EDITORIAL

香 港 眼 科 醫 學 院

Solving China's cataract problem

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In the early years after the 1949 revolution, health care triumphs were among the most celebrated successes of the new Chinese communist government. The prevalence of many communicable diseases was drastically reduced, vaccination rates increased, and access to health care was extended into the countryside, with insurance schemes that ultimately embraced more than 90% of the rural population. The image of the 'barefoot doctor' serving a far-flung populace in the countryside was an enduring and powerful one, and reflected the reality of a health care system that continued, until the late 1970s, to deliver better outcomes than citizens of most countries at China's level of gross national product enjoyed.

Obviously, 2 decades as the world's fastest-growing economy have brought many changes to China; new-found prosperity on the one hand and the growing challenges of pollution and corruption on the other. How has the health care system fared during these 20 tumultuous years, and specifically, how well has China done in managing cataract, the world's leading cause of blindness?[1] China has many advantages in the fight against cataract blindness: the country boasts some 24,000 ophthalmologists,[2] a densely-settled population held together by a transportation infrastructure that is the envy of many developing nations, and a growing middle class increasingly willing to pay for quality vision care.[3] Balancing this are the facts that surgical fees are often beyond what patients feel they can afford and only half of Chinese ophthalmologists are trained to perform surgery.[4,5] All too often, those ophthalmologists who do operate are clustered in cities,[6] while 60% to 70% of China's population lives in rural areas. China's billion-strong population is aging rapidly: the proportion of people older than 65 years will triple from 7% today to 20% by 2040, while the number of people older than 80 years will increase 6-fold to 50 million. The result is a demand for cataract surgery that greatly exceeds supply; China has one of the lowest cataract surgical rates in Asia at 446 cases/million population/year in 2004, or 24 cases annually per ophthalmologist.[7] This means that only 1 in 7 Chinese citizens needing a cataract operation actually receives surgery. Those patients who do undergo cataract extraction often have poor results, further limiting demand for services. Two recent population-based studies in rural China reported a postoperative blindness prevalence of nearly 50%.[8,9] As a result of these trends, cataract remains the leading cause of blindness in China.[8,10,11]

What needs to happen for China to improve the current cataract situation? The supply of quality cataract surgery can only be increased by greater emphasis on cataract surgical training, ideally during residency. There is insufficient emphasis on surgery in most Chinese residency programs, and the absence of any national accreditation or certification scheme for training programs means that this is likely to continue for some time. China is in great need of a Flexner Report, the highly influential review of medical schools in the USA in the early 20th century, which led to the closure of some two-thirds of the existing programs at the time. At present, Chinese ophthalmologists receive their clinical training in a patchwork of residency, masters, and doctoral programs, with little incentive for the institution carrying out the training to ensure that hands-on experience is adequate. Recent work has shown that outstanding visual outcomes can be achieved in rural China by local surgeons with adequate training.[12]

Secondly, a new pricing model is needed in for cataract surgery in China. Studies have demonstrated that a large proportion of rural residents are willing to pay approximately 500 RMB for an operation, the equivalent of 1 to 2 months' salary.[3] This amount is sufficient to cover the costs of cataract surgery and allow for a profit margin if economies of scale are realized through high volumes. However, prevailing surgical costs in rural areas are often 5 to 10 times this amount, leading to a cycle of low demand, little opportunity to further hone surgical skills, poor outcomes, and even lower demand. The Aravind model,[13] which performs over a quarter million cataract operations in a fully sustainable fashion in southern India, is highly relevant to China, and is slowly being replicated in China by programs such as Caring is Hip/Project Vision in the South and West, and the He Eye Hospital in the North.

Finally, China needs broad-based reform of its health care system to address urban-rural disparities, which are among the starkest in the world. The infant mortality rate for urban China in 1999 was 11 per thousand, while that for rural areas was 37 per thousand, higher than that for the country as a whole in the 1980s, despite a 5-fold expansion in the country's gross domestic product. The average urban resident can look forward to 7 more years of life than a rural resident, as great a mortality gap as that which exists between Denmark and Vietnam.

There is much excitement about the Hu Jintao government's rapid rollout of the New Cooperative Medical Scheme, which is expected to cover 100% of rural residents by 2008. With annual premiums of only 10 RMB, this scheme promises to improve access to health care among rural residents, only 1 in 5 of whom had any health insurance as recently as 2003.

The rapid expansion of the Chinese economy is one of the most important historical phenomena of the late 20th and early 21st centuries. Those of us working as ophthalmologists in Hong Kong and China look forward to the day when the benefits of China's enormous economic promise will be realized in clear vision for all her citizens.

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