

# CASER

Issue 1, December 2005

## *Child Assessment Service Epidemiology and Research Bulletin*

### **Inside this issue**

1. Message from Service Head
2. Child Assessment Service Statistics: Trends and Analysis
3. Publications and Scientific Presentations in 2005

### **Message from Service Head**

Child Assessment Service (CAS) serves as the rehabilitation programme arm of the Hong Kong Department of Health. Its work comprises of both clinical services involved with the assessment of children with developmental problems, and broader public health related activities. The latter ranges from promotion of awareness of related issues in society, conduction of epidemiological studies and clinical research, to participation in development of local services and policies for childhood disabilities and rehabilitation.

Developmental paediatrics and rehabilitation in Hong Kong has had a long history from the early 1900's, when voluntary organizations ran institutions to generally train and care for mixed groups of children with disabilities. Evolution in the field witnessed a number of advancements, including the setting up of assessment centres to provide accurate diagnostic formulation and special schools to provide specific enhanced support, and the development of early identification and preschool services when their values became evident through research. Most recently, prevention and public education came to the fore as a result of increasing scientific knowledge on the underpinnings of disabling conditions and on measures to prevent its occurrence and secondary complications.

Today, further robust advancement in the field can only be made through policies and programmes that are based on evidence. Evidence in this field sheds light on local prevalence and clinical patterns. It provides directions for tools and programme

development and guides rational use of resources. Child Assessment Service, as one of the major service providers for evaluating children with developmental disabilities, accesses a wide range of these children's profiles and needs. It is hoped that through systematic compilation of data from its work as well as from its partners, CAS can provide information that is helpful to those practicing in the field of child development, disabilities and rehabilitation.

CASER, an epidemiology and research bulletin, will highlight materials thus collected. I wish to thank the CASER editorial board for its innovation and dedication in making it a reality, and to all who contribute to its rich contents.

Catherine C.C. LAM  
Child Assessment Service  
December 2005



# Child Assessment Service Statistics: Trends and Analysis

Poon MT, Tang ML, Doo S

## Introduction

Child Assessment Service (CAS) of the Department of Health is established to provide service for children with special needs. We understand the abilities inherent in each of these children and continuously seek to maximize their potential as they walk through individual developmental steps, no matter large or small.

With the concerted effort of each professional member of the child assessment team, we strive to provide quality assessments for every child referred, through updated knowledge, assessment tools and assessment skills. We also recognize the importance of training in these children, and we collaborate with other government departments and non-government organizations in providing a seamless service network for them.

Our target clients include children with a variety of developmental problems, ranging from developmental delay, delays or disorders in language and communication, problems in gross motor and fine motor abilities, sensory impairments, behaviour and attention problems and various learning difficulties.

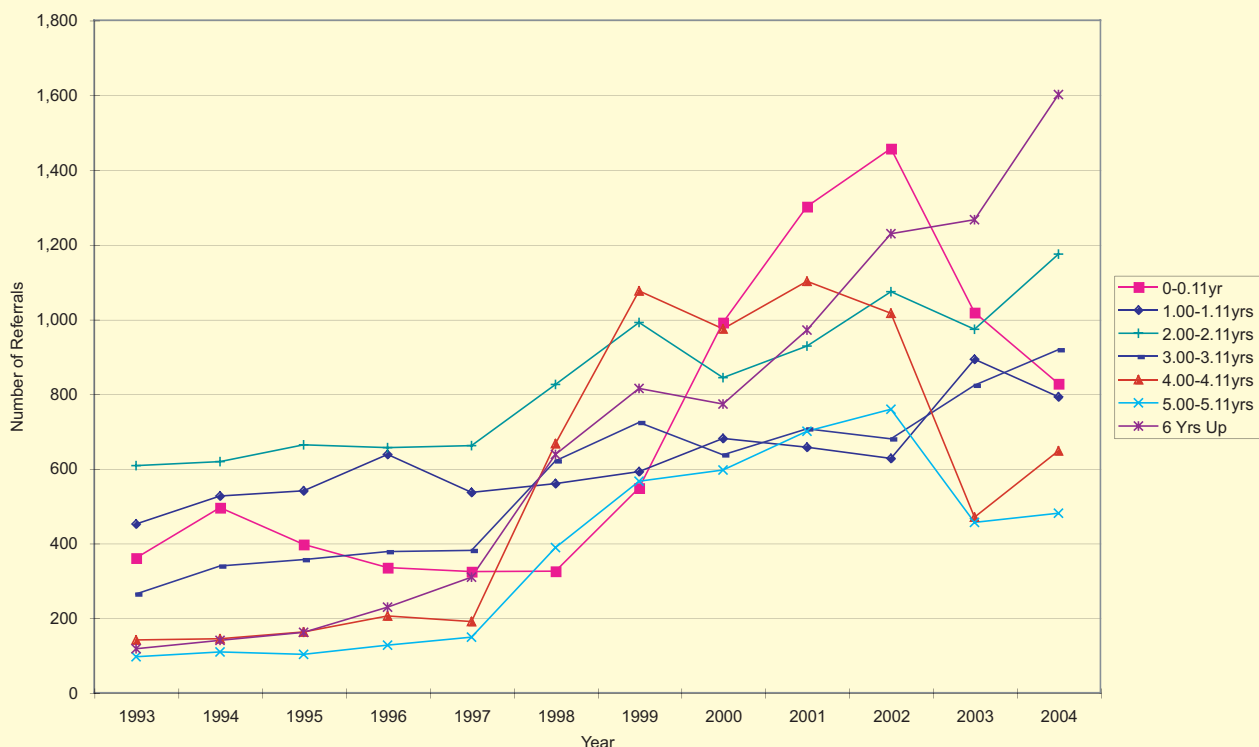
Since 1977, with the establishment of the first child assessment centre, the service provided

by CAS has been increasingly recognized by society at large. Up to 2005, a total of 7 child assessment centres have been established in Kowloon and the New Territories to serve all children under the age of twelve in Hong Kong.

## Referral Number

In 1978, we recorded 509 referrals, and by 1992, the figure rose to 1,579. The compilation of CAS service statistics became more systematic since 1993, when we received 2,040 referrals. In 2004, the number of total referrals rose to 6,439, representing an increase of 2.2 times. Of these referrals, the increase was most significant in children over the age of 6, from 118 to 1,601, an increase of 12.6 times (Figure 1). This can be attributed to the fact that more and more parents are becoming aware of learning problems of their children when they enter primary school. In addition, parents are experiencing the ever-increasing educational pressure put on their children during kindergarten, leading to an increase in referrals in these age groups.

Figure 1 Number of Referrals By Age Group By Year

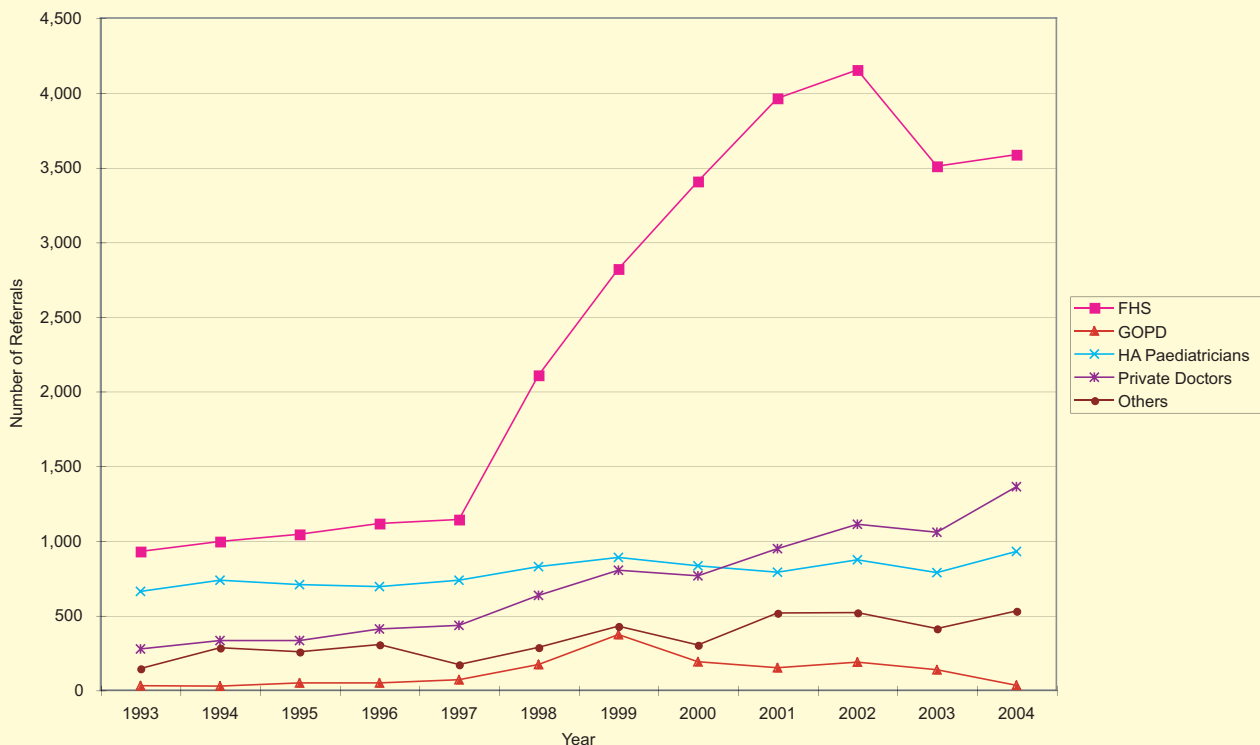


## Referral Source

CAS receives referrals from medical practitioners and psychologists. In 1993, we received 929 referrals from Family Health Service (FHS). In the past 6 years, universal surveillance programmes for some conditions have been carried out in FHS, aiming at early detection of these developmental problems. For this reason, the referral figure rose to 3,586 in 2004, representing an increase of

2.9 times. Besides, referrals from private practitioners also showed a marked increase, from 276 in 1993 to 1,363 in 2004, an increase of 3.9 times (Figure 2). This may indicate that more parents are willing to bring children to consult private practitioners on their children's development, who are in turn more aware of developmental problems and make referrals more readily.

Figure 2 Number of Referrals By Referral Source By Year

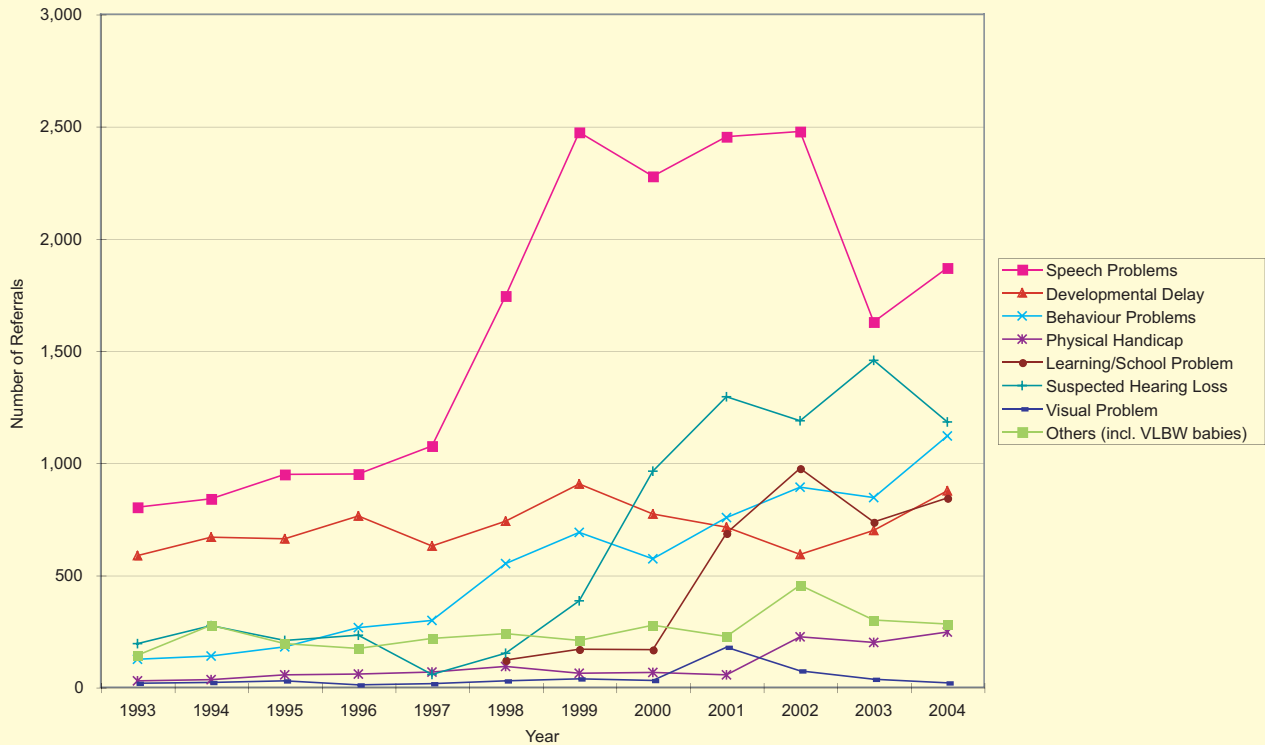


## Referral Reason

Speech problems remain to be the major referral reason throughout the years, accounting for around 30 - 40% of cases. However, a significant rise in the number of referrals is seen for children with behavioural problems, from 124 in 1993 to 1,120 in 2004 (a rise of 8 times). This can be explained in part by societal influence on children's behaviour, and in part due to limited knowledge and experience on the part of many parents on child handling. From 1998 onwards, the concept of specific learning difficulties began to surface and more children were diagnosed to have these conditions. We received 122

referrals because of learning problems in 1998, with the figure increasing to 844 in 2004 (an increase of 5.9 times). With the introduction of universal hearing screening for infants in FHS from 2001 onwards, the referrals for suspected hearing impairment rose significantly, from 195 in 1993 to 1,183 in 2004 (an increase of 5 times). The awareness of the society and professionals on needs of children with physical handicap is heightened in the last 3 to 4 years. In 1993, only 28 children were referred, while the figure rose to 247 in 2004, an increase of 7.8 times (Figure 3).

Figure 3 Number of Referrals by Referral Reason By Year



### Signifi cant Diagnostic Categories

With the increase of referrals, CAS responds by enhancing work efficiency and effectiveness through restructuring of operational procedures, review of assessment processes, and relevant staff training. According to qualitative analysis of major developmental diagnoses made after comprehensive team assessments, more and more children have been diagnosed with developmental problems. Of these, the diagnosis which generates the most significant increase relates to learning difficulties (30 in 1993 to 634 in 2004, an increase of 20.1 times). The other diagnosis of note is Attention Deficit/Hyperactivity Disorder (78 in 1993 to 97 in 2001). When attention and hyperactivity problems are included from 2002 onwards, the total number of children diagnosed rose from

462 in 2002 to 536 in 2004 (Figure 4 and 5). Children with Autistic Spectrum Disorder were also seen more frequently. 132 children were diagnosed in 1993, while in 2004, the corresponding figure rose to 461 (an increase of 2.5 times) (Figure 4 and 5). For speech and language related problems, 467 children were diagnosed to have language delay or disorders in 1993, while the figure rose to 1,325 in 2004, representing an increase of 1.8 times (Figure 4).



Figure 4 Number of Major Diagnostic Categories By Year

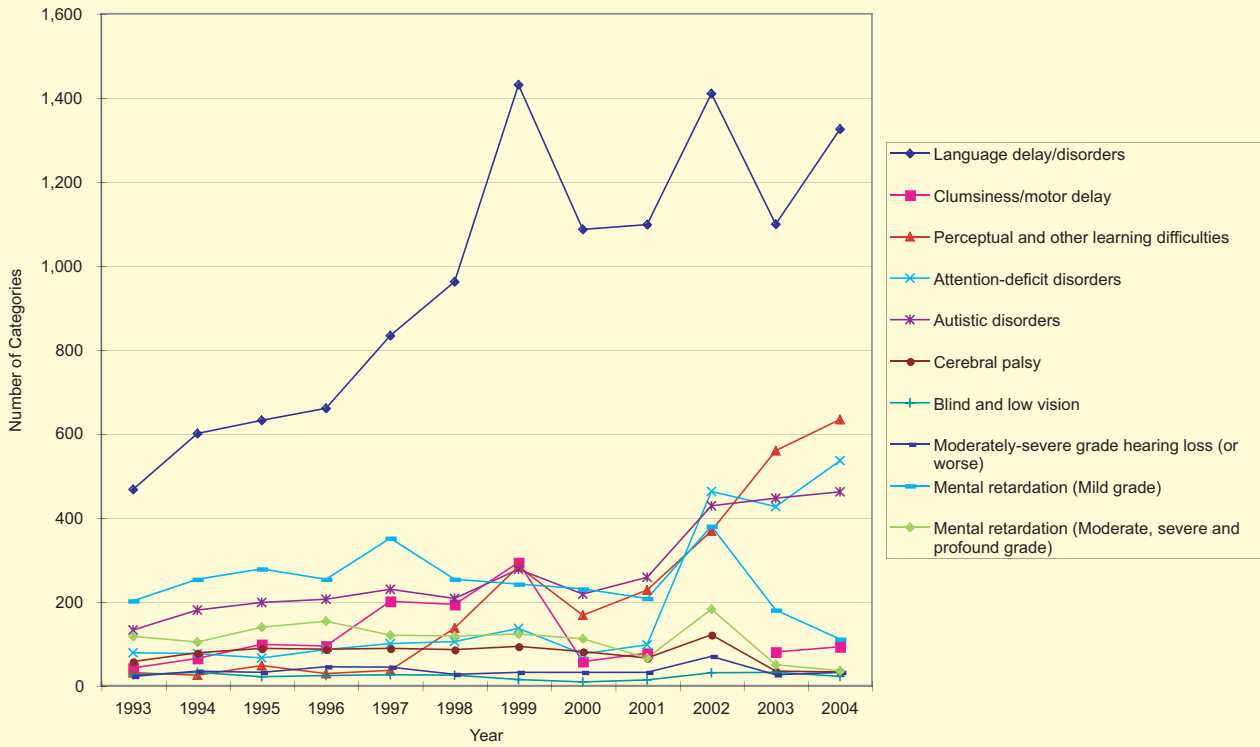
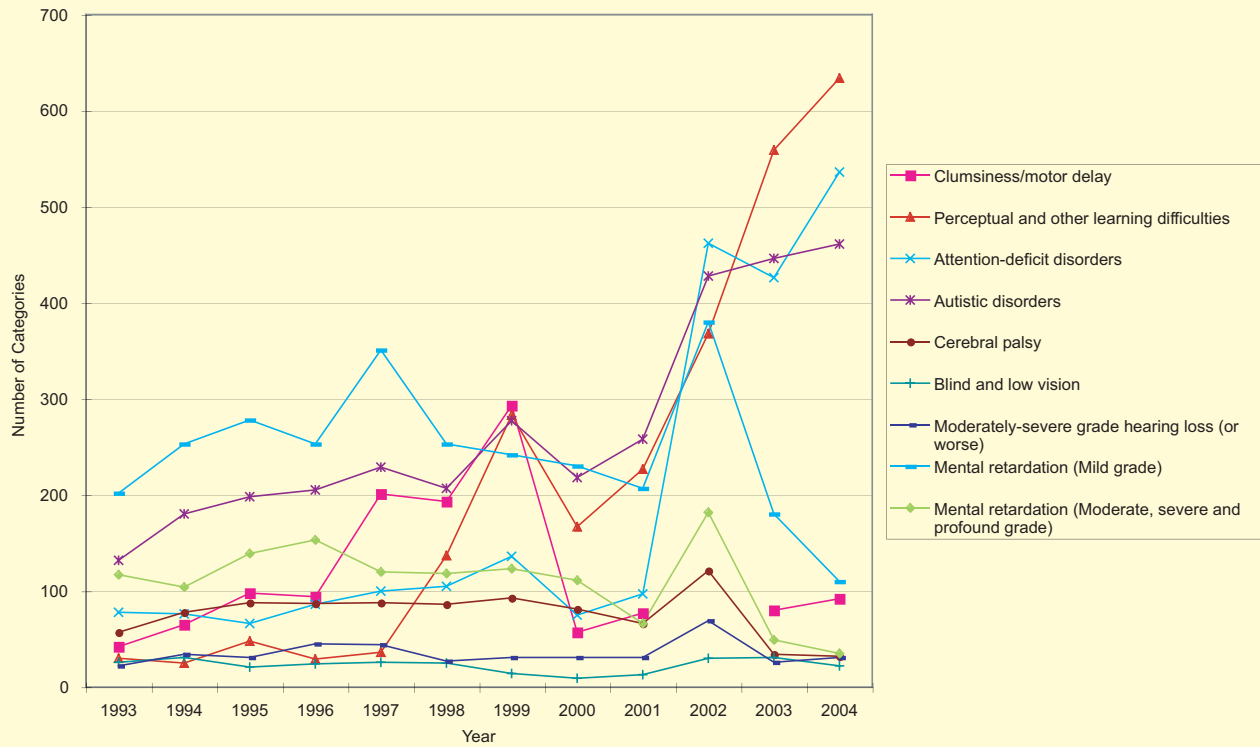


Figure 5 Number of Major Diagnostic Categories (Excluding Developmental Speech and Language Disorder) By Year



## Socioeconomic Status

As a public service, CAS serves clients from all walks of life. In order to reflect the socioeconomic status of our clients, the education levels and occupations of their parents are studied.

According to the data in 2004 (Table 1), around two third of the parents of CAS clients had completed secondary school (66.7% overall: 62.3% fathers & 70.8% mothers). Nearly one quarter of them had matriculation level or above (21.5% overall: 24.0% fathers

& 18.9% mothers). On the other hand, less than 10% were at primary school level or below (9.2% overall: 9.7% fathers & 8.7% mothers). On the contrary, in the general population of Hong Kong, less than half finished secondary school level (46.7%), a quarter had matriculation level or above (26.7%) and another quarter had education level of primary school or below (26.6%). These statistical figures appear to show that higher education levels were represented by parents of CAS clients.

Table 1. Distribution of Educational Attainment in Parents of CAS Clients and General Population Aged 15 or Over in Year 2004

Educational Attainment	Fathers of CAS Clients (Total = 6,616)	Mothers of CAS Clients (Total = 6,616)	General Population of Hong Kong
	N (%)	N (%)	%
Matriculation or above	1,588 (24.0)	1,249 (18.9)	26.7
Secondary school level	4,125 (62.3)	4,683 (70.8)	46.7
Primary or below	640 (9.7)	578 (8.7)	26.6
Others and unknown	263 (4.0)	106 (1.6)	0

An alternative way to look at the socioeconomic status is to analyze the occupational pattern of the parents (Table 2). In CAS, around two third of the clients' fathers have non-manual jobs (62.4%), which comprise of "managers & administrators", "professionals", "associated professionals", "clerks" and "service workers". Among the occupations, "service workers" (24.2%) and "managers & administrators" (13.2%) were most frequently reported. On the other

hand, only 38.0% of clients' mothers have non-manual jobs and 56.0% of them were housewives. For the working mothers, they usually had clerical works (15.8%). As a group, 49.5% of the parents of CAS clients have non-manual work. This is in contrast to the corresponding figure in the general population of Hong Kong, where only 39.2% of people have non-manual jobs.<sup>1</sup> From these data, it appears that more parents of CAS clients have non-manual jobs.

Table 2. Distribution of Occupation in Parents of CAS Clients and General Population Aged 15 or Over in Year 2004

Occupation	Fathers of CAS Clients (Total = 5,696)	Mothers of CAS Clients (Total = 6,383)	General Population of Hong Kong (Total = 5,796,000)
	N (%)	N (%)	N in '000 (%)
Managers and administrators	753 (13.2)	340 (5.3)	285.4 (4.9)
Professionals	732 (12.9)	394 (6.2)	214.2 (3.7)
Associate professionals	232 (4.1)	201 (3.1)	632.4 (10.9)
Clerks	457 (8.0)	1,006 (15.8)	571.7 (9.9)
Service workers	1,379 (24.2)	487 (7.6)	568.1 (9.8)
Craft and related workers	319 (5.7)	20 (0.3)	314.7 (5.4)
Plant and machine operators	208 (3.6)	10 (0.2)	255.2 (4.4)
Fishery workers	7 (0.1)	4 (0.0)	Not available
Elementary occupations	243 (4.2)	38 (0.6)	676.8 (11.8)
Non-working (Unemployed/ Retired/ Housewives/ Students)	375 (6.6)	3,573 (56.0)	2,269 (39.1)
Others/ Unknown	991 (17.4)	310 (4.9)	8.6 (0.1)

Data therefore also showed that the socioeconomic status of the parents of CAS clients were different from those in the general population. Higher educational levels are usually required for non-manual jobs. The findings of parental educational levels and occupations in CAS were quite consistent.

## Conclusion

Child Assessment Service has been established for almost three decades. The statistics presented show that the demand for service and the scope of work has grown tremendously. This is a reflection of a heightened awareness of the general public and professionals towards various developmental problems. With increasing knowledge of learning and behavioural difficulties, particularly in school age children, a rising demand for CAS service is anticipated.

The majority of the client families appear to have higher socioeconomic status than the general population. With higher educational levels, these parents are more likely to be aware of their children's problems and are eager to seek early advice and guidance for their children.

Through a self-enhancing multidisciplinary team approach, CAS is committed to provide quality rehabilitation service for children with special needs in the years to come.

## Reference

- 1 Census and Statistics Department, HKSAR, PRC. *Women and men in Hong Kong: key statistics, 2005 edition*. HKSAR: Government Logistics Department, 2005.

## Publications and Scientific Presentations in 2005

### Publications

Chan HSS, Lau PHB, Fong KH, Poon D, Lam CCC. Neuroimpairment, activity limitation, and participation restriction among children with cerebral palsy in Hong Kong. *Hong Kong Med J* 2005; 11: 342-50.

Lam CCC. Services for developmental dyslexia in Hong Kong. *HK J Paediatr (new series)* 2005; 10: 149-152.

### Scientific Presentations

The following presentations were conducted between January and December 2005:

#### January - March

1. **The scene of dyslexia in Hong Kong: Recent developments in knowledge and clinical practice** on 24 February 2005 at The Hong Kong Society of Child Neurology and Developmental Paediatrics Neurodevelopmental Conference by *Lam CCC, Chan MY, Tsang YH, Lam KY, Ng KH, Fong KH, Kam CY*.
2. **Mathematics disorder: A diagnostic perspective** on 18 March 2005 at The Hong Kong Society of Child Neurology and Developmental Paediatrics Bimonthly Scientific Meeting by *Lam WF, Chan MY*.

#### April - June

3. **Autistic Spectrum Disorder (ASD) in preschool children: Local scene, diagnosis and intervention** on 15 June 2005 at The Hong Kong Society of Child Neurology and Developmental Paediatrics Neurodevelopmental Conference by *Woo KF, Liu KY, Lam L*.
4. **Seminar on Augumentative and Alternative Communication (AAC) - ICF model on children with disabilities** on 17 June 2005 at Central Kowloon Child Assessment Centre by *Chan HS, Siu KL*.
5. **Neuroimpairment, activity limitation, and participation restriction among children with cerebral palsy in Hong Kong** on 25 June 2005 at Symposium on Management of Neuromuscular Disorders - Medication and Botulinum Toxin Injection by *Chan HS*.

### July - September

6. 從醫學角度了解自閉症的最新發展。  
「提升自閉症幼兒社交及溝通能力之全方位策略」研討會，二零零五年七月九日  
藍芷芊
7. **Overview of autistic spectrum disorder** on 13 August 2005 at Update Series on Child Health, Hong Kong Paediatric Society by *Lau KT*.
8. **The late acquisition of the passive construction, the disposal construction, and relative clauses in Cantonese-speaking children** on 24 September 2005 at The Third International Conference on Formal Linguistics and The Second Yuelu Language Acquisition Workshop by *Ng KH, Chan BW*.

### October - December

9. **Intervention and support for children with Attention Deficit Hyperactivity Disorder (ADHD) - Local scene** on 21 October 2005 at The Hong Kong Society of Child Neurology and Developmental Paediatrics Neurodevelopmental Conference by *Lee MY, Liu KY, Chan KY*.
10. **Multidisciplinary assessment for hearing impaired children in Hong Kong** on 30 October 2005 at Joint Meeting on Developmental Paediatrics Hong Kong, Macau and the Mainland of China "Update on Childhood Hearing Impairment" by *Doo S*.
11. **Multi-sectoral collaboration to severe hearing impaired children in Hong Kong** on 30 October 2005 at Joint Meeting on Developmental Paediatrics Hong Kong, Macau and the Mainland of China "Update on Childhood Hearing Impairment" by *Lam CCC*.
12. **Study of clinical profile of children with dyslexia diagnosed in Child Assessment Service in Hong Kong** on 11 November 2005 at the 56th Annual Conference of International Dyslexia Association by *Lau WY, Tsang YH, Chan MY*.
13. **Socio-emotional functioning of children with dyslexia and their parents in Hong Kong** on 11 November 2005 at the 56th Annual Conference of International Dyslexia Association by *Tsang YH, Chan MY, Lau WY*.
14. The following presentations were conducted at The Hong Kong Society of Child Neurology and Developmental Paediatrics Annual Scientific Meeting held on 11-14 November 2005:
  - **Children with neuromuscular disorders studying in mainstream schools - Psychosocial aspects and school support** by *Ng NK*.
  - **Environmental tobacco smoke and child development: A case-control study on Hong Kong Chinese toddlers** by *Tang ML*.
  - **Paediatric traumatic brain injury in Hong Kong** by *Leung KT*.
  - **Sleep problems of Chinese children with pervasive developmental disorders in Hong Kong - Correlation with parental stress** by *Doo S*.

## Contact

Email : [ro\\_cas@dh.gov.hk](mailto: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

## Next Issue

The next issue of CASER will be released in June 2006. The featured topic is on developmental delay and mental retardation.

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