

## COMMENTARY

# On addressing the burden of uncorrected refractive errors

Roland Joseph D. Tan

Author's email address: rdtan@up.edu.ph

*Department of Ophthalmology and Visual Sciences, College of Medicine, University of the Philippines Manila, Manila, Philippines*

### ABSTRACT

Uncorrected or unaddressed refractive error (URE) is the leading cause of treatable visual impairment (VI) globally. A significant factor is the prohibitive costs of corrective options. The World Health Organization recently recommended the use of effective refractive error coverage (eREC) to determine the burden and management of URE. To increase eREC, spectacles should be made available and affordable. Most developing countries use ready-made glasses produced in bulk to address presbyopia. Timor-Leste employed a tiered-pricing for these ready-made spectacles which were found to be effective. The Philippines can adopt similar initiatives considering that prescription spectacles are not covered by its national health insurance. Prescription spectacles should also receive coverage from the national insurance. Policies should also be created that will set-up optical units inside government hospitals and primary health care units that can dispense low cost or free prescription spectacles. Dedicated government posts for optometrists should be created to man the said units. Existing colleges of optometry can partner with nearby public health facilities to man their optical units similar to partnerships made for other health professions. State universities can also consider opening colleges of optometry where they can tie up return services conditions or follow ladderized programs based on community demands similar to existing ones for other health professions.

**Keywords:** *Refractive Error, uncorrected, unaddressed, spectacles, cost*

## Introduction

Uncorrected or unaddressed refractive error (URE) is the leading cause of treatable visual impairment (VI) globally [1,2]. However, most cases are in developing countries such as the Philippines [1-3]. A significant factor is the prohibitive costs of corrective options. Prescription spectacles, often the cheapest option, can still be expensive to most especially the customized ones [4,5]. Unlike the surgery for cataract, the leading cause of blindness, which already receives coverage under the national health insurance, acquiring prescription spectacles remains an out-of-pocket expense for Filipinos, even for ready-made reading glasses. Only those who attend free medical missions or who approach non-governmental organizations or local government units get them for free. However, even for developed countries, most have to still co-pay for prescription spectacles or have to acquire additional insurance with optical coverage [6]. In England, both the availability of National Health Service (NHS) optical voucher to help cover the cost of spectacles and NHS insurance coverage for eye examination are limited to certain groups which were found to affect uptake of eye care [7]. In Ontario,

Canada, the partial or full delisting of eye care in the health insurance coverage led to the reduction of its utilization especially among the socially disadvantaged [8].

In line with the resolution of the World Health Assembly to recognize eye health as an integral part in the achievement of the United Nations Sustainable Development Goals, the World Health Organization recently recommended the use of an indicator to determine the burden and management of URE [9]. The effective refractive error coverage (eREC) measures the met, unmet and under met needs for refractive errors based on the number of individuals with visual improvement to 6/12 when using spectacle correction [10]. To increase the met needs for eREC, making spectacles available and affordable is vital [11,12]. Correction of URE was found to increase school performance among children and relative productivity in the workplace among workers [4]. The approach in most developing countries to achieve this is the use of ready-made glasses produced in bulk, giving spherical powers with the same level for both eyes, designed

primarily to address presbyopia [12]. In Timor-Leste, the national government employed a tiered-pricing for these ready-made spectacles to offer spectacles to its poorest citizens [13]. The initiative, which was a part of a national spectacle program, was found to address the issue of spectacle affordability and let the government to focus on other factors such as availability of personnel and facilities to do the refraction [13].

Being a signatory to the resolution, the Philippines can adopt similar initiatives to increase its target eREC, considering that prescription spectacles are not covered by its national health insurance. There are already a few local programs where a volunteer optometrist or ophthalmologist provides the prescriptions and the spectacles are funded by non-governmental organizations or local government units. Unfortunately, not all models can accommodate large demands. There are also other needs including the determination of baseline data on the prevalence of refractive errors and the current eREC in the Philippines. There is also no plantilla dedicated for optometrist in government hospitals and primary care units, in a setting where dentists, pharmacists, physical therapists and other allied medical professions are all appropriated one. It follows that no government hospital runs its own optical unit as no one will man them. Government policies even disallow the sale of spectacles in government hospitals or health units. Most spectacles are prescribed by ophthalmologists or optometrists and bought from private clinics or optical shops. And yet, the Department of Health is already equipping its regional tertiary hospitals whose patients are mostly the indigents, with state-of-the-art medical technologies to be able to accommodate the region's general health needs in line with the implementation of the Universal Health Care Law.

The Lancet Global Health Commission on Global Eye Health recommended the development of models that can ensure accessible and affordable spectacles [4]. Increasing access to spectacles to lower URE should utilize public health models similar to other health care services considering the global burden of URE. To increase the eREC locally, the primary goal remains that prescription spectacles receive coverage from the national insurance. Optical vouchers can also be given by the government to compensate the private sectors who provide spectacles similar to Indonesia and Trinidad and Tobago [4]. For additional funding, the national insurance can also charge optometrists the provider premiums, similar to the fees being charged for physicians for being health care providers. Policies should also be

created that will set-up optical units inside government hospitals and primary health care units that can dispense low cost or free prescription spectacles. If made sustainable, these can provide additional incomes to the institution. But for this to be successful, dedicated government posts for optometrists should be created to man the said units. In Ghana, optometrists are recognized to play a significant role in reducing blindness and visual impairment from avoidable causes [14]. Their government deploys optometrists in health facilities in the rural areas where private optometrists often are not available due to financial reasons [16]. To be able to do the same in the Philippines, existing colleges of optometry can partner with nearby public health facilities to man their optical units similar to partnerships made for other health professions (hospital rotations of nursing and medical students in government hospitals without university). State universities can also consider opening colleges of optometry where they can tie up return services conditions or follow ladderized programs based on community demands similar to existing ones for other health professions. All colleges of optometry in the country are privately-run. Similarly, government hospitals and primary care units affiliated with said state universities can pilot test an integrated optometry department and see patients with vision problems with the ophthalmology department, exercising interprofessional education and collaborative practice which can be carried over to the community practice after graduation. This model has been in place in hospitals in other Asian neighbors.

## References

1. Resnikoff S, Pascolini D, Mariotti SP, *et al.* (2008) Global magnitude of visual impairment caused by uncorrected refractive errors in 2004. *Bulletin of the World Health Organization* 86(1), 63–70.
2. Holden BA, Fricke TR, Ho SM, *et al.* (2008) Global vision impairment due to uncorrected presbyopia. *Archives of ophthalmology* (Chicago, Ill. : 1960), 126(12):1731–1739.
3. Cubillan L, Olivar-Santos E. (2006) Third National Survey on Blindness. *Philippine Journal of Ophthalmology* 30(3):100-108.
4. Burton MJ, Ramke J, Marques AP, *et al.* (2021) The Lancet Global Health Commission on Global Eye Health: vision beyond 2020. *The Lancet Global Health* 9(4), e489–e551.
5. World Health Organization. (2000) Elimination of avoid- able visual disability due to refractive errors: Report of an informal planning meeting.

6. DeKuyper K. (2020) Vision Care and Canadian Health Insurance.
7. Shickle D, Davey C J, Slade SV. (2015) Why is the General Ophthalmic Services (GOS) Contract that underpins primary eye care in the U.K. contrary to the public health interest? *British Journal of Ophthalmology*; 99(7):888–892.
8. Jin YP, Buys YM, Hatch W, *et al.* (2012) De-insurance in Ontario has reduced use of eye care services by the socially disadvantaged. *Canadian Journal of Ophthalmology. Journal Canadien d'Ophthalmologie* 47(3):203–210.
9. Croft-Lawrence J, Aindow H. (2021) World Health Assembly: New targets for a new decade on eye health.
10. McCormick I, Mactaggart I, Bastawrous A, *et al.* (2020) Effective refractive error coverage: an eye health indicator to measure progress towards universal health coverage. *Ophthalmic & Physiological Optics*; 40(1):1–5.
11. World Health Organization. (2019) World Report on Vision.
12. Pearce MG. (2014) Clinical outcomes following the dispensing of ready-made and recycled spectacles: a systematic literature review. *Clinical & Experimental Optometry* 97(3):225–233.
13. Ramke J, Brian G, Palagyi A. (2012) Spectacle dispensing in Timor-Leste: tiered-pricing, cross-subsidization and financial viability. *Ophthalmic Epidemiology* 19(4):231–235.
14. Akuffo KO, Agyei-Manu E, Kumah DB, *et al.* (2021) Job satisfaction and its associated factors among optometrists in Ghana: a cross-sectional study. *Health and Quality of Life Outcomes* 19(1):12.
15. Boadi-Kusi SB, Ntodie M, Mashige KP, *et al.* (2015) A cross-sectional survey of optometrists and optometric practices in Ghana. *Clinical & Experimental Optometry* 98(5):473–477.