired. The cataract caused blindness for poor population is still a challenge in China, while the Refractive Error is increasing becoming an issue affecting Chinese children. The 13th Five Year Planning period (2016-2020) is the critical stage and the window of opportunity for further promotion of eye disease prevention and treatment. In this five year period, the Project initiate its implementation work, along with the implementation of the 13th National Health Plan for the Prevention and Treatment of Blindness (PTB), which was designed according to the Health China Construction Scheme, the Deepening of Medicine and Health Reform requirements, as well as the WHO’s Global Action Plan for Universal Eye Health 2014-2019. The project’s model building design has taken into account the above mentioned requirements and planning, and meets well the national and provincial policy priorities in eye health sector.

The work undertaken in pilot projects, the components of the model and the model itself fits with China's national strategy as outlined in the National Plan for the Prevention and Treatment of Blindness (PTB). This plan emphasizes principles including, the importance of encouraging the whole society to participate, engaging multiple sectors in cooperation, prevention and building ophthalmic capacity at grassroots services, as well as ensuring government has leading role (MoH 2012). This model for rural eye health thus aims to contribute to the national strategy and especially the principle of establishing a long-acting PTB mechanism. As one of the interviewed health professional at local level made it clear, the project, to a certain extent, is forward-looking as it meets well with the eye health and overall health needs and policy priorities at local, provincial and national level.

The Project is in line with the general trend of China's Health policy and Health-related Poverty Alleviation. Eye health forms an important part of the overall human-centered Meta Health. In September, 2018, the National Health Commission redefined its own role and functions²:

The National Health Commission should firmly establish the concept of "Meta hygiene and Meta health", promote the implementation of the strategy of "Healthy China", take reform and innovation as the driving force, focus on promoting health, transforming the model, strengthening the grass-roots level and laying stress on safeguard, change treatment-oriented into health-oriented, and provide the people with all-round and full-cycle health care.

This change of role and functions of the National Health Commission represents a major transformation of the overall health policy design in China. First, the Commission will pay more attention to disease prevention and health promotion, strengthen prevention and control of major diseases, actively respond to the aging population and improve the health service system. Second, the Commission will shift work priorities allocate resources to the grass-roots, and promote the allocation of public health resources to grassroots units, rural areas, remote areas and people living in difficulties. Third, the Commission will put more emphasis on improving the quality of health services and promote the equalization, inclusiveness and convenience of basic public health services. Fourth, the Commission will coordinate and deepen the reform of the medical and health system, intensify the reform of public hospitals, promote the separation of supervision and operation, and boost the diversification of public health service providers and modes.

The project's design and implementation demonstrates that the key priorities of the project, including eye disease prevention and eye health promotion, targeted services for ageing population's eye diseases such as cataract and DR, allocation of resources to the grass-roots, and promotion of the allocation of public health resources to grassroots units, rural areas, remote areas and people living in difficulties, and the improvement of the quality of health services, are contributing to the overall health reform policy priorities in a concrete manner.

² For details, see the "transformation of functions and roles" section under the heading of Ministry Functions, of the official website of the National Health Commission of the People's Republic of China, 2018, September 11th. <http://www.nhfpc.gov.cn/zhuz/jqzn/lmtt.shtml>

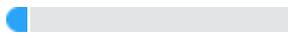
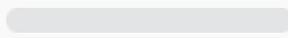
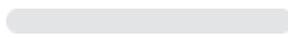
Staff of the Eye Department of Nanjian People’s Hospital believes that the project’s design meets well the needs of local and national eye health policies. He reckons that the project’s efforts to build and enhance eye health prevention and treatment service system at the township, county, prefecture and province level are in line with the national eye health policy priorities.

It is fair to conclude that the project’s goals and objectives meets the need and priorities of China’s overall Health policy, and contributes to the overall health work of China in a meaningful way.

1.3 How would you rate the relevance and appropriateness of the Project design?(on a scale of agreement

The online questionnaires findings suggest that the Project design is highly relevant and appropriate to the national and local health policies and needs of the patients. Out of 40 survey partners, 37.5% (15) rated the highest score of 5, and 55% (22) rated 4, with only 7.5% of partners gave a rate of 3. The rating demonstrated that the majority (92.5%) of surveyed partners gave high rating on the relevance and appropriateness of the Project design (please see the chart below).

12. How would you rate the relevance and appropriateness of the project design that is to eliminate avoidable blindness? (5 for highest rank, 1 for lowest rank)

Rating	Number of participants	Percentage
5	15	 37.5%
4	22	 55%
3	3	 7.5%
2	0	 0%
1	0	 0%
Effective number of participants	40	

The interview and field observation by the Evaluation Team demonstrate that the project’s design and implementation are in good line with the six key areas of work of 13th National Health Plan for the Prevention and Treatment of Blindness .The key priorities of the Project are proactive measures to respond to health issues of an ageing population, the overall design aims to improve the quality of health services. From the Project design point of view, the piloted services at the provincial, county, township and village level are rather relevant and appropriate for the construction and improvement of local eye health service system, are in line with the mid and long term eye health planning policies in Yunnan. The project’s efforts to promote integration of eye disease prevention and treatment work into local government

Evaluation Q2. Has the Project fulfilled its purpose and objectives? What are the successful experience and lessons learnt about the Comprehensive Rural Eye Care Model in Yunnan Province?

2.1 The Project fulfilled its purpose and objectives

Overall, the review of the Project documentation and interview findings demonstrate that the Project outputs have met with the Project purpose and objectives, with key project activities successfully implemented. This can be attributed to the all-on input and close cooperation between the Fred Hollows Foundation's project team and all key counterparts', and is a clear demonstration of the Project design meeting local eye health needs and relevant eye health policies. After three years' implementation, the Project has achieved its project goal to develop a model to provide comprehensive rural eye care services in cataract, diabetic retinopathy and refractive error in the underserved regions in Yunnan province that is effective, evidence-based, and replicable. The Project has made meaningful contribution to improving comprehensive capacity of prevention of blindness in rural areas in Yunnan province.

2.2 The main achievements of the Project

Completion rate of targets for main activities

(April 2016- March 2019, Source of information: The Foundation M&E)

Main Activities	Targets	Targets Achieved	Completion Rates
Increase capacity of the technical support agency	20	20	100%
Increase capacity for service delivery at prefecture and county levels	753	1,371	182%
Increase capacity for CHWs and school teachers	2,824	3,303	117%
Provide essential technology	14	14	100%
Conducted health promotion	1,862,490	2,293,844	123%
Deliver screening	318,000	335,195	105%
Procedures/standards development	2	2	100%
Deliver Refractive Errors services	22,190	22,674	102%
Deliver medical intervention	409,865	359,993	88%
Build health financing	7	7	100%
Document CRECM	1	0	0%
Build eye health information system	7	7	100%
Strengthen government and stakeholders' leadership	120	141	118%

● **The capacity building of health human resources is the main achievement and most valuable success of the project.** This achievement is well in line with the National Health Commission’s policy priorities to improve the service capacities of county level hospitals and grassroots health professionals. In the meantime, through capacity building of the human resource and provision of medical equipment, the Project has successfully placed the work focus from major provincial and prefectural hospitals away to county and township level hospitals. The Project has promoted the allocation of health service resources to the grassroots level, making the eye health services and resources closer to the grassroots units, rural areas, remote areas and people living in difficulties.

Through the project, overall 4 were found trained as master cataract surgeon, 13 master nurse, 4 master refractionist, 2 master trainer for DR treatment and management, 20 cataract surgeons, 4 refractionist, 2 DR treatment and management. 2 eye nurse training, 14 staffs for equipment maintenance, 18 teachers/ 34CHW training, 975 diabetic doctors/endocrinologist on DR orientation and referral mechanism, 3,303 primary eye care training for CHWs .

The Project has enabled the local eye health needs to be met through support of the capacity building of the health human resources. From the perspective of working methods, service model and policy advocacy, the Project aimed to promote service improvement and upgrade of public health services, in order to reach the goal of elimination of preventable blindness.

At the provincial level, the Project worked with YPRCH to enhance the operation of its provincial eye health training centre, which operates to provide guidance and technical support in eye care services in cataract, diabetic retinopathy and refractive error and other eye diseases, for two prefecture-level hospitals in Dali and Wenshan, and four county level hospitals in the above mentioned prefectures, developed a preliminary eye health training mechanism with quality support.

At the prefecture level, the Project delivered sufficient technical and managerial support to two prefecture hospitals (Wenshan People’s Hospital and Dali University-attached Hospital). Through the two prefecture hospital’s bridging and connection, these two hospitals improved their own professional service capacities in eye health service delivery, while provided technical support for eye health professionals at the county level hospitals.

As a result of the project-supported training and technical support, the service quality of the two prefecture-level hospitals ‘eye departments in treating cataract, diabetic retinopathy and refractive error and other eye diseases have advanced and matured, improving the treatment level of eye diseases, in particular DR, and increasing the availability and accessibility of eye health services for patients within their prefectures through local service delivery.

Prior to the Project intervention, the technical support and guidance provide by YPRCH to prefecture level hospitals, and by prefecture level hospitals to county level hospitals and/or CHWs was limited, and top-down. Through the Project intervention, the upper level health agencies delivered much needed

training to the lower level health agencies and health professionals, and arranged for health professionals from provincial and prefectural hospitals to provide onsite professional supervision and coaching, delivering the technical support and learning right to the grassroots level.

The Project has successfully linked the health resources vertically so that upper and lower level health agencies and professionals can interact, learn and share with each other. By doing so, a comprehensive set of professional capacities of grassroots level eye health professionals were built through training and support, including diagnosis and treatment capacities. The Project also enhanced the involved health system personnel's capacity to better communicate and cooperate with schools, Disabled Person's Federation and Department of Civil Affairs.

The service capacity building of county-level hospitals, as a priority of the national health policies, is also the area in which the Project has invested the most and achieved the most. This change in capacities are reflected in many interviews, that the Project "changed our conception of eye health", "increased the surgery service capacity of cataract in our county", "improved our understanding and mastery of eye health basic theories", "enhanced the level of diagnosis in DR", "improved the managerial level of eye department".

2.3 The main innovations of the Project and the successful experiences that can be integrated into the existing eye care health services

● Initial Development of a Comprehensive Rural Eye Health Service Model

During the evaluation interviews, several key liaison persons of Health Commissions at county and prefecture level and presidents/directors of project hospitals mentioned the fact that, in the past, eye health projects such as early stages of Orbis supported project, and the Brightness Action, etc., focused either on donation of medical equipment or short-term service delivery by foreign medical teams. Such arrangements do not make it easy for local patients to have long term and convenient access to eye health services, do not either help local grassroots hospitals formulate their own blood-making functions.

The project, however, is dedicated to piloting and building a comprehensive model and replicating its experiences, aiming to support the local capacity building in eye health services, summing up and documenting the model experiences and communicating them to wider audiences and locations. The eventual beneficiaries of the Project are local eye patients. In this regard, the Project is visionary in achieving long term, sustainable impacts for local eye health systems and eye patients. As Provincial leader pointed out in the Project interview, "The Project supported by the Fred Hollows Foundation has been implemented for the past three years. Its main investment is not in funding individual patients, but in building grassroots level capacities. This is meeting the practical needs of Yunnan province well, and making valuable contribution to the capacity building and improvement of grassroots eye departments in project locations.

The Project effectively helped each project pilot sites establish a comprehensive eye health service system, which include a vertically interactive training mechanism, eye disease screening processes and mechanisms, eye disease referral mechanism, information management mechanism, and establishment and operation of vision centres. The project, through activities such as professional training on eye department service capacity, management capacity in prevention of blindness, as well as training for grassroots PBL professionals, enabled comprehensive eye health services to be provided at local level for major eye diseases that could lead to blindness. Through provision (donation) of appropriate eye department equipment, of training for hospital and project management, for community mobilization and screening, through implementation of public health promotion and health education activities, an initial network of rural PBL involving provincial-prefectural-county and township (village) levels is established.

● **Building and Nurturing of Partnership Network:**

The Foundation has been working in Yunnan for many years, having built up a rather solid foundation of cooperation with a variety of government departments, hospitals and mass organizations. This partnership is further polished and strengthened during this project cycle. In particular, the counterpart hospitals have their project management, coordination, and communication capacities further enhanced, paving a strong way for future project collaboration and extension. For example, a future project on prevention and treatment of Refractive Error amongst school students is about to embark at provincial and Dali prefecture level, and the cooperation builds on previous solid foundation of partnership with Health Commission and Education Department.

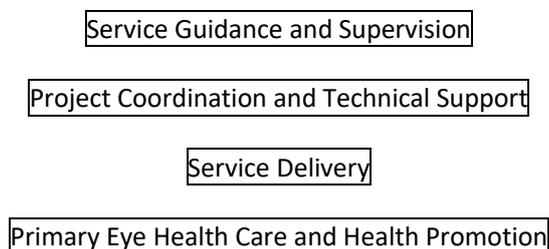
The partnerships nurtured by the Project is not limited to that between the Foundation and different parties involved, but also partnerships between hospitals and government departments, between hospitals and schools, hospitals and community organizations, between hospitals, between schools. The partnership building has extended beyond health system, and forming a multi-directional and multi-party collaborative environment.

As the Project plan goes, the provincial level project management coordination committee is composed of Health Commission, Education Departments, PBO, DPF at provincial, prefectural and county level, and YPRCH. The Committee calls upon regular (quarterly and annually) project coordination meetings to review and summarize project experiences and progresses, and discuss and plan for future project activities. In response to local partners' suggestion, prefecture and county level coordination meetings that included multi-stakeholders were also organized quarterly at local sites. However, there was no participation of representatives from prefectural and county level DPF.

In the Project pilot sites, the multi-departments coordination committee's role involves mainly their support in coordination of community screening and school screening, as well as representation and speaking at the Project coordination meetings. There were almost always staff changes in each participating partners' representative team in every project site. When the staff change happens, it was

found out that in half of the known cases, the successor usually did not understand the Project well, had not seen nor read any project documents, nor participated in any coordination meetings, nor participated in any project activities.

The project's execution framework is composed of four levels, with two upper levels working at provincial level, and two lower levels working at prefecture/county and township/village level.



In practice, at the two upper levels, the multi-departmental coordination work involved The Foundation, while the coordination at two lower levels relies mainly on project hospitals. Binchuan Hospital staff told us that it was rather difficult for hospital to coordinate with relevant government departments such as Education and Health. Every time, their coordination still required a letter of invitation from the Foundation to achieve multi-departmental coordination. The feedback from interviewee of Education Department also confirmed that after they provided support in coordination with schools for screening work, there was not feedback provided by the hospitals, hence making them unaware of any progress and/or results from the hospitals.

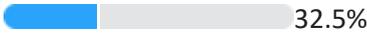
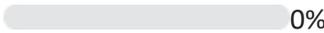
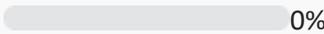
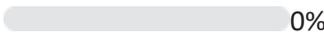
2.4 Challenges and recommendations:

- The Project shall invest more support for the executing agencies at grassroots level, promote the formation of a multi-lateral coordination and communication mechanism, so that an effective feedback mechanism on project progress and experience summary can be built up to enhance the meaningful participation of relevant partners, ensuring that they are counterparts, not just supporting actors to executing hospitals.
- The Foundation needs to further nurture and build up its partnership building experiences with various government departments and social organizations
- The Project involves a comprehensive model building, hence faces a multiple layers of activities, of coordination, of partners, and heavy communication workload. Although that the Project has its strategic core and sound planning, the specific project context in each and every project pilot site are different, making the appropriate understanding of the Project by The Foundation project staff and counterparts at different level hard to reach a common level. Therefore, it is critical to ensure timely documentation and summary of the Project model, to confirm and document success factors of the project. In the future, a series of measure can be taken to improve counterpart's awareness, to reach consensus and to ensure the sustainability and the replication of the project, including meetings, documentation and model manual sharing, and video conferences.

Evaluation Q3. To what extent did the Project increase human resource capacity of eye health care in the Project locations?

The online survey findings suggest that the **Project have enhanced the capacity building of human resources** . Out of 40 survey partners, 32.5% (13) strongly agreed with the comment, and 67.5% (27) agreed with the comment. The responses to this question demonstrated that all of surveyed partners agreed that the project **has enhanced the professional and service capacity of eye health professionals in project supported areas** (please see the chart below)

6. Regarding the comment: “The Project enhanced the capacity building of human resources in public health system, and strengthened the capacity of service delivery by relevant project supported eye health professionals , so that they are more capable of delivering quality, sustainable and comprehensive eye health services.” Please choose an answer that best describes your opinion on this comment.

Answers	Totals	percentage
Strongly Agree	13	 32.5%
Agree	27	 67.5%
No Comments	0	 0%
Disagree	0	 0%
Strongly Disagree	0	 0%
Effective number of Participants completing this question	40	

3.1 The capacity of service delivery by eye health professionals in project locations increased in terms of scope and quality in the Project sites

1) **Eye health professionals:** they are the primary work force to provide medical treatment and eye health intervention measures. All of the interviewed project partners expressed unanimously that the enhanced capacity of health/eye health professionals at provincial, prefectural, county, township and village levels is the key to the success of the project.

The key capacity building of the Project takes the form of training. Project training takes two forms: short term up to 3 months training course at provincial partner hospital; and the hospital based training (hands on training) at prefecture and county level.

Training on Prevention of blindness management, Training of Trainers was provided to managerial staff at the Project hospitals. For Eye Department doctors, training workshops on Cataract surgery, Paediatric Eye Disease and Vision Centre operation were delivered. The trained refractionists, Eye Doctors and Eye Nurses, Endocrinologists, primary health professionals at the township and village clinics constitutes the core health human resources for each local health system.

- 2) At county level, the Project has enabled sustained capacity building for **eye departments** in four county hospitals, ensuring that eye health professionals at county level are capable of delivering high quality cataract surgery services. Among which two hospitals in Dali have started providing refraction error services. Through project's support and coordination, effective intra hospital DR referral system has also been established, between different departments and between village, township and county level hospitals.

Beneficiaries from Human Resource Capacity Building (source: The Foundation M&E)

Type of training	Qty.	M	F
Training of Trainers (ToT)	20	5	15
Prefecture/county training	1,371	613	758
Provincial blindness management training	141	65	76
CHWs primary eye care training	2,245	1,011	1,234
School teacher primary eye care training	1,058	431	627
Total	4,835	2,125	2,710
Percentage	100%	44%	56%

- 1) The Project provided main training support in capacity building for doctor in performing small-incision surgery on Cataract: Through three month eye care professional training in Provincial Training Centre, the surgery capacity of county level doctors was enhanced. The training involved mainly observation, simulated operation (on pig eyes) and lecturing. The interview results demonstrate that all of the trainees have commented positively on the benefit of the training support through placement training.

A few trainees also provided feedbacks confirming that the professional training effects were not fully meeting their specific needs. There are a variety of contexts in these feedbacks. One circumstance is that due to the busy clinical workload of doctors of the YPRCH, it took a while before these trainer doctors were able to enter into the designed training programme; The design of the placement training meant that it involved mainly observation and little lecturing, and there was a lack of systematic coaching; The design of the training mean that trainee doctors were mainly observing, and can only operate on pig eyes, lacking precious hands-on operation practice. The Project Medical Evaluation has the same observations to above findings. Some interviewed trainees suggest that "needs assessment should be carried out beforehand", while "the designed training programmes should be strictly implemented", thus "to make sure that the placement training is more relevant and efficient". Some suggested "the training should not be designed as one-size-fits-all programme. It is better to tailor-make training programme based on specific personal situations and contexts of trainees. The Project Medical Evaluation The evaluation team

recommends the Project to improve needs assessment before design and implementation of the training, in order to make sure the specific needs of local project hospitals are taken into account. By doing so, the relevance of the training can be improved. Suggestions from Medical Evaluation include full-time trainers; more hands-on operation practice and standardized vision training manual.

2) Hospital-based training support in prefecture/county hospitals: Doctors from YPRCH were invited to provide thematic lecturing and training, as well as hands-on surgery guidance and supervision in the county and prefecture hospitals. Such training support provides both theory and practice guidance for county hospital doctors on performing mini-incision Cataract Surgery, proving to be very appropriate for local county hospital doctors. . “The effect of such training is great”; “training contents are appropriate”; “training time is good and flexible” and “the locals can strengthen their connections with the experts”.

3.2 The scope and quality of primary eye health services provided by township and CHWs in project locations have been further improved.

CHW training is a key to nurturing and enhancing grassroots health service capacity, and the CHW is the first person to deliver eye health service for rural population. Through training workshops on primary eye health service for CHW that usually lasted about half a day, the Project supported prefecture and county hospitals to provide theoretical and practice-based training on eye structure, common eye disease diagnosis and treatment (including Cataract, DR and Refraction Error, practical skills including washing and bandaging. Every participating CHW also was provided for free a package of training materials and a toolkit.

Through three years of hard work, the Project has provided training for a total of **2070** CHWs, making the capacity building a critical measure in enhancing the capacity of grassroots health professionals in prevention and treatment of blindness. The design, the methodology and contents of the training by the Project was positively appraised by more of grassroots health professionals interviewed. Compared to the traditional design and methodology of training, the Project supported training is rich in methods and contents, and context-specific.

Feedback from interviewees who participated in the CHW training confirmed that such training support not only enhanced the training capacity of eye health professionals in the prefecture and county hospitals, but also strengthened linkages between these hospitals and township/village clinics.

The knowledge and skill set of CHWs are considered to have a great potential to further development; this is particularly true in the knowledge and skills related to eye health. There is a need for them to receive further training. CHWs are capable of learning through such training. As the number of training delivered to CHWs are few, and the design is too simple, plus there was no follow up tracking of the post training performance of trained doctors, it is difficult to know how has the knowledge and skill sets of

trained CHWs grow in the past three years. We suggest the project closely monitoring the specific changes of CHWs capacity and service over a period of time, and providing further support in this regard.

The Project has also brought about a number of meaningful changes in the capacities of grassroots eye health professionals (mainly township/village clinic doctors), that are critical in expanding the scope and quality of eye health professionals in rural areas in Yunnan. (Please see the list below)

Changes in Service Capacities of Grassroots Eye Health Professionals

	Before the Project	After the Project Intervention
Capacity Building	There was no specific and systematic training on eye health	Primary Eye Health Training Provided, Awareness, knowledge and skills of CHWs enhanced.
Resources and toolkits	None	<ul style="list-style-type: none"> – Toolkit on Primary Eye Health – Training Manual on Primary Eye Health for Grassroots Health Professionals – IEC materials and Brochures – Referral Slip – Contact Telephone Numbers of the County and Township Hospitals (for Q & A and referrals)
Service delivery	Almost none. Lacking capacity to Provide diagnosis and treatment for villagers on eye diseases	<ul style="list-style-type: none"> – After training by the Project, CHWs are capable of providing a wider range of eye health services as: – Health Promoter : Providing health counselling and promotion for villagers. – Referrers : Community mobilization, Assisting with Community Screening, Providing health education for Diabetic Patients and help with referrals to county/prefecture hospitals – Service Provider: Providing preliminary diagnosis and treatment for village eye patients
Coordination and cooperation mechanism	No coordination and cooperation between various parties in eye health service delivery	<ul style="list-style-type: none"> – After the Project' s Intervention – Cooperation between Prefecture/County Hospitals and Township/Village Clinics strengthened – Cooperation between hospitals and township governments and village committees/community committees strengthened – Cooperation between Hospitals and relevant government departments (health and education departments)

		Strengthened
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3.3 The capacity of service delivery by health facilities in project locations increased in terms of scope and quality in the Project sites

The Project placed a priority focus on the county-level health facilities in its capacity building component. Through a series of intervention measures such as comprehensive technical training and practice coaching, the Project strengthened the professional capacity of Eye Department doctors of project hospitals, enabling local people, particularly vulnerable groups to have easy access to quality eye disease screening and treatment services.

The Binchuan People’s Hospital staff shared in evaluation interview that “the three years of project implementation also marks the rapid development of Binchuan County People’s Hospital’s priority departments. In the three years, our goal was to provide accessible, safe, quality and affordable medical services for people in Binchuan county, so that patients don’t have to leave the township for minor diseases, and not to leave the county for major diseases.”

Until now, the executing hospitals of the Project have significantly enhanced their capacity in performing Cataract Surgery, DR prevention and treatment, and Refraction Error Corrective Treatment. This change is particularly manifested in the county hospitals of the Project:

- 1) **Development of the Eye Department:** During the Project cycle, a total of 4 new eye doctors were added to the 4 project county hospitals’ Eye Department and/or Ophthalmology and Otorhinolaryngology Department. In Nanjian, the county hospital added in-patients rooms for the Eye Department, and the Project-supported equipment provided hardware for the expansion.

All 7 Project Hospitals (excluding YPRCH) reported increased number of visiting patients and in-patients after the Project.

Project Hospital Out-patient Statistic

(2016.4-2019.3 Source of information: The Foundation project M&E)

Project Hospital / Year	2016 4-12	2017	2018	2019 1-3	总计
Affiliated Hospital of Dali University	28,455	45,251	58,996	17,574	150,276
Wenshan Prefecture Hospital	23,875	28,644	32,208	8,408	93,135
Binchuan County Hospital	12,052	20,922	24,758	5,376	63,108
Nanjian County Hospital	5,120	8,696	10,857	3,296	27,969
Yanshan County Hospital	8,409	18,394	20,175	3,487	50,465
Qiubei County Hospital	7,501	15,449	16,429	3,007	42,386
TOTAL	85, 412	137, 356	163, 423	41, 148	427, 339

Compared to 2016, the quantity of out-patients of 2017 has increased by 138%; and compared to 2017, it has increased by 122% in 2018. It proves that through project efforts of human resource training, providing equipment, community screening and public awareness raising, the needs for eye care service have increased so that there are more out-patients and it is evidence that the comprehensive service capacity is strengthened in project hospitals.

- 2) The service scope has transformed from waiting for the patients to come to reach-out screening services, “In the past, we wait in the hospital for patients to come to us. Now we are going into the countryside, into the villages, into the communities to carry out community screening and into the schools to do screening”, several doctors and nurses interviewed shared this view on community and school screening work.
- 3) Two of the four county hospitals are equipped to provide vision centre services.(three project hospitals in Wenshan were not able to operate the vision centre service due to local health policy limits on Optical lens services.)
- 4) Surgery capacity on Cataract: YPRCH management made it clear that “there were more than 40 counties that are incapable of treating cataract before the project, and after the past couple of years’ efforts, including but not limited to the project’s contribution, the numbers have been reduced by another 20”. It is apparent that the capacity and confidence of the 6 participating hospitals in performing Cataract have been improved. The technical capacities of county hospitals have been enhanced in a significant way.

At the beginning, the doctors were barely able to perform the surgery, and by the end of the Project cycle, they are now able to perform the surgery in a professional, effective and safe manner, with decreased incidences of complications. A nurse at Qiubei County People’s Hospital shared: “many old people’s old concept tells them that surgery is only necessary when you have lost your full sight.” Previously, “the hospital can perform only the small-incision cataract surgery, and the cases of complications were many, therefore few old patients would come to the county-hospital” . Now, with the increased surgery capacities of the hospital and the doctors, and the community outreach screening services, their increased technical competence were promoted to the general public. As the ageing trend continues in China, increasing number of elderly people are experiencing cataract, and the needs for surgery services are inevitably surging. The Project takes on both ends of the issue at the same time. On the patient end, the Project identifies patients with cataract in a timely fashion and makes referrals to upper level hospitals, through outreach community screening services. On the service delivery end, the Project invested in the medical equipment for inspection and surgery, as well as in improving the human resources capacities of the prefecture and county hospitals, so that the patients can access convenient and quality services in a timely manner. With the enhanced service scope and quality of the eye health services in the Project prefectures and counties, people with cataract don’t have to wait for those specialized charity-oriented eye disease projects such as the Brightness Action that comes to town only once every year, to have their eyes treated. They don’t have to travel far to the provincial capital for

treatment no more, saving greatly on transportation costs and other miscellaneous costs, and find it easier to work out decisions to seek treatment.

Cataract Surgical Outcome Monitoring(CSOM) data can provide evidence of enhanced cataract surgery capacity at the project hospitals. The Project Mid-term Evaluation suggest upgrading CSOM, but after discussion among the project partners, it is considered as unrealistic during project period. The Foundation keeps encouraging the partners (and partners agreed) to use the system as a tool to monitor cataract surgery capacity development for junior doctors.

- 5) **Health service capacity on DR and eye examination:** All of the Project County Hospitals are now capable of identifying DR, with prefecture hospitals being even more professional in grading and treatment of DR. The Project carried out training for prefecture and county hospital's endocrinologists and internists on basic knowledge on DR and referrals, ensuring that these doctors can carry out further health promotion on Diabetes and DR related diseases, enhance local people's awareness on eye health, and facilitate patients to go to eye departments for regular monitoring checks and treatments. The capacities of the Project hospital health professionals to identify DR through portable fundus camera has been improved. There is no clearer requirement on shooting environment and focusing, but "there is still room for improvement on reading and diagnosis through photographs taken"; according to county and prefecture hospital health professionals. Despite the fact that health professionals at the township and village level have no needed technical knowhow and equipment to make diagnosis of DR, they are capable of implementing health promotion activities along with their daily job of managing chronic diseases, to promote blood sugar control and self-management and to carry out regular, early and timely visual acuity checks and fundus examinations, and make timely referral services in the needed cases, after training on DR provided by the Project.

The capacity of the Project county hospitals in diagnosis, treatment and service of DR has been significantly improved as a result of the tele-medicine diagnosis and on-line treatment system between YPRCH and county hospitals supported by the Project. This enabled the better and timelier identification and quality treatment of DR patients in the pilot prefecture and counties.

- 6) **Refraction Error and Vision Service Capacity:** Since its inception three years ago in 2016, the Project prioritised RE as a key project component; while at that time, the government and the public haven't paid enough attention to the risks and trend of RE situation. The Project formulated partnership between hospitals, other grassroots health facilities and schools in both urban and rural areas. Each year, the Project supported county and prefecture hospitals to enter into primary and middle schools to provide eye disease examinations for students for free and provided training for school teachers and students. Therefore according to the management staff of YPRCH, the Project design of RE for youth and children is proved to be forward-looking. Before the Project, none of the Project supported county hospitals provides vision centre service. After relevant training on vision centre operation, the capacities of health professionals at the prefecture and county level hospitals improved significantly. A few trained health professionals from the Project supported hospitals expressed that they are now capable of

delivering vision centre service. No matter whether optometry service can be provided by public hospitals, doctor from YPRCH shared in the interview: “As a result of the constraints of the system design, there is a serious lack of optometrists across the country. Many doctors are unwilling to be optometrists, and they prefer to be eye surgeons,” however, “the Project has trained relevant health professionals and prepared the needed human resources for vision centre operation, thus filling an important gap at the prefecture and county level. This is very meaningful undertaking. On optometry service, several interviewees recommended cooperation with private hospitals.

3.4 Challenges:

The Project’s original design is appropriate and in line with the National priority to improve the grassroots health service delivery capacities. However, there exist a few challenges:

1) The lack of human resources in eye health service is still a bottleneck for the service guarantee by the health system:

Several leaders from the Health Commissions and hospitals identified the lack of eye health professional as the key challenge. To meet the clinical needs within the hospital is already a challenging task, while to carry out community and school screening puts further strain on the already understaffed health professionals.

Through the Project support, the number of eye doctors increased, service scope and contents increased, hospital beds (capacity for inpatient service) increased, vision centre service is set up and running in a few counties in Dali. When the credibility and branding of the county hospital in eye health service is established, and the awareness and knowledge of local people improved on eye health, there is the increase in demand for eye health service, and hence the increase in numbers of out-patients and in-patients, the increased workload, the challenge in lack of health professionals manifested significantly. This challenge is further compounded by loss of trained health professionals. Despite the apparent benefits of outreach screening work, the hospital-based health professionals find it hard to get away from their own designated hospital tasks, making it hard for them to turn the beneficial screening work into long term and regular service. In response to this situation, the Project strategy is to provide training for CHWs through county hospitals, to enable CHWs to grasp primary eye health knowledge and the skills of initial diagnosis by applying basic eye check tools, and suggest referral to eye patients when necessary.

2) The Project resources are limited. In three years of the Project, 7 project hospitals, based on the prefecture and county level hospital resources, provided training for local CHWs and community health professionals, as well as primary eye health service toolkits. However, the often single training is difficult to achieve sustained expected outcome and impact. The general feedback from trained village and community health professionals indicated that “there is a lot content to cover and a lack of

hands on practice support, making it hard to memorize and internalize” . Moreover, the lack of a pre-designed tracking of training effects such as the mastery of trained knowledge and skills, as well as the application of these knowledge and skills make it hard for the Project to gauge the impacts and follow-up actions.

On the other hand, multiple interviews and focus group discussions informed the evaluation team different opinions on CHWs’ value and project intervention, which “the training for village and community health professionals would suffice if it include basic concept of the eye health service. Too much knowledge does not help.” Some interviewees also expressed that eye health is way too professional, and CHWs are not equipped with either knowledge and technical knowhow nor relevant equipment, or that “the CHWs are way too busy, shouldering a very heavy workload, and they simply cannot shoulder extra eye health services, this is especially difficult given the fact that there is not economic subsidies to support them.

3.5. Recommendations:

1) The evaluation team recommends that the Project implement assessment of availability and professional capacity of eye health professionals at different levels (not limiting it to professionals from public health facilities), focusing on various stakeholders at different levels of the eye health service identified in the Project, taking into account of their different roles and functions. Based on the evaluation, the Project can collaborate with the Provincial Training Centre to improve tailored capacity building plans to enhance the professional techniques and service capacities of health professionals at all levels.

2) It is a very valuable measure to alleviate the capacity of public health service delivery of CHW through the support of the County level hospitals. However, the one or two training per year provided would be hard to achieve its intended results. It is recommended that The Foundation design comprehensive training plan and build up a training scheme that monitors the effectiveness of training and provides follow up support accordingly.

Evaluation Q4. What impact did the Project have on increasing local people’s accessibility to cataract, DR and RE services?

4.1 The community screening service has increased local people’s accessibility to cataract, DR and RE services.

The evaluation team finds out that the Project intervention, in particular the community screening and school screening, has made major stride in increasing local people’s accessibility to cataract, DR and RE services.

The Project has taken the eye health services from hospital to communities, villages and schools through supported screening work by project hospitals. The Project supported eye disease screening service including screening on Cataract, DR and other common eye diseases for community and village residents, and screening on visual acuity and common paediatric eye diseases for students of middle and primary schools, all free of charge.

- **Screening on Cataract** was carried out in the past by eye health professionals in Yunnan's Prevention of Blindness work. In the past, Yunnan has had two projects targeting Cataract, i.e. the Brightness Action and Orbis project, which focused mainly on providing equipment and surgery services, therefore did not provide significant capacity building for local eye health professionals. Moreover, when patients missed the Project opportunities for surgeries they had to wait for another future opportunity that was not guaranteed.

In comparison, the Project emphasized the importance of community screening in the rural areas. Although the screening work still could not fully cover the far out remote areas, it has made major stride in identifying rural population with Cataract who did not have easy access to eye health services. In addition to the community screening work, the village/community doctor training provided by county and prefecture hospitals enhanced the grassroots health professional's ability to identify patients with Cataract in their daily service work.

It is important to acknowledge the competition from the private eye hospitals, which sends staff to stay in the villages, to provide transport services for patients to and from hospitals in county or prefecture cities, and assist in reimbursement of medical bills for the patients, as well as providing immediate in patient surgery in their hospitals. This has increased the accessibility of Cataract services for rural villagers. However, it is as important to point out, as made clear by doctors from Nanjian People's Hospital, that these private hospitals did not care about health promotion, nor provide after surgery follow-up visits or rehabilitation service, "it seems that the private eye hospital cares only about the middle process of profit making." Given the lack of sharing of patient data, it is hard to know if some of the patients identified in the community screening end up receiving surgery services by private hospitals.

- **DR Screening:** The number of Diabetic patients in China is on the rise every year, with increasing rates of DR and DR-induced blindness. Through the Project supported initiative, YPRCH worked with prefecture and county level hospitals to promote intra hospital collaboration between Eye Department and Internal Medicine Department to facilitate DR screening for in and out patients of the Internal Medicine Department, greatly enhancing the accessibility of Diabetic patients to DR diagnosis and treatment services.

Taking advantage of the township clinic's management work on Chronic Diseases, Binchuan County People's Hospital successfully integrated DR screening into their daily service for Diabetic Patients. According to the National Health Commission, the general doctors of township/village/community health clinics, and doctors and/or nurses of the Internal Medicine and/or Internal Endocrinology Department of the Grade two or above general hospitals can have the capacity to make timely referral service for DR patients to the Eye Department, given that they receive DR screening techniques training (fundus camera), through initial screening using the fundus camera. In theory, it is feasible for the Project to establish firm community screening and archiving of patients with Chronic Diseases, as well as tracking of development of eye related diseases, making early education and early intervention possible. This will demand more project input and piloting work to prove its feasibility.

According to a leader from YPRCH, currently "there is a lack of exploration of DR community screening model and resource investment; therefore the pilot project experiences are valuable in this regard."

- **Refraction Error Service:** School screening for youth and children were carried out with county/prefecture hospital liaising with county/prefecture Education Bureaux. Once the schools were identified, the hospital eye health professionals would enter into the school and deliver the screening. In the past, most school health examinations would include but not limited to the visual acuity examination, which is only a small part of the overall general physical examination. The Project supported the extension of specialized eye health promotion and eye disease diagnosis service into primary and middle schools. The school screening service provided visual acuity examination and screening of common paediatric eye diseases for free, greatly enhancing the accessibility and availability of eye health services for students in the pilot counties and prefectures.

The Project supported school screening service is sufficient to cover all students in the target schools. A total of 137,178³ school students in the two prefectures/counties have received school screening service. The traditional annual school health examination used only the vision chart as the key tool to examine visual acuity of students; while the Project supported school screening applied professional vision equipment in the screening, enabling more accurate examination of refraction errors amongst children. The screening health professionals also provided feedback to the school on the key findings of the refractive examination and screening of paediatric eye diseases, for school to follow up on those students who would need further optometrist, spectacle and refractive correction services. The screening health professionals also provide a feedback form for those children who need to come to the county/prefecture hospitals for further examination and/or treatment services. Such screening has gone beyond pure examination, and become an important and effective measure in early diagnosis and timely treatment service delivery for refractive errors facing youth and children.

Previously mentioned annual physical examination have encountered some difficulties as the government funding for school health examination work was not supported by relevant policies since

³ The Foundation M&E, by September 2018.

2008. In one of the Project Counties, Education Bureau mentioned that in the past two years, the annual regular free health examination activities have been halted. In such context, the Project supported school screening and refractive examination become even more important in increasing the accessibility of youth and children to free and quality eye health services. This school screening initiative is also an important forward-looking measure that can be replicated in Yunnan province to respond to the serious development trend of high incidence and young prevalence of near-sightedness amongst youth and children in China.

Beneficiaries from Project Service

(source: The Foundation M&E, by March 2019)

Type of Service	Qty	Male	Female
Cataract Surgery	9,817	3,973	5,844
VR	4,204	2,040	2,164
Other Surgical intervention	41,904	20,996	20,908
Other Non-surgical intervention	314,102	148,055	166,047
School screening	155,961	78,396	77,565
Community cataract screening	125,691	57,584	68,107
Community diabetes screening	53,543	24,794	28,749
Spectacle	22,674	10,373	12,301
TOTAL	727,896	346,211	381,685
Percentage	100%	48%	52%

4.2. The effectiveness of the eye screening mechanism

All 6 Project hospitals have implemented eye screening services. All project partners, including interviewed health professionals of all hospitals, gave positive appraisal of the effectiveness and importance of the screening service. They reported that the screening service has been effective and achieved good results and impacts, and believed that it is one of the highlights of the Project.

All project sites have completed their pre-designed targets on Screening for DR, RE and Cataract. The original screening targets for each project hospital, particular for DR, were reduced due to the difficulties in identifying people with diabetes.

1) The **Procedures on DR screening, Procedures on Cataract Screening, and School Screening Procedures** will become valuable project outcome documents and experiences for the province-wide and even nationwide prevention and treatment of blindness. These screening procedures were included and shared during project training for eye health professionals at prefecture and county level, and are annexed in the distributed training manual. The evaluation interviews found that most of the interviewed health professionals knew about the procedures, but could not remember where the

procedures were written. Despite this, all projects have these procedures followed during their screening work. The field observation of the evaluation team during one community screening event proved this. Although the screening mechanism is already formed, it still needs to include indicators and monitoring and evaluation mechanism, and needs to be stabilized for regular operation and replication.

2) All project hospitals all reported that screening work effectively **changed the service awareness of the eye health professionals**, transforming their concept of service from waiting for patients in the hospitals to reaching out and extending early intervention into the communities, taking services to where patients are.

3) The Project supported eye health professionals to **reach out to schools, communities and villages**, taking services with them to the local resident, and to deliver health promotion to **raise public awareness** on eye health in the same time. Trained village health professionals (CHWs and township doctors) also delivered eye health promotion and assisted county hospitals to implement screening work in the villages and communities. During the community screening, village and township doctors' assistance with county hospital health professionals provides them onsite practice observation and coaching.

4) The screening service also created opportunities for dialogue, questions and answers, as well as presentation of quality eye health services between hospital staff and the public, building up positive image and **branding for the involved project hospitals and the eye health service team**. Every project site has formulated their own screening team. As the number of eye health professionals is smaller, the screening team in all four project county hospitals are relatively stable. At prefecture hospital; the screening team composition was not stable, making it hard to form a synergy. Dr. Li, the deputy Director of the Eye Hospital of Dali University-attached Hospital felt that one of the main flaws of the screening work at his hospital was that the screening team was composed of different health professionals every time, making it hard to form a steady team and to build up team capacities. As a result, once the Project is over, the sustainability of the screening work become questionable.

The evaluation team recommends that the Project considers designing personnel requirements in setting up the screening targets, so that the hospital can better facilitate mobilization and arrangement of relevant human resources for more effective and sustainable screening.

5) **The coordination of screening work** were mainly realized by the hospitals making contacts with local Health Commission and Education Bureau, so that the Health Commission and/or Education Bureau would inform in writing or telephone relevant communities and schools. In some cases, the hospitals need to inform communities and schools using written notice from relevant departments or directly call to liaison. This is creating extra workload and time input on the hospital side. In comparison, it is easier to coordinate and organize school screening, while urban community screening is harder to organize, wither fewer participants. When it comes to the rural villages, the screening becomes even harder to coordinate and organize, as the scattered residence and transportation difficulties in the mountainous

areas presents further challenges. The effectiveness and success of outreach screening relies on the coordination work.

Difficulties in screening:

The interviewees at all levels have all reported challenges in screening, in particular in the DR screening process. These mainly include:

- 1) **Low awareness of the patients:** village/community doctors usually will confirm with village/community residents if they have diabetes when they create health archives. When they carry out community screening, even with the notice put out by health professionals beforehand, many residents would not come to the screening. Most of the patients are elderly people, who generally lack awareness on DR, as well as on Diabetes and other Chronic Diseases.
- 2) **Difficulties in transportation:** half of the community outreach screening took place in the rural townships. Villagers who live in the remote mountainous areas may spend several hours just to get to the township. In Nanjian and Qiubei County, where villagers tend to scatter around in the mountains and valleys, with some villagers of the same village residing on different mountains. For those villages connected by paved roads, villagers may be able to come to towns via motorbikes. However, for some elderly people, immobility makes it hard for them to come to towns for screening. Nowadays, as most of the young and middle-aged persons have migrated to other places for work, many elderly people find it hard to find someone who can accompany them to towns. Therefore in some cases, even the free screening services did not attract large numbers of people. As a result, the Project's screening on DR was readjusted to a lower level than that originally planned.
- 3) **The screening equipment and technical capacity for DR demands a quality health professional team and the screening takes a good amount of time:** the Fundus photography operation demands trained staff and quality equipment. It takes a good amount of practice time and training for the health professional to be able to operate it in a skilful and effective manner. A county doctor commented that "the handheld Fundus Camera provided by the Project does not produce high quality photos," hence affecting the early diagnosis of DR, "most of diagnosis were of late stages." After the Fundus photos were taken, the Project county hospitals will transmit the photos to YPRCH for grading.
- 4) **The screening targets were not pegged against economic incentives:** The subsidy for out-reach screening for hospital was 3-5 *yuan*/person. There is no allowances for transportation and food, and not allowances for township/CHWs who came to assist. In comparison, the Disabled Person's Federation provides a 200 *yuan* allowance for each confirmed Cataract Patient.
- 5) **The major challenge is the shortage of health professionals:** Every screening involves at least two doctors, two nurses and one optometrist. The eye Department of each project hospital could not afford almost half of the whole department staff to carry out community/school screening

frequently under the strain of completing the Project set screening targets, as this means that the screening would stop these health professionals regular hospital services, which would inevitably affect negatively the eye health service delivery and quality for patients coming to the hospitals.

- 6) It is important and professional for referral of students identified with RE to **vision centre** for spectacles. However, due to policy constraints, two hospitals (Qiubei and Yanshan) in the Project locations cannot provide vision centre services as a follow up.
- 7) One of the objectives of screening by the Project is to facilitate increase of customer demand for services. The key hospital interviewees of this evaluation all reported that as a result of the Project implementation, the in-patient and surgery patient numbers have both grown significantly. However, the use of the referral slip did not achieve its intended purpose. Moreover, the identified patients through project supported screening may have sought out service in other hospitals. Therefore there is still **no sound measure to monitor and gauge the causations and correlations between screening service and in-hospital services.**
- 8) Community screening data are registered on hard copies and follow-up e-information management system is only able to cover partial information of the patients. The Project hospitals have not full capacity in managing all data received from outreach community screening and make good use them, according to The Foundation project team, it is necessary to further explore whether it is necessary and how to **make full use of community screening information.**

4.3 Vision Center operation and its challenges and constraints to increase local people's accessibility to cataract and RE services

Current situation of Vision Center operation: Supported by equipment provided by the Project, all project hospitals are equipped with basic optometry equipment and trained optometrists. However, there exist realistic challenges and constraints on the operation of vision center service.

According to government policy requirements that public hospitals in China should not be running profit-making business components. This means that the patients, in particular youth and children with RE could not access quality spectacles in the project public hospitals, which is with possible profits.

As a result, the project hospitals operating vision centers have made great efforts to find solutions and have taken different measures in handling this dilemma. For example, Binchuan County Hospital has contracted out the spectacle counter to private service provider ; while Nanjian County Hospital provided all services at its vision center, both under the guidance from YPRCH for service quality control.

In Nanjian County the Vision Center is a success story. With the Project support, Nanjian Hospital established the vision center with full set of computerized refractive examination equipment, and relevant equipment provided by the Project. The center has started providing services for patients, greatly enhancing the accessibility of local people, in particular youth and children, to RE services. The Nanjian Vision Center has two senior optometrists who can provide RE treatment services and provide

a variety of RE strategies and Spectacle prescriptions according the varying needs of patients of different ages, purposes, and different needs (Near sightedness, Long sightedness and presbyopia). In both Nanjian and Bichuan, the vision center is in normal operation and providing much needed and credible Refractive services for local youth and children.

Despite the fact that the Refractive examination charges the patients, many parents still take their children to the vision center for examination, as they place more trust in the eye health service quality of the county hospital as reputable public hospital . The operation of the vision center also means that local students of the primary school and middle schools are now able to have access to refractive examination and spectacle services locally, avoiding higher costs incurred when they had to go to prefecture or provincial capital city for similar vision services.

However local policy constraints more in Wenshan Prefecture , despite the efforts made by two project hospitals. In Qiubei County and Yanshan County , the vision centers were not established but there are trained optometrist in these two hospitals who can provide refraction and prescriptions. The Foundation has withdrawn some of the supported equipment for the vision center components and resupplied them to other hospitals that are able to provide RE treatment service, with the equipment from Qiubei to Dali Hospital; from Yanshan to YPRCH for training purpose. On the policy constraints on whether relevant health policy permits public hospitals to operate a vision center including refractive examination and spectacle service, Wenshan Health Commission shared that the policy varies from one place to another, there is not total ban on the vision center.

One practical problem is, when the Project supported school screening identified students with RE, these children could not access local county hospital's vision center service that is credible and professional due to the ban on operation of vision centers in these hospitals. This situation is having an impact on the availability and accessibility of needy eye health services for the local population, in particular, youth and children.

As the three year Project Plan dictates, during the project, a total of 75,000 students of middle and primary schools, of which 25,000 students are targeted for each hospitals of Wenshan People's Hospital, Yanshan County People's Hospital and Qiubei County People's Hospital , would have received the school screening service for RE and common eye diseases. Amongst these 75,000 students, those identified for further RE corrective services in Yanshan and Qiubei Hospitals, are suggested to visit other hospitals that can provide professional spectacles service.

4.4 The local referral system increased local people's accessibility to cataract, DR and RE services

The local referral system supported by the Project has been set up and running. The local referral system has increased local people's accessibility to cataract, DR and RE services.

The Project Medical Evaluation Reports that all project sites have established DR screening mechanism that 100% diabetes in-patients will have free eye check; and the communication between out-patient

eye department and endocrinology department is effective.

Intra hospital referral mechanism between eye department and the inner medicine department, to a large extent, has much to do with the demands from the management of hospitals. For example, Yanshan County Hospital staff shared with the evaluation team that the majority of patients referred to the ENT department by other departments in the hospital would make their way here eventually. The referral works similarly in other project hospitals. **Referral by township and CHWs to county hospital, and referral by county hospital to higher level hospitals** also exist, but more in a way of a “natural” occurrence, as part of the system set up, relying mainly on the system support of the medical social security policy. In consideration of the sustainability of the practice, the Project did not invest in setting up a referral system. Instead, the Project supported the Project hospitals to produce referral card/slip to facilitate the intra hospital referrals within hospital and inter hospital referrals. Effective referral is critical for quality and timely health services, and constrained by a variety of factors, including motivation mechanism for hospital staff at different levels, awareness and willingness of patients, and relevant policies. Good experience from Qiubie Hospital is that intra referral mechanism has been set up that doctor of inner medicine department can prescribe regular fundus check for patient to go to eye department, and then return to inner medicine doctor as part of diabetes patient management. This mechanism was integrated into health information system of the Hospital.

According to the information published by the National Health Commission, 87% of Diabetes patients sought out services at county or below health facilities, while the primary diagnosis and treatment measures and appropriate technologies for DR were available only at prefecture and provincial hospitals. When the county hospitals identified DR patients, they cannot provide relevant treatment and had to refer them to higher level hospitals, hence the incentive for the health professionals at county hospitals to carry out screening on DR is relatively low. It does not bring about direct increase in the number of visiting patients, as screening on Cataract and other eye diseases do—this is the same finding as the Project Final Medical Evaluation.

4.5 Recommendation on service improvement:

By now, all project hospitals have confirmed the positive function and effectiveness of project supported intra referral and community/school screening. The observation from the evaluation team of the sustainability of different services is as below:

- 1) **Screening work shall have in place a monitoring and evaluation mechanism** that includes requirements for team member selection, screening targets, workflow process management mechanism. With these management tools, screening work can become more systematic and evidence-based, and the chances of screening being integrated into regular hospital services can be increased. Each project hospital based on their own work location, funding support, equipment and human resources, shall continue to explore sustainable development mechanisms for the project model. For example, Yanshan County Peoples’ Hospital is planning to integrate its eye health work with the rural poverty alleviation through health service supported by the Grassroots

Guidance Department of the hospital. The poverty alleviation through health service includes seven key contents such as health promotion, grassroots supervision and family doctors. The integration will turn the eye health professionals team from “Guerrillas before the Project into the formal army”, transforming the project-based service into more regulated and professional service. By doing so, the outreach screening service can be sustained, while the task of poverty alleviation through health service can be completed, and the hospital can enhance its public image and identify more patients. The Foundation and its key project partners shall explore relevant platform and measures to present and advocate for replication of project supported screening service strategies including screening plan and procedures on Cataract, DR and RE in schools to other parts of Yunnan and China. The Foundation shall make recommendation to relevant government department to include screening service for common blindness-inducing eye diseases in the management of Chronic Diseases.

- 2) It is confirmed that the two way intra hospital departmental referral and screening work, and outreach cataract screening (prefecture/county hospitals will cooperate with trained CHWs) will continue to exist and operate after the Project completes. The Foundation shall follow up with the hospitals on the development of these activities after project ends.
- 3) **Screening for DR:** The outreach screening work of DR, according to several interviewees, “may be difficult to sustain given exiting difficulties”, and as it stands now, due to “the shortage in human resources and funding support”. There is a good possibility of integrating community screening for DR into the regular management of Chronic Disease of the township and community health service clinic. The importance of out-reach screening for DR is recognized by the YPRCH and Yunnan Office on Prevention of Blindness; however, there are no good practice examples in Yunnan in general, and a lack of practical piloting. It is suggested by YPRCH staff, community DR screening is important given current prevalence while lack of actual experiences in general. Even the Project screening for DR work is still limited it is rather valuable as a reference. The pilot project sites implemented under the Project **standard DR screening protocols** contribute with lessons learned. The constraints of screening for DR also lie in the individual Diabetic patient’s awareness and the challenges in management of the chronic diseases; therefore there is need for more resources to be invested in further piloting.

The Project Medical Evaluation also suggests the importance of strengthening RE public awareness raising; strengthening the cooperation and coordination among local government departments, funding body and health professionals; more investment on DR screening; and increase the motivation and effectiveness of health professionals to DR screening.

- 4) **Refractive Error:** The latest development trend of early and prevalent occurrence of RE amongst youth and children represents significant demand for eye health service. What is more important than medical service in this regard, is that the response priority should be moved forward to the prevention service. The key response strategy shall not limited to health system as main body for

medical service delivery and educational activities, but that include multi-stakeholders such as education departments, community management committees, women's federation, youth league, school teachers, parents and children themselves to take responsibilities and initiatives in caring eye health. Apart from relying on hospitals as leading implementing agencies, we recommend that The Foundation shall design project to explore a comprehensive service model that delivers school-based and community-based health promotion to influence the knowledge, attitudes and practice of youth and children, the entry point of such project shall focus on building of individual living style and a supportive family and social environment. With the new opportunity of Chinese central government paying close attention to children's eye care issue since mid 2018, the Project experiences of RE screening and management for school students is highly likely to sustain and be replicated;

- 5) Other opportunities do exist for each project hospitals to further explore sustainable development of the screening services, taking into account of their own work priorities, funding availability, equipment and human resources. For example, Yanshan County Hospital is considering the integration of hospital eye health service with the ongoing rural poverty alleviation through health services as a way to sustained outreach screening work, thus they can achieve both the poverty alleviation tasks, promote the community awareness of hospital, as well as identifying more patients.

Evaluation Q5. To what extent, were strategies and approaches of the CRECM fully or partially applied by local and provincial government? (EO3)

5.1 Project strategies and approaches of the CRECM are known to local and provincial government.

The local and provincial health authorities' take on the Project strategies and key approaches. From a macro point of view, the Project strategies and approaches are generally understood and accepted by the provincial and local health authorities (partners), and are in good line with the national health and education policies, hence are feasible to be applied by different project partners at local and provincial level.

In this project, the emphasis is placed on capacity building for human resources, while a strategy of twin emphasis of both hard and software is also in place, i.e., the Project provide both hardware equipment and systemic training support. The Project also emphasized strengthening of the service capacity of county level public health system to provide quality professional diagnosis and treatment.

All the key partners of the Project, including partners from health system and education system, agreed on the importance of prevention of eye diseases, and of putting priorities forward to address early diagnosis and early intervention. This formed the common basis on which all parties collaborated

through the Project. The Project also strategized on changing the traditional way of hospitals waiting at hospital for patients to come for treatment, towards a new way of outreach health service delivery, advocating for taking screening service, health promotion and CHW training services “into communities, villages and schools”.

5.2 The deepened integration between eye health care and the overall health system

At project hospital level, the strategies and approaches of the Project have influenced the Project hospital’s management and service delivery. However, it still has a long way to go before the local and provincial health authorities can fully apply the strategies and approaches of the Project at wider scope. At the initial stage of the project, the eye health service did not have strong and specific policy support to youth eye care. In 2018, a national document⁴ has provided the policy backing. However, it will take some time before the national policy settle down into the grassroots implementation, and even longer to formulate action measures and targets/tasks.

Wenshan Prefecture Education Bureau official expressed that the above-mentioned national policy document has not arrived and no tasks have been assigned to implement. As for DR, an eye complication for Diabetes has not been included in the public health service list of Chronic Disease Control. “By 2035, Diabetes would become the leading cause of blindness. At the present, we are putting in only a very limited way the necessary equipment, human resources and mechanisms in place to address and respond to this cause.” The Project has demonstrated that good strategies and approaches in innovating rural eye health service delivery is possible, and provided meaningful reference for government investment in prevention and treatment of eye diseases.

5.3 The Emphasis and Support for Eye Health service and Development of the Eye Department by local and provincial level health authorities have grown as a whole.

1) For local health authorities and other non-pilot county level hospitals, the Project’s implementation provided valuable strategies and approaches on eye health service delivery, and demonstrated what works at grassroots level. The Project has its special value as a pilot model on comprehensive rural eye health service provision. In the general context of the ongoing poverty alleviation through health service and construction of new socialist countryside, the local and provincial health authorities will place more importance to eye health service in rural areas in future work plans.

In the past, the input and support by government to eye health service was in short supply, with insignificant funding and human resource support. Interviewed official from Prefecture Health Commission mentioned that “in the past, county hospitals basically did not prioritize eye health service, without sufficient personnel, equipment, nor other investments, not to mention any outreach service and health promotion.”

⁴ The Notice on Comprehensive Prevention and Control of Near-sightedness of Children and Youth, issued by eight Ministries including the Ministry of Education, August 30, 2018. http://www.moe.gov.cn/srcsite/A17/moe_943/s3285/201808/t20180830_346672.html.

At grassroots level, there exist flaws of different kinds at the three levels (county, township and village) of eye health care service. Most of these eye health services worked independently from each other, lacking mutual support and networking, making it hard to effectively carry out community screening, public health promotion, and referral and training activities.

The implementation of the Project activities enabled the participating health authorities and hospitals at different levels to give increasing priorities to eye health service. The Project provided improvements in human capacities and medical equipment. More importantly, the Project started at the provincial level and worked down to the prefecture and county level, **“raising the importance of developing a functioning eye department, and promoting the integration of the construction of eye department into the latest development plans of project hospitals”**.

2) With the enhanced capacities, the prefecture/county level hospitals may extend their service coverage into the communities/villages.

With enhanced capacities of the eye health professionals at county hospitals, plus equipment enhancement, formation and maturation of work flows and procedural mechanisms, on one hand, the hospital’s capacities in providing out-patient services, in-patients surgeries, as well as the two-way inter-departmental referral function are enhanced. On the other, the hospitals would be more willing and motivated to reach out for screening and health promotion, which would help build up the hospital credibility and branding, while identifying and attracting patients.

It is also possible for the hospitals to make more functional linkages with community/CHWs who have been trained through the Project supported training activities. For example, Nanjian County Hospital has witnessed the solid growth and capacity building of its eye health professionals during the project, while also managed to train all of the 300 township/CHWs once during the past three years. These grassroots health professionals can become important eye health boot soldiers connecting the county hospitals and general rural populations. The grassroots eye health professional’s network is gradually built up, and a comprehensive integrated eye health service system between county and township/village has taken shape as a local eye health strategy.

It is recommended by the Evaluation team to consider continued funding support to follow up on the successes achieved in the Project, and to deepen the collaboration and piloting.

3) The Project strategy to focus on prevention and control of nearsightedness of children and youth was forward-looking and it is forecast that the cooperation between hospitals and schools will continue and be strengthened.

The Notice on Comprehensive Prevention and Control of Nearsightedness of Children and Youth, issued by eight Ministries including the Ministry of Education on August 30, 2018 sets the tone for the importance for future eye health services targeting school students. Facing the serious development trend of refractive error amongst children and youth, “the Project started as early as three years ago to try out practical measures in prevention and control of nearsightedness of youth and children, which is proven to be leading the tide.” The Project has designed clear screening targets for schools and provided

professional refractive examination service, as well as training for teachers on RE and nearsightedness prevention. Under the new policy environment, the Project strategies and approaches relevant to the prevention and control of RE for youth and children can be sustained and further explored, as they become valuable reference for similar work and services in the future.

Evaluation Q6. The Project contributes to integration/inclusion of eye care into existing health care system? How effectively did the project overcome policy barriers it faced?

6.1 The local government integrates the CRECM into PBL planning.

The Project's key model components include the key theme of "avoidable blindness", the priority given to government leadership and policy governance, the entry point of capacity building of the public health system. Through the implementation of a series of project measures, the Project has strategically improved the professional capacities of health professionals and hospitals at the prefecture and county level, as well as strengthening the hardware arrangements. The primary feature of the Project is that it cares about people, emphasizes the allocation of resources to the grassroots level, and the importance of prevention. The documentation and summary of the Project Model will be carried out in an orderly and strategic way. It is important that the process facilitates effective multi-party participation and dialoguing, in order to promote a synergy in the Project design and implementation. The successful implementation of the project has made it possible to integrate CRECM model elements to local PBL planning.

6.2 The Project contributes to the PBL planning by government counterparts and take measures in respond to and overcoming policy barriers

- **The key policy influence of the Project on DR and RE related prevention and health promotion:**
The national emphasis given to DR and RE was not sufficient and related input was scarce. An interviewee commented, "the development trend of DR and RE is like they are the "disaster zone". The state government is gradually given importance to it, slowly recognizing that they are social issues that need more health promotion, and treatment alone by the doctors is not sufficient to respond to it." With the growing number of Diabetes patients, there is still a lagging behind investment in health promotion and awareness raising on the complications of Diabetes, in particular "YPRCH once received the provincial Health Commission's approval to carry out DR screening, but the process was ridden with difficulties during implementation". A hospital leader believes that the Project "has made very meaningful and valuable attempts in responding to the DR, and harnessed relevant experiences. And in the future, this is something that we would surely continue."
- A key feature of the Project is its emphasis on the **active prevention work of eye health service**. It places great importance to the health promotion and to the medical infrastructural building and the improvement of diagnosis and treatment capacities of public health system. For example, the Project supported prefecture and county level hospitals to join hands with relevant government departments and communities to carry out free screening and health promotion for prevention; it also supported intra hospital DR training for doctors from both Eye Department and Endocrinology Department, and promoted counseling and educational services for in and out-patients at both

departments, achieving two way referral mechanism; it also supported production and distribution of Manual on Primary Eye Health Care for Basic Health Professionals, and Manual on Primary Eye Health Care for Trainers, which include information on DR. These manuals helps improve basic public health professional's awareness on DR so that they can carry out further health promotion and make referrals regarding DR in their daily health service delivery.

The Project supported a variety of researches and information sharing platforms, in an effort to provide relevant information and data on eye health for government departments at different levels. These strategies and approaches would become important measures to influence government policy making.

- All of the above-mentioned resource development, training, health promotion and awareness raising, as well as the multi-department collaboration mechanisms are actions and measures taken before the complication of Chronic Diseases worsens. They make **good demonstration in how government policies on health service and health facilities can better invest in prevention and control of avoidable blindness and Chronic Diseases (and their complications), and has become a best practice model on moving the service priority to the forefront of prevention.** The Project may support relevant researches on the above-mentioned fields to collect more data and evidence. These data and evidence, along with sound and good advocacy and promotion strategies, can serve as important evidence to influence government policies.
- On the other hand, as the management of Diabetes is a complicated and time consuming process that can be affected by a variety of factors, it is hard to provide effective and valid data to prove the cost-effects of the prevention and control work; There is still further room for improvement of awareness and service capacities of the grassroots health professionals; it is also important to influence relevant policy support and establishment of sustainable service mechanism. In theory, the general doctors of township clinics and community health service clinics, and doctors and nurses of the Endocrinology Department and Internal Medicine Department of Grade 2 or above hospitals , after training to master DR screening techniques (Fundus Photography), are capable of primary screening of DR patients, and making referrals to Eye Department at higher level hospitals. The Project design did not arrange DR technique (Fundus Photography) training for general doctors of community clinics or doctors of Internal Medicine. Yanshan County Hospital suggested in the interview that the Project may consider equipping Fundus Camera and provision of relevant training for doctors of the Internal Medicine Department. This may be a potential field of development for the Project in enhancing the capacities of the grassroots health facilities.
- The Project design **focuses on both “eye diseases” and “people”**: The primary goal of the Project is avoidable blindness. When developed project strategies around eye diseases, the Project emphasized focus on vulnerable people and women; which differs from traditional approach in public health system. On the side of service receivers, the Project conducted baseline research to study community people's KAP under specific culture, geographic and politic context, and at the

end of the Project to compare their changes. This is helpful for improving project design and leaves evidence of health service receivers' changes. The contents of Project researches and studies go beyond eye diseases, also include situation analysis of people's economic condition, family structure, left-behind seniors and children, education background, behaviors and conditions of visiting doctors (e.g. needs for companionship, language and transportation issues). It explains that individual's KAP and external environment both have impacts on "eye disease" prevention and treatment. Findings on this respect have reference value for public health promotion project design and implementation. It is also good demonstration to government and public health system **people centered approach for project design and resource investment**. Currently the Project partners haven't seen full value of the contribution of this project; their understanding of project achievements and social impacts mainly from the number of people have received screening, clinical service, surgery, equipment supply and human resource building.

6.3 The project overcomes policy barriers and lessons government can learn from in both practice and policy making.

- **Strategically develop and establish partnership.** The Project has the support from provincial-prefecture/city-county-township level government health departments; and has established trust and collaboration at the level of implementation and management. Even though due to funds allocation issue by YPRCH, and plus human resource change issue, the Project adjusted its coordination mechanisms, which resulted in certain communication difficulties between The Foundation and project partners, the Project still were able to complete project targets as planned. Because the Project is a comprehensive model, involving several levels, multi-systems (health, education, mass organizations and community organizations) and multi-target population, it is rather complicated to integrate partner resources. Also the Project is related to prevention, treatment and recovery; the service line is long. All these require The Foundation to **timely summarize learning and lessons of communication and cooperation with government departments, hospitals and mass organizations; to develop organizational capacity and team spirit; and to strategically develop better cooperation and sustainable relationship with project stakeholders.**

- **Project outputs quantity and quality:** the Project design is about rural comprehensive eye care model, which has 4 outputs (governance and management, human resource, service and research); it is "rather big and comprehensive", The model may seem ideal but in order to be successful, it has very high requirements for project coordination and management, targets completion, project partners agreements, expectation satisfaction for stakeholders at all levels and from different units, and M&E. Or else the Project partners, in particular project hospital staff are mainly occupied by various project activities without having a full picture of the model in mind. In the same time when the model involves multi-sectors, it is hard to secure effective communication, and to ensure completion of both quantity and quality of the project tasks even at the later stage the output targets were reduced. When there is insufficient communication about project lessons and learning--actual communication and energy are

mainly around meeting targets and running activities, it is hard to maximize the project value as a comprehensive model project—it's final goal is not about direct service delivery by the project but to explore and establish a replicable model.

- After three years implementation, the evaluation team suggest The Foundation to design **follow up action plans** (6 months to 1 year or even longer), according to different project implementation units' actual conditions and willingness, **to stabilize each site's specific experiences and sustainable working areas**. It is not necessary to be the same action plan for different unit. Some possibilities are: Yanshan County Hospital mobilizes internal departments and integrates community screening with its "health and poverty alleviation" task; Nanjian County Hospital has covered all 100 CHWs with initial training in the County. It may worth designing a further detailed plan to strengthen community level health worker capacity and identify better approach to build links between county hospital and CHWs; in Binchuan county, try to encourage community interaction beyond screening, provide TOT, to involve community organizations and volunteers, for example for old people to volunteer for DR peer education; in AHDU's 3 pilot schools to explore education-health-community collaboration model for early intervention for youth RE intervention—not only working on students education, health profile and vision service, also includes students healthy living, parents/teachers/society supportive environment building; to support PRCH training center and AHDU in establishing provincial distant learning network to further cover lower level hospitals and CHWs, to provide learning opportunity of eye care and wider scope of knowledge and skills, even may include social work, communication skills, behavior changes theory, campaign management, participatory training, team building and etc.

Evaluation Q7. To what extent have the barriers for disadvantaged groups and women accessing to eye health service been identified and effectively addressed by the Project?

7.1 The Project helped with better identification of barriers for disadvantaged groups and women accessing to eye health service

Firstly, the Project design is in line with The Foundation's organization principles and goals, in particular the focus on vulnerable groups and women. Project stakeholders signed on MoU and agreed on this point, their directions and principles are the same. This project is also in line with Chinese government's major policies on Health and Poverty Alleviation, Village Revival; it is a good supplement to government and public health work. As international project, it also has the effects of bringing attention from national public health work to vulnerable groups. The Project partners basically agreed that seniors, children (students) and women are target groups, when they meet following vulnerable factors they

become vulnerable groups:

- Geographically remote (results in inconvenience transportation)
- Live in difficulties, such as economically poor (incapable to afford treatment or not timely treatment)
- Lack of companion for leaving home for treatment. Left-behind children or left-behind seniors often have to wait until their parents or relatives to come back during holidays to take them to hospital.
- Language issue. There are Miao, Bai, Zhuang, Yi and Yao ethnic groups living in the Yunnan project sites, especially left-behind old people have problem visiting hospital alone.
- Lack of information. People don't know where to find appropriate eye care service; at which level hospital; have less chance to receive health education information due to distance and not covered by public media)
- Low awareness and low family status. Sometime it is the patient himself or his children not willing to receive examination and treatment)
- For RE, spectacles service is still not covered by public health insurance.

Secondly, the **Project sites were selected in consideration of vulnerable groups**. There are four sites (Wenshan City, Qiubei County, Yanshan County and Nanjian County) within six project sites are on the list of national important poverty alleviation counties⁵, with the characters of local population are mainly rural ethnic groups living in mountains. County hospitals have low start of ophthalmic department service, professional capacity is weak, short of human resource, and lack of attention and resource investment in public health system. The big gap between demands and supplies makes the Project meaningful. Many other poverty stricken county in Dali and Wenshan and even in the whole Yunnan Province will be able to learn from the Project experiences.

By bringing hospital medical teams out to communities especially into remote rural villages, the reality of barriers vulnerable people are facing becomes clearer and multi-dimension. It is helpful for local hospitals to adjust their service approaches in a flexible manner; and for lobbying government health policy makers to take into consideration of more factors other than economy difficulties and to encourage more actors beyond health systems.

7.2 The Project took initiatives to address barriers for disadvantaged groups and women accessing to eye health service.

- **Research, studies and advocacy:** the Project supported and conducted Health Financing study; conducted and compared baseline and end-line KAP changes. Organized relevant discussion and introduction on gender, inclusive for disability, poverty, child protection; all these activities are helpful to raise awareness and understanding among government officials and project partners on

⁵ [State council Poverty Alleviation Leading Group: "List of national important poverty alleviation counties", 2016](#)

the difficulties and obstacles for vulnerable groups and women to receive quality eye care services; it will help thinking about coping strategies.

- **Specific working methods:**

1) Prefecture and county medical teams reach out to villages to provide **free screening and education**. After project training and learning screening procedures and experiences, local medical teams have the capacity to do it well. This is an effective approach, but comparatively costs high and coverage is low. It depends on specific hospital's willingness and conditions to consider sustainability of the activity. The Project design screening targets were rather high according to interviewees general feedbacks, the hospital medical teams did their best, but still couldn't cover all community vulnerable population due to many obstacles in reality.

For example, because of geographic locations, even when community screening teams arrived at remote villages close to Nanjiang, Yanshan, and Wenshan counties, villagers live in scattered areas. Often when village committees gave notice the villager, left-behind old people have to work in farms and look after children that they don't have time for eye examination; or old people cannot move around without assistance; they won't be about to climb over mountains to reach local market place or come to the village clinic site. Even when medical teams are in rural villages, because of lack of resources, they cannot visit each family to deliver service.

Also, Binchuan Hospital has innovated communication measures such as setting up and operation of a WeChat group titled Eye Department Sharing WeChat group, with a total of 153 members including both health professionals and patients. The group can receive eye care education, specific eye disease information and hospital service notice from the hospital; questions may as well be raised for medical doctors to answer.

2) **The Project provided CHWs with basic eye care training and equipped them with toolkits, therefore eye care service extended further to community level vulnerable groups.** CHWs are doctors living by rural poverty population. They are the closest health workers to millions of vulnerable groups living in remote areas, who may never really visit real "licensed doctors". They are culturally and geographically connected to local residence and know about their health and family situation. However at this phase of the Project it is still a meaningful pilot, CHWs' capacity, efficiency and connection with upper level hospitals are yet to be explored further.

3) **The removal of designation as Cataract Incapable County** is through enhancing county hospital surgical capacity that enables old cataract patients to receive quality surgery without having to leave the county. It helps reducing family economic burden and release patients hesitation.

4) **Applying multi-forms of (public) media for public awareness raising.** The Project was able to spread information to the public over three years however there are still remote areas that have limited access to public media such as TV, radio, newspaper, Wechat and project IEC materials.

Number of people covered by project IECs distribution and media

(Accumulated over 3 years. Source: The Foundation M&E)

IEC coverage	467,140
Media programme coverage	1,794,755

Since the Project Mid-evaluation was conducted in 2018, the evaluation team suggested that “specific measures are needed to assist the disadvantaged groups and women to access the eye care services” and “ a clear and shared definition about the targeted groups would be helpful to identify sensitive measures”. Then The Foundation and the project partners organized discussion on how to better identifying vulnerable groups and providing service to them. Solutions include the Project hospitals cooperate with local Women’s Federation, Maternal and Children Health Care Hospital and Poverty Alleviation Office to organize eye health education activities and free screening activities on the Women’s Day (March 8).

The main findings of Endline KAP Survey indicate that local people’s confidence in both community health worker as eye health information provider and county hospital as specialized eye care service provider has been strengthened.

Channel of information for cataract changed from public media to more from village doctors; while DR not much from public media at all compared to higher importance role of village doctors. For students, it keeps the same sequence of teachers, doctors and parents as information channel. The findings are helpful in selecting information channel in future programming.

- The top three channels to get information of cataract changed from TV (35.6%), village doctor (28.7%) and township doctor (24.3%) to village doctor (65.7%), cataract patient (39.3%) and TV (38.4%).
- The top three channels to get information of DR has changed from county doctor (60.9%), village doctor (28.5%) and diabetes patients (28.0%) to village doctor (87.5%), township doctor (69.0%) and county doctor (62.9%).
- The top three channels to get information of eye protection has remained unchanged: doctor (81.9% in 2016, 86.2% in 2018), teacher (23.5% in 2016, 50.2% in 2018) and parents (24.4% in 2016, 46.8% in 2018)

4) In fact, the Project comprehensive model of capacity building at prefecture/county level itself is long-term coping strategy to help identifying and serving vulnerable groups and women in needs of eye care service. Enhancing all levels of eye care medical service capacity especially county hospitals, this eventually increases accessibility and medical service quality at community level especially for vulnerable groups. During community screening, project hospitals link up with community health centers, when public health registered CHWs identify eye diseases or diabetes patients, they may give referral suggestion. So far this method hasn’t been able to monitor its

efficiency and is not yet regular. A few project examples of patients prove that this may worth a trial with further support. A four year old child Xiao Long in Wenshan, who was congenital cataract was identified during community screening and successfully referred to surgery, which was operated successfully by project hospital in Wenshan and followed up by the hospital team and The Foundation staff to see through its service quality.

Project Hospital Out-patient Statistic
(2016.4-2019.3 .Source of information: The Foundation project M&E)

Project Hospital / Year	F	M	Total
Affiliated Hospital of Dali University	82,483	67,793	150, 276
People's Hospital of Wenshan Prefecture	50,746	42,389	93, 135
Binchuan County Hospital	32,067	31,041	63, 108
Nanjian County Hospital	15,356	12,613	27, 969
Yanshan County Hospital	27,014	23,451	50, 465
Qiubei County Hospital	21,550	20,836	42, 386
TOTAL	229, 216	198, 123	427, 339

For each year of the Project in each hospital, more women out-patients have received service than man. The ratio of final total men and women is 46%:54%, which is evidence that vulnerable groups are now better served.

7.3 The ratio of men and women being screened about cataract in Yunnan. Although there is no figure for project counties but the cataract screened gender disaggregated prevalence data were available from nearby Lanchang County (62%:48%) and Jianchuan County (56%:44%), which are of similar contexts. The Project has conducted cataract screening for 91,513 people in three years with M/F ratio at 45.44%:54.56% which has provided more service for women than men.

Activity	Total	Male	Female
Community cataract screening	91,513	41,580	49,933
	100%	45.44%	54.56%

The main findings of **Endline KAP Survey** (compared to the results from Baseline KAP Survey) indicate that at knowledge level, the Project initiatives of public campaign, IECs, public media, community screening and training, have effectively informed target population with basic eye health information including major causes, symptoms, effective prevention and treatment of

cataract, DR and RE. However the information of the cause of DR and eye check for DR prevention is still a difficult and weak link that needs to be emphasized by follow up actions in future programming. The statistics about attitude and practice change is not fully positive after the Project intervention.

Knowledge:

- Elderly people who reported knowing the major causes of cataract – aging, sunshine and trauma – has increased from 30.9%, 2.1% and 3.5% respectively to 69.6%, 16.7% and 27.5% respectively. Elderly people who reported knowing the major symptoms of cataract – degraded visual acuity and blurred vision – has increased 18.0% and 63.7% respectively to 55.4% and 72.2% respectively. Elderly people who reported knowing the effective treatment of cataract – surgery– has increased from 62.0% to 69.9%.
- Diabetes patients who reported knowing the cause of DR - pathological change of retina –has reduced from 54.6% to 22.7%. Diabetes patients who reported knowing that controlling blood sugar is an effective prevention of DR has increased from 61.0% to 70.3% and who reported knowing that regular eye check is an effective prevention of DR has reduced from 66.3% to 57.4%. Diabetes patients who reported knowing that laser is an effective treatment of DR has increased little from 31.4% to 32.4% and who reported knowing that surgery is an effective treatment of DR has reduced 55.3% to 43.6%.
- Improvements have been made with school children’s knowledge of myopia. School children who reported knowing that myopia is a type of refractive errors has increased from 33.3% to 43.3%. School children who reported knowing that myopia can lead to blindness has increased from 48.1% to 67.3%. Eye protecting exercise remains the best-known prevention of myopia, chosen by 85.2% of school children.

Attitude:

- The top three concerns about cataract surgery has kept almost unchanged: poor surgical outcome, high cost and surgical pain, but the level of concern has been reduced. but the level of concerns has been reduced significantly.
- The top three concerns about DR surgery have kept unchanged: poor surgical outcome, surgical pain high cost, but the level of concern has been reduced.
- The students’ negative attitude towards wearing glasses has become even more serious.

Practice:

- Elderly people who had eye check in the past 12 months has reduced from 37.9% to 17.3%.
- Diabetes patients who had eye check in the past 12 months has changed little from 47.7% to 46.2%.

- Nearly 50% of school children reported spending no more than 2 hours on watching TV every day in the past week, roughly the same as the baseline.
- 54.6% of school children reported spending no more than 2 hours on playing with computer or mobile phone every day in the past week, increased minimally from the baseline of 50%.
- The dominant view of wearing glasses has remained almost unchanged with 66.5% choosing “inconvenient” whereas the baseline is 66.3%.
- School children who had eye check in the past school term has increased slightly from 53.8% to 57.3%.
- The students’ eye protection behaviour did not change much.

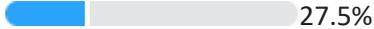
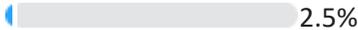
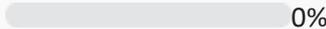
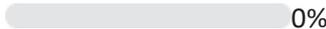
7.4 Recommendations:

- Need to further raise public awareness with strategic planning of public campaign; develop suitable education strategy for population who has difficulty receiving information and service. Access to valid information is the first step to empower vulnerable group for health; which is only a start of long-term engagement of eliminating avoidable blindness. Effective strategies that help to identify barriers and further work on changing eye care attitudes and behaviours of target populations are essentials.
- Through various platforms and channels to strength relevant communication and discussion with project stakeholders, enable various parties to have multi-dimensions (including political, social and economic) understanding of the difficulties and obstacles vulnerable groups and women are facing; and to reach consensus on issues as gender, inclusion for disability and child protection.
- Strengthen relevant studies and encourage multi-discipline approach; sharing finding and statistics; and providing the public with necessary information and for government as reference for policy making.
- Encourage and further explore multi-sectoral collaboration with potential partners such as Women’s Federation, in the field of eye care, to mobilize different resources and strength in service for vulnerable groups and women.

Evaluation Q8: How is the sustainability of the Project achievements?

*The online survey findings suggest that the **Project achievements and experiences are sustainable and may continue to be applied in the long run**. Out of 40 survey partners, 27.5% (11) strongly agreed with the comment, and 70% (28) agreed with the comment. The responses to this question demonstrated that all of surveyed partners agreed that the **Project achievements and experiences are sustainable**. (please see the chart below)*

18. Regarding the comments: “Project achievements and experiences are sustainable and may continue to be applied in the long run. “ Please choose an answer that best describes your opinion on this comment.

Answers	totals	percentage
Strongly Agree	11	 27.5%
Agree	28	 70%
No Comments	1	 2.5%
Disagree	0	 0%
Strongly Disagree	0	 0%
Effective number of Participants completing this question	40	

8.1 Advocacy activities that have been carried out.

Project advocacy activities are not only carried out at the phase of project activity and model completion, but instead are implemented throughout the whole project.

- 1) **Advocacy to relevant sectors:** the Project organized project management annual meetings each year, for project partners from different levels and sectors to come together to review work achievements, learning and lessons of the year; to share eye health policy information and to decide work plans for next step. The meetings are not only for health system units, but also partners from other sectors. It is a great opportunity for advocacy that enhances the importance of the undervalued eye health work and to advocate for policy support and resource investment.
- 2) **Advocacy to the public in communities:** is one of the important tasks to improve public eye health. The Project applied multi-approaches that are appropriate to local situation, including Child Day, Vision Day, and Diabetes Day to organize public awareness raising activities that are sited at local markets, hospital squares and schools.
- 3) **Community advocacy and education through screening and training activities:** The best methods are found to be direct communication by talking: ‘Best way to do it: one to one dialogue between medical staff and community people; advocated on TV programme about eye knowledge; delivery IECs on eye health to rural community residents on prevention of eye diseases, process of diseases in booklet or leaflet; ‘Word of mouth communication because rural people are scared of operation, and rural people need confidence’. The main problem is lack of information: “Old people don’t know county can do surgery; cataract can be done by surgery and can be covered by medical insurance.”

- 4) **Raise public awareness through public media:** seven project hospitals all apply local radio, television programmes, IECs and their hospital internal journals and social media platforms such as Wechat to spread key information to the public and public health departments.
- 5) **Advocate about the Project model:** after three years implementation, project partners at all levels and sectors were interviewed to summarize project experiences, and to produce guidelines and video materials as project model advocacy and replication tools. These will be introduced and discussed at various activities at provincial level, so that the public at wider scope can benefit from the Project achievements.

8.2 Successful and innovative experiences and practices the Project has contributed to the existing eye health care service system

At the phase of project design and planning, The Foundation organized Provincial PHD, BPO, Education Bureau and project site hospitals to discuss organizational PBL strategies and principles including the concept of prevention, focus on vulnerable groups, building capacity of local human resources, and multi-sectoral collaboration, for the purpose of integration with government policies and priorities. Throughout the project, during annual provincial meetings and work planning meetings, project management team was able to work closely with various project partners. At project management and strategic level, it has laid good foundation for the Project model to be replicated and implemented in other areas in Yunnan and other provinces; also as effective mechanisms to ensure project sustainability. Different project partners and stakeholders take different point of views to the sustainability of project achievements. PHC commented that the Project has seen good results at grassroots level, but according to his observation from past experiences that there is a common weakness of international organization projects that once project funding and inputs terminate, it will see an end of achieved outputs.

At the level of project site hospitals, the evaluation team found out that many aspects of the Project achievements may be sustainable. Leader of YPRCH stated that before the Project there were “no screening” and “no educational activities”, local people are mostly ignorant. It is believed that DR prevention could reduce avoidable blindness and remarkably reduce costs; therefore the Project experiences are very meaningful. Staffs from project hospital pointed out that “screening enables patients to receive early diagnosis and treatment”. Community and school outreach screening have also been effectively integrated with eye care education and public awareness-raising activities.

The Project outreach screening was widely recognized by people interviewed. It extends medical services and changes from the old way of hospital-based treatment approach of “waiting” for patients to come. The mode of services are not only about diagnosis and treatment now, also includes early prevention, awareness raising, eye monitoring, service referral and later stage following up. After outreach screening, project hospitals have seen obvious increase of number of patients. Hospitals staff and educational department officials visited stated that **community and school screening, as the Project**

important preventive intervention mechanisms, have very high possibility to be integrated into current public eye care system to carry forward because it is helpful for hospital overall development. Therefore project hospitals are willing to continue community screening and school screening, but possibly at lower frequency and narrower scope in consider of costs and labour inputs.

Since the first “National Plan for the Prevention of Blindness (2006-2011), China has implemented a few large-scale cataract surgery projects for economically poor patients to restore sight in Midwest China. These actions achieved very positive outcomes. But such projects relied on mobile medical teams to provide services at certain period of time. When a patient missed the opportunity when the medical team came, he would have to wait in uncertainty.

Through the Project approach of lower-down (compared to provincial level) resources including human and equipment to grassroots level, project prefecture and county level hospitals are enabled to conduct cataract surgical independently. Using the words of a hospital staff, (the project has)“established a local medical team that wouldn’t be taken away”, which is great convenience as well as quality service to local patients. The innovative approach of public health human resource building capacity on eye medical service at county level; and community doctors at village level on primary eye care, after 3 years project implementation, which approves to be effective to ensure accessible quality eye care services to community people, which changed the service pattern from not accessible, irregular, to accessible routine.

In short, grassroots level service are changed—eye care medical service line extended; contents of service enriched; and eye health service system improved.

8.3 Measures have been taken by the Project stakeholders to ensure that the Project outcomes can be sustained after the project phase out (in March 2019)

- 1) **Human resource:** the Project emphasized building human resource capacity of local hospitals and eye department key staff from within public health system, who will be the key sustainable capacity to fulfil important roles of providing accessible quality service to vulnerable population in poor areas. An official from Wenshan Prefecture PHC said the biggest challenge of PBL work is not the lack of equipment, but man power; it won’t work without trained medical doctors even with equipment. Going beyond Yunnan Province, according to The Foundation, the Project is now collaborating with Zhongshan Ophthalmic Center to develop an on-line primary eye care training course for CHWs, which is incorporated into the YPHC on-line training platform for CHWs.
- 2) **Training manuals:** the Project produced series of training manuals for medical doctors and nurses in eye department and endocrinology department, for community health workers including school teachers, which help with blindness management and practice. As a package of practical resource tools, which will sustain within public health system and assist CHWs to develop capacity in

providing professional, standardized primary eye health service. The Project has provided these manuals to the provincial training centre as distant learning training resource.

3) **Outreach screening:** according to the Project partners, conditions of screening sustainability are as following:

- Stability of screening team: including man power, different role allocation, appropriate training.
- Establishment of procedures and efficient mechanisms: after training, screening teams are prepared to follow the process of registration, examination, photo and referral according to local situation.
- Before screening, effective communication and preparedness with community management team, PHB, schools and education bureaus help to bring more people to the service.
- Suitable amount of allowance is helpful to motive medical staff.
- Referral after screening: when RE is identified during school screening, students will receive referral notes which indicate sight problem for parents to follow up. Those parents who take their children to hospital for professional refractive examination are not few. According to interviewees, due to personal awareness issue, lack of support and companion by their children, there are not many diabetes patients who turn up for ocular health examination after receiving referral notes. When cataract patients who are identified and have received notice to arrange operation in nearby county hospital, their turn up rate for medical treatment has seen an increase, as reported by the project hospitals.

Public campaign: will continue by combining with school and community screening during holidays, important days such as Vision Day, 3.8 Women's Day, Care for Seniors Day and etc. Nanjian County Hospital implements eye screening with hospital free service of "Medical Care for Town Fellows"

4) Evaluation team learned from YPRCH that the Project of Distant Ophthalmic Comprehensive Service Network by Provincial Ophthalmic Clinical Centre, led by YHC, will kick off this year, with an investment of 72 million RMB from provincial finance. The network will have YPRCH serving as centre that links up with the whole province/city/county eye medical treatment, including 20 kinds of services including training and clinical service. The Project team expressed the willingness to cooperate with The Foundation with each other's strength. There are still certain counties such as in Baoshan area are not able to be covered by the network will need special care and support. The Project model, specific methods and recourse could contribute to the Network that will benefit wider scope with better eye care service.

8.4 Practices that can be integrated into the existing eye health care service system after the project's completion in March 2019

Clearer concepts and improved strategies:

- Government-led, policy and governance, multi-sectoral cooperation.

- Turning from centred on disease treatment to people's overall health.
- Resources invest to grassroots level; focus on community level health management; strengthen hospital and grassroots connection.
- Pay attention to both software and hardware development.
- Medical human resource capacity building as building block: emphasize enhancing county level eye care professional service and community level primary eye care service capacity.
- Strengthen systems and mechanisms: including eye health management and mechanism building; medical human resource building; information management; quality service provision; eye care medical equipment supply; eye health medical financing studies.

8.5 The challenges facing the sustainable development of the Project model in the existing eye health system

1) Challenges from government policy level

- Relevant regions and departments have failed to give due attention to PBL work and insufficient financial investment. Second, there is need to improve government-led, powerful organizations for PBL management. The fact that government health departments and hospitals themselves haven't paid enough attention to eye care and ophthalmic department is a challenge for project model to develop sustainably.
- The **uncertainty of optometry service policy**. Feedbacks from questionnaires pointed out that there is a lack of policy support for vision service. —it has certain impacts on project partners' enthusiasms.
- **Multi-sectoral cooperation and communication at provincial-prefectural-county level should be strengthened.** The Project main implementation line is health system, so as project funding stays within, meaning other stakeholders such as education bureau, disabled person's association, other social groups participated comparatively passively, mostly rely on the specific coordinators' motivation. It is weak solely rely on hospital force; and rely on INGO to manage is as well very difficult—the role of government-led is not fully fulfilled. During provincial management meeting, one speaker mentioned that the Project was strong vertically within public health system; while multi-sectoral cooperation is weak. Therefore it is still necessary to explore how to promote government support, multi-discipline approach and multi-sectoral cooperation. A provincial partner recommended that communication mechanisms should be integrated with local work and promote the integration of eye care with national policy. For example government Big Health Office and PBL Office established a leading group in 2006, which might be a reliable leading organization. The crucial question of whether the Project should be rely on hospital or government health department is not easy. Health Bureau representatives considered there were pros and cons. Government department has stronger coordination power while it may lack of monitoring strength within hospitals for implementation and capacity building. Interviewee from Dali Prefecture

Hospital pointed out multi-sectoral cooperation is crucial for community/school screening and CHWs training. Currently the Project has been able to identify and establish relationship with PBL stakeholders such as education bureau, Disabled Persons' Association, Women's Federation, township government, schools and community management committee. However the Project partners on the list are mainly playing a supporting role assisting hospitals to organized outreach screening and public campaign on big days. They could have more positive role with great motivation.

County Hospitals informed that during project implementation, local Disabled Persons' Association basically never participated in project meeting. There is a lack of virtual participation by the Association for multi-sectoral cooperation.

2) Challenges from medical service system (service providers)

- **Uneven distribution of ophthalmic medical resources:** For the patients in the western rural areas, the uneven distribution of ophthalmic medical resources greatly reduces their accessibility to local eye health care. The problem of 'difficult to access medical care' rises accordingly.

Lack of capacity: under-developed primary eye health network. CHWs' importance and lack of capacity, and their work pressure from public health is in contradicting situation. According to WHO, well established primary health system can meet 95% demand of community people's health needs. It is exactly community/township health centers that community people visit under normal situation. But in China, grassroots medical service faces many difficulties. As mentioned in project background, 6 prefecture/country sites are located in remote mountainous areas in Yunnan. In these places, community level medical services for cataract, RE and DR are extremely insufficient. Reason for that is simple: lack of funding for long time; (health workers) has problem surviving. According to current policy, each community medical service unit has some responsibility to primary health care function, including establishment of health profile and chronic disease management, which are mainly subsidised by state funds. CHWs in FGD suggested that there is a lack of support to community health centers; equipment investment is not enough; it is necessary to provide more training for township/village level health workers and provide basic equipment; increase service allowances.

- **Ophthalmology medical personnel lack awareness of PBL.** PBL and treatment ought to be the duty of every eye medical care professional. However, lots of doctors do not have an interest in PBL.
- **High turn-over of working staff.** From provincial to prefecture/county and to community level, it has seen changes and movement of key staff in project partner units, which has made some difficulties for project implementation. It is hard to keep consistency about project design when there is staff change, such as project reporting and monitoring methods. Project coordinators from Dali Education Bureau, Yanshan County Health Bureau, Yanshan Education Bureau, and a few project hospitals have been changed. The situation has made The Foundation difficult to management he project. However The Foundation project team was able to work closely with

project partners to implement with quality according to plans. Medical staff at county level and CHWs that were trained by the Project has seen some lost each year; trained teachers in primary schools are comparatively stable. Human resource stable is guarantee for project sustainability.

3) Community people (service receivers)

- **Low public awareness on eye health care:** Quite a lot of eye patients are not aware that their eye disease is curable or avoidable through prevention actions. Many people have neither knowledge of eye health, nor of protecting their eye from diseases. Furthermore, many people are reluctant to seek opportunities for treatment due to the influence of traditional beliefs.
- **Difficulties to access medical care.** High costs, long distance, language incapacity, lack of companionship, status in family and etc could all be obstacles for eye disease patients to access appropriate service.
- **High cost of eye medical care.** Due to economic constraints, especially in the western, rural and remote areas, some eye patients missed the opportunity for treatment because of not being able to pay the cost of surgery.

CONCLUSION

Through three years' implementation and piloting, the Project has achieved positive results and impacts. A Comprehensive Rural Eye Health Care Service Model has begun to take shape, and The Foundation has worked effectively with multiple partners to complete the project implementation.

The Project design is proven to have met the needs of priority eye health policies at national and local levels well. Through capacity building activities for the eye health system, the Project contributed to the strengthening of the public health system. Key project strategies of the Project include awareness-raising of officials of government departments such as health and education, Disabled Person's Federation, staff of all project hospitals, as well as the general public on eye health, capacity building as a sustainable measure for grassroots hospitals and health professionals on primary eye health care service, provision of basic medical equipment, community and school screening, development of training and IEC materials, enhanced information management, relevant researches. These strategies have made contribution to the delivery of quality and accessible eye health care services for vulnerable groups and women.

According to the Project Endline KAP Survey findings, noticeable Improvements have been made with the target population's knowledge of cataract, DR and RE, as well as their eye care seeking attitude and behaviour; and local people's confidence in both community health worker as eye health information provider and county hospital as specialized eye care service provider has been strengthened.

The Project has made proactive efforts to mobilize resources of relevant government departments, hospitals at different levels, and a variety of grassroots stakeholders to form synergy in elimination of the avoidable blindness, and introduced advanced international Eye health related concepts and experiences. The Project implementation is very meaningful and valuable for its innovative and comprehensive model building that features multi-departmental coordination and collaboration, combined services of prevention and treatment, emphasis on service for vulnerable groups and capacity building for grassroots eye health service delivery, making positive contribution to the integration of the comprehensive rural eye health service model into the health system of Yunnan and China.

RECOMMENDATION

Service delivery

- 1. Screening work** shall have in place a monitoring and evaluation mechanism that includes requirements for team member selection, screening targets, workflow process management mechanism。 With these management tools, screening work can become more systematic and evidence-based, and the chances of screening being integrated into regular hospital services can be increased. Each project hospital based on their own work location, funding support, equipment and human resources, shall continue to explore sustainable development mechanisms for the project model. For example, Yanshan County Peoples’ Hospital is planning to integrate its eye health work with the rural poverty alleviation through health service supported by the Grassroots Guidance Department of the hospital. The poverty alleviation through health service includes seven key contents such as health promotion, grassroots supervision and family doctors. The integration will turn the eye health professionals team from “Guerrillas before the Project into the formal army” , transforming the project-based service into more regulated and professional service. By doing so, the outreach screening service can be sustained, while the task of poverty alleviation through health service can be completed, and the hospital can enhance its public image and identify more patients. The Foundation and its key project partners shall explore relevant platform and measures to present and advocate for replication of project supported screening service strategies including screening plan and procedures on Cataract, DR and RE in schools to other parts of Yunnan and China. The Foundation shall make recommendation to relevant government department to include screening service for common blindness-inducing eye diseases in the management of Chronic Diseases.
- 2. Screening for DR:** There is a good possibility of integrating screening for DR into the regular management of Chronic Disease of the township and community health service clinic. The importance of screening for DR is recognized by the YPRCH and Yunnan Office on Prevention of Blindness; however, there are no good practice examples in Yunnan, and a lack of practical piloting. The screening for DR work carried out by the Project is only beginning to take shape, but rather valuable as a reference. The constraints of screening for DR also lie in the individual Diabetic patient’s awareness and the challenges in management of the chronic diseases; therefore there is need for more resources to be invested in further piloting.
- 3. Refractive Error:** The latest development trend of early and prevalent occurrence of RE amongst youth and children represents significant demand for eye health service. The key response strategy is not limited to medical service delivery when RE occurs, but more importantly, the response should be moved forward to the prevention service. We recommend that The Foundation shall design project to explore a comprehensive service model that delivers health promotion in and out

of schools to influence the knowledge, attitudes and practice of youth and children, the entry point of such project shall focus on building of individual living style and a supportive family and social environment.

4. **Follow up actions/project:** The Project design is comprehensive and involves a large amount of activities, multiple locations, and heavy targets. While completing all the planned activities, it is difficult to ensure that all the project locations produce same results. We recommend that after the Project finishes in March 2019, The Foundation shall work with key executing agencies to design a half year or one year (or longer) follow up action plan, based on each executing agency's contexts and willingness, to secure and further develop the best practice and sustainable strategies and approaches of each executing agency, and make timely summary and diversification of the extension projects.
5. The Project KAP Survey results indicate that public campaign and educational activities for target population have achieved noticeable positive results in providing necessary information and raising awareness. However delivering knowledge doesn't necessary result in changing attitude and behaviour. The KAP Focus Group Discussion Report also suggest to design public education methods according to vulnerable groups' culture, education, and medical accessibility; and influencing people's attitude and behaviour is a long process. The Project and various stakeholders shall further collaborate to explore effective strategies, mobilize resources and implement intervention programmes, aiming at bringing about comprehensive changes of people's KAP.

Comprehensive Capacity Building

6. **Capacity building of human resources:** It is recommended that The Foundation shall, based on the roles of all stakeholders identified in the Project (not limited to stakeholders from the Health system), assess the professional capacities of eye health professionals at all levels. Based on the assessment results, The Foundation shall collaborate with the Provincial Training Centre to design systematic and tailored capacity building plan, in an effort to further strengthen the professional and service delivery capacity of eye health professionals.
7. It is a very valuable measure to **alleviate the capacity of public health service delivery of CHW** through the support of the County level hospitals. However, the one or two training provided would be hard to achieve its intended results. It is recommended that The Foundation designs comprehensive training plan and builds up a training scheme that monitors the effectiveness of training and provides follow up support accordingly. It is also recommended that The Foundation support strengthening community screening in order to formulate good interaction and mutual support, as well as referral networks. Nanjian Hospital has covered all 300 CHWs during the project implementation; The Foundation shall consider working with Nanjian County People's Hospital to consolidate the experience and plan for another half year or one year's support to pilot this training scheme for CHWs and the screening through CHWs.

Experience Summary, Documentation and Replication of the CRECM Model

8. **Multi-sectoral Collaboration:** The Project shall receive more support for its implementation at the grassroots execution level, and form multi-party coordination and communication mechanism at grassroots level, so that the project progress and documentation and summary of the project experience can be shared in a timely fashion, the roles of partners enriched and the participation of partners ensured. In addition, The Foundation shall nurture its capacities and experiences in forging collaborative partnerships with government departments at different levels and social organizations, to ensure the effectiveness and sustainability of project implementation. It is as important for The Foundation team to sum up lessons and experiences of project partnership, to brush up team capacity and team building, so that new and innovative partnership can be developed and sustainable partnerships nurtured.

In addition to working with Health related partners, The Foundation may want to consider partnership with mass organizations such as Women's Federation. The evaluation team suggest that The Foundation work with local communities to incorporate eye health promotion for elderly people and youth/children in the daily operation of Children's Places (by 2020, 90% of China's grassroots communities will have one Children's Place up and running), and carry out community screening, a service component that was proven to be effective in the project model, taking advantage of the daily service delivery of Children's Places.

8. **Documentation and Sum-up of the Project model,** including confirmation of key success strategies and approaches of the Project is an important work The Foundation shall do in the future. The documentation and sum-up of the Project model shall be communicated to all project partners via meetings, documentation, model manual and videos, to raise their awareness and reach consensus, so that the project can be sustained and the model can be replicated. The Key features of the Project model and Replication of its innovative experiences:

- A key feature of the Project is the strategy to strengthen the weak spots and enhance the capacity of the grassroots level health facilities and professionals. County level hospital is the key battle ground for treatment of common diseases. In China, about 15% of county level hospitals don't have independent Eye Department. For those hospitals with Eye Department, their professional service is lagging behind⁶. The Project experience in this regard focused on facilitating bigger hospitals to help with county level hospitals, and county hospitals provide help for township and community clinics, a cascading way of building service capacity. The project provided facilitating factors including provision of basic equipment, training mechanism, training materials, intra hospital referral mechanism, community and school screening, information management and monitoring. It is recommended that The Foundation support **development of a**

⁶ Special interview with Mr. Wang Nin Li, the Director of the National Technical Supervision Group o Prevention of Blindness, Xinhua Net, March 11, 2018. .

checklist of standardized Eye Department Construction for county level hospitals in

economically vulnerable areas in rural China, which shall be further improved along the way. In this regard, the importance attached to the construction of Eye Department and Eye Health Service by the hospital and the Health Commission is the most critical guarantee.

- The strategies shall be “**people-centred**” and “**needs of people**” focused. At present stage, project partners’ understanding of the project’s contribution and its social impact is limited largely to the service delivery components, such as the numbers of people screened, number of treated patients, number of surgeries, equipment provided and the human resource building. It is recommended that The Foundation shall seek to share the Project model, strategy and approaches with a wider audience, in order to improve the recognition of policy makers and public health service providers on the relationship between eye disease and the macro-environment, **macro-health**, people’s knowledge and attitudes, and vulnerable groups, and to maximize the value and influence of the project outcomes. In addition, the Project shall apply multi-disciplinary strategies, including integration of sociology, behavioural study, psychology and economics, to design, plan and implement relevant intervention activities in a more comprehensive and evidence-based manner.

REFERENCE

1. Mid-term Evaluation Report of the Project
2. Baseline and Endline KAP Survey Report of the Project
3. KAP Focus Group Discussion Report
4. Final Medical Evaluation Report of the Project
5. A Model of Developing Eye Health in Rural China

ANNEXES

1. CRECM Project Final Evaluation Plan
2. Final evaluation questions:

Key evaluation questions	Detailed questions
1. How appropriate was the project's design for meeting priority eye health needs in the project locations?	1.1 How well developed is the project's design for meeting priority eye health needs in project locations? 1.2. How is the project's design meeting the needs of priority eye health policies? 1.3 How would you rate the relevance and appropriateness of the project design?(on a scale of agreement)
2. Has the project fulfilled its purpose and objectives? What are the successful experience and lessons learnt about the Comprehensive Rural Eye Care Model in Yunnan Province? (EO1)	2.1 Has the project fulfilled its purpose and objectives? 2.2 What are the main achievements of the project? 2.3 What are the main innovations of the project? 2.3 What are the successful experiences that can be integrated into the existing eye care health services? 2.4 What are the challenges and recommendations in the project implementation?
3. To what extent did the Project increase human resource capacity of eye health care in the Project locations? (EO1)	3.1 How has the capacity of service delivery by eye health professionals in project locations increased in terms of scope and quality in the project sites? 3.2 How has the capacity of service delivery by health facilities in project locations increased in terms of scope and quality in the project sites? 3.3 What are the recommendations on future capacity building initiatives for rural health care facilities and professionals?
4. What impact did the Project have on increasing local people's accessibility to cataract, DR and RE services? (EO2)	4.1 How has the community screening service increased local people's accessibility to cataract, DR and RE services? 4.2 How effective has the eye screening mechanism been? 4.3 Is the Vision Center operating? Are there challenges and limitations in the operation of the Vision Center? 4.4 How has the Vision Center's service increased local people's accessibility to cataract and RE services? 4.5 How has the local referral system been running? How has the local

	<p>referral system increased local people's accessibility to cataract, DR and RE services?</p> <p>4.6 What recommendations for improving the CRECM project-supported service?</p>
<p>5. To what extent, were strategies and approaches of the CRECM fully or partially applied by local and provincial government? (EO3)</p>	<p>5.1 To what extent, were strategies and approaches of the CRECM known to local and provincial government?</p> <p>5.2 To what extent, were strategies and approaches of the CRECM applied by local and provincial government?</p> <p>5.3 To what extent, has the strategies and approaches of the CRECM influenced local and provincial health authorities' policies and practices?</p>
<p>6. To What extent, did the Project contribute to integration/inclusion of eye care into existing health care system? (EO3)</p>	<p>6.1 To what extent, did the local government integrate the CRECM into PBL planning?</p> <p>6.2 To what extent, the CRECM model has contributed to the PBL planning by government counterparts at four levels?</p> <p>6.3 How effectively did the project overcome policy barriers it faced?</p> <p>6.4 What are some of the project experiences that you think government can learn from in both practice and policy making?</p> <p>6.5 How has the collaboration between eye care department and other departments regarding DR strengthened as a result of this project?</p> <p>6.6 How has the primary eye care been included and/or integrated into existing primary eye care system?</p>
<p>7. To what extent have the barriers for disadvantaged groups and women accessing to eye health service been identified and effectively addressed by the Project?(EO4)</p>	<p>7.1 How has the project helped with better identification of barriers for disadvantaged groups and women accessing to eye health service?</p> <p>7.2 How has the project addressed barriers for disadvantaged groups and women accessing to eye health service?</p> <p>7.3 Does the ratio of men and women being screened match gender disaggregated prevalence data about cataract in Yunnan?</p> <p>7.4 What are your recommendations to better address barriers for disadvantaged groups and women accessing to eye health service?</p>
<p>8. What is the likelihood that the project's outcomes will be sustained? (EO1, EO3)</p>	<p>8.1 What advocacy activities have been carried out?</p> <p>8.2 What are the successful and innovative experiences and practices that you think the project has contributed to the existing eye health care service system?</p> <p>8.3 What measures have been taken by the project stakeholders to ensure that the project outcomes can be sustained?</p> <p>8.4 What practices you think can be integrated into the existing eye health care service system after the project's completion in Mar 2019?</p> <p>8.5 What are the challenges facing the sustainable development of the project model in the existing eye health system?</p>

3. Individual interview and FGDs name list

4. Evaluation Field Visit Plan and Itineraries

THANK YOU

Contact details

Email:



The **Fred Hollows**
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