



# eASER

Issue 10, December 2013

## Child Assessment Service Epidemiology and Research Bulletin

### Children with Visual Impairment: Experience at Child Assessment Service (CAS)

**Lo PW Henny<sup>1</sup>**

<sup>1</sup> Acting Senior Medical & Health Officer

#### Introduction

Normal vision is important for the development of a child. Visual impairment (VI) has significant implications for the affected child and family in terms of education, future employment, and personal and social welfare throughout life.

The major causes of blindness in children vary widely from region to region, being largely determined by socioeconomic development, and the availability of primary health care and eye care services. In high-income countries, lesions of the optic nerve and higher visual pathways predominate as the cause of blindness, while corneal scarring from measles, vitamin A deficiency and ophthalmia neonatorum are the major causes in low-income countries. The prevalence of blindness in children varies according to socioeconomic development and under-5 mortality rates. In low-income countries with high under-5 mortality rates, the prevalence may be as high as 1.5 per 1000 children, while in high-income countries with low under-5 mortality rates, the prevalence is around 0.3 per 1000 children. Using this correlation to estimate the prevalence of blindness in children, the number of blind children in the world is approximately 1.4 million.<sup>1</sup>

One of the major problems in assessing the prevalence of childhood VI in different studies is the large number of different definitions

and classifications that have been used. The classifications of VI according to International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10) (Version for 2010),<sup>2</sup> World Health Organization (WHO) and Education Bureau (EDB) of Hong Kong were stated in Table 1. The distance visual acuity should be measured with both eyes open with presenting correction if any and this refers to acuity in the better eye with correction. The ICD-10 categories for VI are based on distance visual acuity. For low vision, WHO has two definitions that are in use<sup>3</sup>:

- (WHO) Low vision is visual acuity less than 6/18 and equal to or better than 3/60 in the better eye with best correction.
- (Low Vision Services and Care - also known as Working Definition) A person with low vision is one who has impairment of visual functioning even after treatment and/or standard refractive correction, and has a visual acuity of less than 6/18 to light perception, or a visual field less than 10 degrees from the point of fixation, but who uses, or is potentially able to use, vision for the planning and/or execution of a task for which vision is essential.

In addition to the criteria included in the working definition, other impairments of visual functioning such as low contrast sensitivity and loss of dark adaptation, should be included when they are equally disabling.<sup>4</sup> As EDB adopted the WHO working definition and further classified the low vision into mild/moderate/severe low vision,<sup>5</sup> CAS also adopted the same terminology for communication purposes.

Table 1. Classification of visual impairment

Presenting distance visual acuity		ICD-10 (Version for 2010)		WHO standard classification	WHO working definition	EDB (CAS adopted this classification)
Worse than	Equal to or better than	Category				
	6/18	0	Mild or no visual impairment			
6/18	6/60	1	Moderate visual impairment	Low vision	Low vision	Mild low vision
6/60	3/60	2	Severe visual impairment			Moderate low vision
3/60	1/60*	3**	Blindness	Blindness	Blindness	Severe low vision***
1/60*	Light perception	4				
No light perception		5				
		9	Undetermined or unspecified			Total Blindness

\* or counts fingers (CF) at 1 metre

\*\* visual field of the better eye no greater than 10° in radius around central fixation should be placed under category 3

\*\*\* including persons with constricted visual field in which the widest field diameter subtends an angular subtense of 20 degrees or less, irrespective of the visual acuity

At CAS, infants and children with VI were seen by multidisciplinary assessment team according to the standardized protocols for visual, medical, physical, language and nonverbal cognitive evaluation. Guidance on visual and developmental stimulation was provided to their parents. Referrals for medical and genetics evaluation were made for children with suspected underlying etiology and syndromal diagnoses if not yet done so. Referrals for training focusing on visual stimulation and on other developmental needs were made. Closer follow up would be arranged if change of visual function or progressively deteriorating condition was anticipated. At critical developmental points, children are reviewed for their training needs and school coping, making recommendation for transition to appropriate education service and for school accommodation.

### Age at Referral

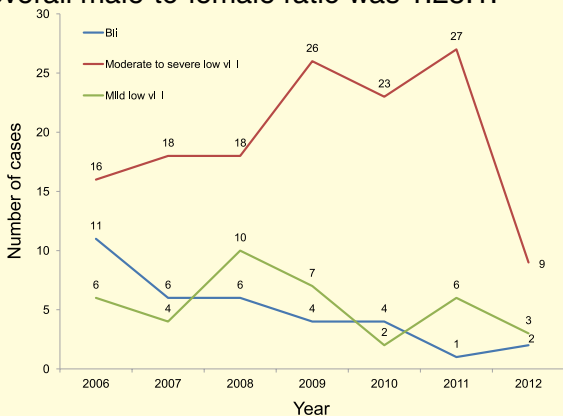
The majority (55.5%) of children were referred to CAS before 2 years old (Table 2). This is likely because vision is a major sensory modality and thus children with vision problem usually present early in life. Moreover, close collaboration with hospital units and Family Health Service also enable these children to be referred to CAS earlier on for assessment. Children at preschool and school-age years are also referred for comprehensive developmental assessment at CAS for recommendation of rehabilitation and placement needs after they have been diagnosed of, or, suspected to have VI from other sectors.

Table 2. The number of children with VI by age at referral

Age (years)	0-2	2-4	4-6	>6
All children with VI (n=209)	116 (55.5%)	47 (22.5%)	27 (12.9%)	19 (9.1%)

### Profile of Children with Visual Impairment at Child Assessment Service

In this issue, we present the profile of children with visual impairment (VI) seen at Child Assessment Service (CAS). We include all cases registered at CAS from 2006 to 2012, with the diagnosis of VI. As a result, total number of 209 cases were selected for further analysis. Majority (65.6%) of them were of moderate to severe low vision (Figure 1). The overall male-to-female ratio was 1.25:1.



### Causes of Visual Impairment

Underlying or associated causes of VI could be classified by individual disorders, grouped by the anatomical site(s) affected. This classification was adapted from the taxonomy developed by WHO for use in studies in developing countries (Table 3).<sup>6,7</sup>

Majority (65.6%) of children with VI at CAS suffered from cortical visual impairment (CVI). 12.4% of them suffered from conditions that affected the whole globe, including microphthalmia, glaucoma, coloboma of multiple sites and persistent hyperplastic primary vitreous. 11% had conditions that affected retina, including retinopathy of prematurity, ocular-cutaneous albinism, retinal and macular dystrophies, foveal hypoplasia, retinal detachment, retinal degeneration,

retinoblastoma, familial exudative retinopathy and macular dragging. 3.8% had disorders of uvea, including aniridia and coloboma of iris. 3.8% had problem with optic nerve, including septo-optic dysplasia and optic nerve atrophy. Other disorders included cataract, corneal opacities, sclerocornea, high refractive error, amblyopia and idiopathic nystagmus.

**Table 3. Causes of visual impairment. (Values are number of children with disorder(%). Total exceeds 100% as some children had several sites affected.)**

Sites	Moderate to severe low vision / Blind (n=171)	Mild low vision (n=38)	Total (n=209)
Whole globe	20 (11.7%)	6 (15.8%)	26 (12.4%)
Cornea	1 (0.6%)	2 (5.3%)	3 (1.4%)
Lens	5 (2.9%)	1 (2.6%)	6 (2.9%)
Uvea	5 (2.9%)	3 (7.9%)	8 (3.8%)
Retina	16 (9.4%)	7 (18.4%)	23 (11.0%)
Optic nerve	8 (4.7%)	0	8 (3.8%)
Cerebral/visual pathways (Cortical visual impairment )	124 (72.5%)	13(34.2%)	137 (65.6%)
Others	2 (1.2%)	6 (15.8%)	8 (2.8%)

### Co-morbid Disorders of Children with Visual Impairment

Other than VI, some of these children also suffered from other disabilities. For example, 9.1% of them also had significant hearing impairment (worse than moderate grade loss). For those children with CVI, the associated conditions were shown in table 4.

**Table 4. Conditions associated with children with cortical visual impairment (CVI)**

	Moderate to severe low vision / Blind (n=124)	Mild low vision (n=13)	Total (n=137)
Cerebral palsy	58 (46.8%)	5 (38.5%)	63 (46.0%)
Epilepsy	20 (16.1%)	5 (38.5%)	25 (18.2%)
Hydrocephalus	7 (5.6%)	1 (7.7%)	8 (5.8%)
Genetic disorders	7 (5.6%)	0	7 (5.1%)
Brain malformation	4 (3.2%)	2 (15.4%)	6 (4.4%)
Metabolic disorder	3 (2.4%)	0	3 (2.2%)
Cerebral atrophy	2 (1.6%)	0	2 (1.5%)
Brain tumour	1 (0.8%)	0	1 (0.7%)
Others	22 (17.7%)	0	22 (16.1%)

For the children with cerebral palsy, the associated conditions included hypoxic-ischaemic encephalopathy, meningitis, encephalitis, encephalopathy and intracranial haemorrhage.

Due to an insult to the brain, associated developmental disabilities are expected in children with CVI. It is important not to overlook the other developmental needs beyond VI in these children. These developmental disabilities can pose a further challenge in providing rehabilitation for them.

### Cognitive Abilities

Among the children with moderate to severe low vision and blindness, majority (86%) of them had developmental delay (assessed during preschool years) or mental retardation (assessed at school age). Whereas among those with mild low vision, nearly half (52.6%) of them had normal development or intelligence. This could be explained by the fact that majority of the former group had CVI, which was associated with an insult to the brain, and thus more global effect on the development and cognitive function was expected.

### Conclusion

This article provided an overview of the children with VI encountered at CAS. The number of children with VI is relatively small, comparing with other developmental disorders, and yet, VI could pose a great challenge to the development of children and also to the family. Perhaps a centralized local epidemiology data of VI in paediatric population can serve the purpose of estimating the educational, social and health needs for the visually impaired children for the planning of resource allocation by the medical, educational and rehabilitation communities and to ensure adequate service provision to them.

### References

1. World Health Organization. Prevention of blindness and visual impairment. Priority eye diseases. Childhood blindness. <http://www.who.int/blindness/causes/priority/en/index4.html> (accessed 20 August 2013).
2. World Health Organization. International Statistical Classification of Diseases and Related Health Problems - 10th revision, edition 2010. <http://apps.who.int/classifications/icd10/browse/2010/en> (accessed 20 August 2013).
3. World Health Organization. Prevention of blindness and visual impairment. Priority eye diseases. Refractive errors and low vision. <http://www.who.int/blindness/causes/priority/en/index5.html> (accessed 30 September 2013).

4. World Health Organization. Management of low vision in children. Report of a WHO Consultation. [http://www.who.int/ncd/vision2020\\_actionplan/documents/WHO\\_PBL\\_93.27.pdf](http://www.who.int/ncd/vision2020_actionplan/documents/WHO_PBL_93.27.pdf) (accessed 30 September 2013).
5. Labour and Welfare Bureau. 2005-2007 Rehabilitation Programme Plan Review Working Group. Hong Kong Rehabilitation Programme Plan. [http://www.lwb.gov.hk/eng/advisory/rac/rpp\\_report.htm](http://www.lwb.gov.hk/eng/advisory/rac/rpp_report.htm) (accessed 11 October 2013).
6. Rahi JS, Cable N. Severe visual impairment and blindness in children in the UK. *Lancet* 2003;362:1359-65.
7. Gilbert C, Foster A, Negrel A-D, Thylefors B. Childhood blindness: a new form for recording causes of visual loss in children. *Bull World Health Organ* 1993;71:485-89.

## Barrier Free Facilities in HK Public Transport for People with Visual Impairment

Cheung PY Josephine<sup>1</sup>, Liu SK Dilys<sup>1</sup>

<sup>1</sup> Optometrist

## History of Barrier Free Access Development in Hong Kong

The history of barrier access for disabled people in Hong Kong can be traced back to 1984, when the Government introduced the *Design Manual: Access for the Disabled 1984*. It provided the first set of formal guidelines on the provision of access and facilities to private buildings for persons with mobility disabilities.

In 1995, the Government enacted the Disability Discrimination Ordinance (DDO Cap. 487),<sup>1</sup> to prohibit disability discrimination in various fields including access to premises and access to goods, services and facilities.

In August 2008, the Convention on the Rights of Persons with Disabilities<sup>2</sup> (CRPD) has been adopted in by the Government. This instrument provided comprehensive protection of the rights of persons with disabilities (PWDs) and set out the obligations on States Parties to promote, protect and ensure the rights of PWDs. Since then, government departments have introduced working guidelines and research reports on barrier free for people with disabilities.

The Buildings Department published *Design Manual: Barrier Free Access 1997*, which was last reviewed in 2008.<sup>3</sup> The design manual set out the design requirements of providing proper access to and appropriate facilities in a building for persons with a disability and other sectors of

the population including the elderly. A number of special obligatory design requirements to assist persons with visual/hearing impairment was listed in this design manual, including the location of tactile guide path and the Braille/tactile/audible sign.

One of the obligatory requirements stated in the *Design Manual* was to install Braille and tactile sign/map for visually impaired people in some remarkable places of the buildings in public area. Many public and private sectors have installed tactile signs and maps in their premises, among which includes Kowloon Canton Railway, which first introduced tactile map in Hong Kong in 1999.

The Transport Department published *A Guide to Public Transport for People with Disabilities* in 1993 and the guide was updated every 2-4 years. The latest version was published in 2009.<sup>4</sup>

## Visually Impaired People in Hong Kong

According to the report<sup>5</sup> published by the Census and Statistics Department which was based on the social data collected via the General Household Survey in 2008, there were 361,300 persons with disabilities including 122,600 persons with seeing difficulty, including all partially sighted/blind people. This was about 1.8% of the total Hong Kong population.

For those people with visual impairment, driving is nearly impossible in their life. Most of them will rely on public transportation when they go to the community dependently. They may face a lot of barriers even in short journeys. They may have difficulties in finding the locations, such as platform door or gates, bus stops and boarding areas. They also may have difficulties in accessing the maps, signs and knowledge about the spatial locations. They will take longer travel time and waiting time.

For a successful journey for each person with visual impairment who is going to use public transport, sufficient visual cues, user friendly tactile cues and informative auditory signs are important.<sup>6,7,8</sup>

Visual cues, such as lighting, colour & luminance contrast can lead a partially sighted person to the lobby, to reach a lift, be alerted the danger/warning signals. Tactile map is a three dimension elevated map, designed to be read by the sense of touch. It can provide some very useful information for visually impaired people about the distance between places in

unfamiliar environments. Tactile path is a guided path for visually impaired people. It helps people with visual impairment to get orientated and find their location.

Without visual cues, auditory cues are extremely important for visually impaired people. They can obtain information via auditory cues such as for train schedules, waiting times, taxi meter price and warning of approaching vehicles.

## Franchised Bus

Franchised bus routes cover almost all of Hong Kong. The franchised bus companies have installed high contrast and textured handrail system inside the compartment, next bus stop public announcement and LED display, large electronic destination and route number display on the front, large electronic route number display on the side and rear, closing door buzzer, Braille registration number plate and customer service hotline inside compartment.

## Minibus

Minibuses are famous for their speed and frequency. There are two types of minibuses, the Green and the Red. The Green minibuses are more organized, and they are operated by big companies and run on fixed routes. The Red minibuses are mostly operated by individuals and along the routes that are not always fixed. Passengers can get on and off anywhere along the route, except where special prohibitions apply.

People with visual impairment will have great difficulties in taking minibuses because minibus provide very limited assistance to them only, such as, priority seats for persons in need, braille registration number plate inside compartment, provision of handrails. In most of the time, they need to confirm the minibus routes and get assistance from the minibus driver for getting the destination.

## Taxi

Taxi is the most convenient mean of transport and provides point to point service for people with visual impairment, but more expensive. The fare is counted by meter in approved fare scales. Since 2002, most of the taxis have installed Braille registration number plate and some also have talking meter. So that, the passengers with visual impairment will know the fare.

## Barrier Free Facilities of Visually Impaired People in Hong Kong

Table 1 summarized the barrier free facilities for people with visual impairment in the four major transport services (Mass Transit Railway (MTR), franchised bus, public light bus and taxi) and their use of the visual cues, tactile cues, auditory devices and other facilities to facilitate their use of public transportation in Hong Kong.

## Mass Transit Railway (MTR)

MTR is the major railway system in Hong Kong, which covers all major districts. They provide tactile guide paths at all stations which can lead passengers with visual impairment to customer service centres, entry/exit gates, stairs/lifts and train platforms. Audible devices are installed to help passengers with visual impairment to locate escalators and to leave platforms. Tactile yellow lines are laid along the platform edge on the Tsuen Wan, Kwun Tong and Island Lines, where there are no platform screen doors. Public announcements about the next station, the destination of approaching trains are provided. A buzzer sound is emitted before train doors are closed. Colour contrast grab poles and rails are provided inside train compartments in some railway lines. Braille plates are attached to all Octopus Add Value Machines and at all stations lifts. In addition, colour contrast inter-car barriers have been fitted to the trains to prevent people with visual impairment from falling into the rail accidentally.

Table 1. Comparison of special facilities for visually impaired passengers in 4 common transports in Hong Kong

	Braille plates	Textured handrail	Tactile guide paths	Next bus stop announcement	Closing door buzzer	Talking meter	High coloured contrast handrail	Large display	Platform yellow lines	Priority seat
MTR	✓	✓	✓	✓	✓		✓	✓	✓	✓
Bus	✓	✓		✓	✓		✓	✓		✓
Public light bus	✓									✓
Taxi	✓					✓				

Legend  
 Tactile Cue  
 Auditory information/ device  
 Visual Cues  
 Other

## Conclusion

In every day, over 11 million passenger journeys are made on a public transport system. Majority of the passengers will use the service of MTR and franchised bus because they cover most of the district in Hong Kong. It seems that both MTR and franchised bus have made efforts to provide a better barrier free access for people with visual impairment in Hong Kong. However, there are still areas for improvement for all the public transport providers, and to strengthen their barrier free access in their service for all people with other disabilities. The higher public awareness and acceptance, the better can equality and harmonic community be achieved.

## References

1. Disability Discrimination Ordinance. [http://www.legislation.gov.hk/blis\\_.pdf.nsf/6799165D2FEE3FA94825755E0033E532/D72F7A7DE6892EEE482575EF000ED92F?OpenDocument&bt=0](http://www.legislation.gov.hk/blis_.pdf.nsf/6799165D2FEE3FA94825755E0033E532/D72F7A7DE6892EEE482575EF000ED92F?OpenDocument&bt=0) (accessed 25 October 2013).
2. United Nations. Convention on the Rights of Persons with Disabilities. <http://www.un.org/disabilities/convention/conventionfull.shtml> (accessed 25 October 2013).
3. Buildings Department, HKSAR. Design manual: barrier free access 2008. <http://ek.hkphab.org.hk/scg/dm.htm> (accessed 25 October 2013).
4. Transport Department, HKSAR. Guide to public transport for people with disabilities. [http://www.td.gov.hk/mini\\_site/people\\_with\\_disabilities/2009/13-2.html](http://www.td.gov.hk/mini_site/people_with_disabilities/2009/13-2.html) (accessed 26 September 2013).
5. Census and Statistic Department. Special topics report no. 48: persons with disabilities and chronic illness. Hong Kong: Hong Kong Government Printer;2001.
6. Marston JR, Golledge RG. The hidden demand for participation in activities and travel by persons who are visually impaired. *Journal of Visual Impairment & Blindness* 2003;97:475-89.
7. Golledge RG, Marston JR, Costanzo CM. Attitudes of visually impaired persons toward the use of public transportation. *Journal of Visual Impairment & Blindness* 1997;91:446-59.
8. Equal Opportunities Commission. Formal investigation report: accessibility in publicly accessible premises. [http://www.eoc.org.hk/EOC/Upload/UserFiles/File/Fl\\_Ass\\_e.pdf](http://www.eoc.org.hk/EOC/Upload/UserFiles/File/Fl_Ass_e.pdf) (accessed 4 October 2013).

## Brief Report on the Needs of Parents with Children with Visual Impairment Studying in Mainstream School in Hong Kong

**Tsang FK Janice<sup>1</sup>, Lee MY Florence<sup>2</sup>, Chui MY Mandy<sup>3</sup>**

<sup>1</sup> Clinical Psychologist <sup>2</sup> Senior Medical & Health Officer

<sup>3</sup> Occupational Therapist

The following is a brief report of a study conducted during May 2009 to June 2010 on children with visual impairment (VI) at Child Assessment Service (CAS), Department of Health. The aim of the study was to identify the service needs of parents with children with visual impairment studying in mainstream school, using a validated and standardized tool. We would also try to gather more information about the school coping and functioning of these students with VI in mainstream schools. In the study, parents of all the 30 children with VI studying in mainstream school and attending visual assessment in CAS during the research period were invited to participate. The purpose of the study was clearly explained and a consent form was signed. Participants were requested to complete a questionnaire consisting of the following parts.

### Service Needs Questionnaire (SNQ)<sup>1</sup>

This questionnaire was developed by CAS in 2010 and had undergone formal procedures of scale validation and standardization among Chinese families. It can be used as a reliable tool for assessing needs of parents with children having developmental disabilities.<sup>1</sup> It consists of 27 items sub-divided into two parts. Part 1 consisted of 8 items on personal and family stress. Participants rated each item on a 5-point scale from 1 (disagree very much) to 5 (agree very much). Part 2 consisted of 19 items on need for various services such as school support and information. Participants rated each item on a 5-point scale from 1 (do not endorse at all) to 5 (endorse a lot). The questionnaire showed satisfactory psychometric properties with internal consistency (Cronbach's  $\alpha$ ) = .96 and test-retest reliability (ICC) = .76.

### Open-ended Questions

Part 3 consisted of 12 open-ended questions to explore child's school coping and functioning in academic and recreational activities. Participants reported positive or negative answers regarding

each question and were requested to give examples if positive.

## Demographic Information

Participants were requested to supply information on basic demographic characteristics. Among the 30 recruits, 26 provided complete data. The analysis reported in this study was based on these 26 participants with complete data. As per the involved children with VI, 18 of them were boys and 8 of them were girls. All of them were studying in government or government subsidized mainstream schools, 23 were in primary school (primary 1 to 6) and 3 in secondary school (form 1). The age ranged from 6 to 13 years with median age of 9.5. The degree of VI ranged from mild low vision to severe low vision. The visual acuity (VA) for mild low vision was between 6/18 and 6/60, while the visual acuity for moderate to severe low vision was worse than 6/60.

Among the 26 children with VI, 18 have mild low vision and 8 have moderate to severe low vision. There was no significant difference of the SNQ mean total score between the two levels of visual impairment ( $t(24)=-1.425, p >.05$  assuming equal variance). Also, among the 26 children with VI, 15 have visual impairment as the sole developmental disability. The remaining 11 have various comorbid conditions, including dyslexia ( $n=4$ ), ADHD ( $n=2$ ), both dyslexia and ADHD ( $n=1$ ), ASD ( $n=2$ ), cerebral palsy ( $n=1$ ) and mild grade intellectual disability ( $n=1$ ). There was no significant difference between the SNQ mean total score of the group with VI only and the group with VI and comorbid conditions ( $t(24)=-0.6, p >.05$  assuming equal variance).

## Needs of Parents with VI Children

The top five needs of these parents were listed according to their mean score:

Table 1. Top five needs

Item	Mean score
I need more information about children's future education	4.54
I need to know how to help my children	4.50
Children need more services in supporting study	4.42
Children need more systematic services	4.35
School should provide more support to my children	4.31

From the top five needs expressed by parents of VI children, we can see that all of these are

from Part 2 of SNQ which are on needs for various services such as school support and information, as compared to Part 1 needs which are on personal and family stress. In particular, these parents of VI children expressed more needs on future education and school support despite already receiving some degree of accommodation at school. This may be related to the general phenomenon for parents in Hong Kong that their major focus is put on academic achievement as compared with recreational and leisure activities. Meanwhile, these parents might not be aware of the kinds of support being provided at school. The implication for CAS is that we need to work in close collaboration with the Education Bureau such that the school support services could be more transparent to the parents. By maintaining necessary case follow up, we could give continuous feedback to school based on child's individual and changing needs.

## Conclusion

With the relatively low incidence of children with visual impairment, the 26 cases recruited in this study is believed to represent the majority of children with VI attending mainstream school in Hong Kong. Yet, it would still be beneficial to have pooled data from different regions to shed more light on the future planning of support services for these children and their families. More study on the various modes of accommodation for children with VI and more collaborative work among different partners working in the field of rehabilitation will foster better service to these children and their families.

## Reference

1. Leung, C., Lau, J., Chan, G., Lau, B., Chui, M. Development and validation of a questionnaire to measure the service needs of families with children with developmental disabilities. *Research in Developmental Disabilities* 2010;31:664-71.

## Recent Publications and Scientific Presentations

## Publicatons

Leung C, Mak R, Lau V, Cheung J, Lam C. The validation of a scale to measure cognitive development in Chinese preschool children. *Res Dev Disabil.* 2013;34(7):2257-67.

To CK, Cheung PS, McLeod S. A population study of children's acquisition of Hong Kong Cantonese consonants, vowels, and tones. *J Speech Lang Hear Res.* 2013;56(1):103-22. doi: 10.1044/1092-4388(2012/11-0080). Epub 2012 May 21.

To CK, Cheung PS, McLeod S. The impact of extrinsic demographic factors on Cantonese speech acquisition. *Clin Linguist Phon.* 2013;27(5):323-38. doi: 10.3109/02699206.2013.763385.

To CK, Cheung PS. Translation to practice: assessment of children's speech sound production in Hong Kong. In McLeod S Goldstein B, eds. *Multilingual aspects of speech sound disorders in children.* Bristol: Multilingual Matters 2012:165-70.

To CK, Law T, Cheung PS. Treatment intensity in everyday clinical management of speech sound disorders in Hong Kong. *Int J Speech Lang Pathol.* 2012;14(5):462-6. doi: 10.3109/17549507.2012.688867

Wong TPS, Leung EYW, Poon CYC, Leung CYF, Lau BPH. Balance performance in children with unilateral and bilateral severe-to-profound-grade hearing impairment. *Hong Kong Physiotherapy Journal* 2013;31(2):81-87.

## Scientific Presentations

**Enhancing children's oral language skills** on 30 November 2013 at Department of Educational Psychology, The Chinese University of Hong Kong by CHAN Wai-ki, Amy.

就南京市妇幼保健院儿童保健科正在进行的一项1-5岁儿童语言发育测量表的研制进行培训和指导  
南京医科大学附属南京市妇幼保健院  
十一月二十二至二十三日  
张秀萍

**Mathematics disability** on 20 November 2013 at Department of Applied Social Sciences, Hong Kong Polytechnic University by CHAN Mee-yin, Becky.

**Working with children with physical disability** on 13 November 2013 at Department of Applied Social Sciences, Hong Kong Polytechnic University by LAU Pui-heung, Beverley.

**Working with children with physical disability** on 13 November 2013 at Department of Applied Social Sciences, Hong Kong Polytechnic University by Dr WONG Lai-yin.

**Working with children with visual impairment and hearing impairment** on 30 October 2013 at Department of Applied Social Sciences, Hong Kong Polytechnic University by LAU Wai-ye, Kelly.

**Working with children with visual impairment and hearing impairment** on 30 October 2013 at Department of Applied Social Sciences, Hong Kong Polytechnic University by Dr LO Pui-wan, Henry.

**Public seminar on occupational therapy service for students with special education needs in mainstream schools (Moderator)** on 26 October 2013 at 學習無障礙:融合教育支援服務分享會, Hong Kong Occupational Therapy Association by FONG Kin-han.

自閉症/亞氏保加症學童的診斷方法:認識視覺學習策略支援自閉症/亞氏保加症學童 from 17 October to 14 November 2013 at Diploma in Special Education (Special Learning Needs Education Course in Autism/Asperger's Syndrome), HKU SPACE by LAM Ling.

**Developmental assessment in children with visual impairment** on 8 August 2013 at CUHK-HKEH-PWH Joint Grand Round by Dr LEE Mun-yau, Florence.

**Physical development and related disorders** on 9 July 2013 at Post-registration certificate course in child and adolescent psychiatric nursing, Kwai Chung Hospital and the Institute of Advanced Nursing Studies, Hospital Authority by Dr CHOW Chin-pang.

**Cognitive, language and psychosocial development and related disorders** on 9 July 2013 at Post-registration certificate course in child and adolescent psychiatric nursing, Kwai Chung Hospital and the Institute of Advanced Nursing Studies, Hospital Authority by CHUNG Wai-hung.

**Accommodation for students with specific learning disabilities (讀寫困難學生的校內及公開考試調適需知)** on 30 May 2013 at Diploma in Special Education: Foundation Certificate in Special Education (Specific Learning Difficulties in Reading and Writing), HKU SPACE by CHAN Mee-yin, Becky.

**Understanding typical and disordered development in speech sound system (phonology) in children. How can teachers identify children with speech sound system problems in schools?** on 9 May and 11 June 2013 at The Hong Kong Institute of Education by CHEUNG Sau-ping, Pamela.

**Cochlear implant services in Kowloon Central Cluster (KCC)** on 6 May 2013 at Queen Elizabeth Hospital by Dr CHAN Pui-suen, Pissy Grace.

**How to enhance the oral language skills of school-age children with language impairment** on 2 May and 17 June 2013 at The Hong Kong Institute of Education by CHAN Wai-ki, Amy.

**Understanding the aim, scope, and procedures on screening and assessment of oral language functions in pre-school and school age children. How can teachers identify children with oral language difficulties in schools?** on 30 April and 13 June 2013 at The Hong Kong Institute of Education by CHAN Wai-ki, Amy.

**Autosomal and sex-linked inheritance** on 8 April 2013 at Department of Paediatrics, Prince of Wales Hospital, The Chinese University of Hong Kong by Dr CHONG Shuk-ching.

**Diagnostic Issues/application of visual strategies** on 14 March, 11 April 2013 at Diploma in Special Education (Special Learning Needs Education Course in Autism/Asperger's Syndrome), HKU SPACE by LAM Ling.

**Multi-disciplinary assessment for children with developmental problems** on 13 March 2013 at School of Optometry, The Hong Kong Polytechnic University by CHEUNG Pui-yi, Josephine.

**Neurological developmental assessment for early childhood from International Classification of Functioning, Disability and Health** on 2 March 2013 at Institute of Advanced Allied Health Studies, Hospital Authority by LAU Pui-heung, Beverley.

**Enhancing children's oral language skills** on 23 February 2013 at Department of Educational Psychology, The Chinese University of Hong Kong by CHAN Wai-ki, Amy.

**Enhancing children's oral language skills** on 23 February 2013 at Department of Educational Psychology, The Chinese University of Hong Kong by NG Kwok-hang, Ashley.

**Learning to read and write: strengthening children's hand-writing related skills** on 18 January, 5 April, 11 May, 24 July, 31 July, 7 August, and 14 August 2013 at Department of Educational Psychology, Faculty of Education, The Chinese University of Hong Kong by CHUI Mun-ye.

## Contact

Email : ro\_cas@dh.gov.hk  
Website : http://www.dhcas.gov.hk  
Editorial Board : Epidemiology and Research Committee, Child Assessment Service, Department of Health  
Address : 2/F, 147L Argyle Street, Kowloon, Hong Kong

This publication is produced by Child Assessment Service, Department of Health. All rights reserved.