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Primary Care Paediatrics in Hong Kong

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Preamble

As declared in the World Declaration on the Survival, Protection and Development of Children 1990 – "The children of the world are innocent, vulnerable and dependent. They are also curious, active and full of hope. Their time should be one of joy and peace, of playing, learning and growing. Their future should be shaped in harmony and co-operation. Their lives should mature, as they broaden their perspectives and gain new experiences. The well-being of children requires political action at the highest level". Interest of children must be accorded high priority in all government policies that will have effect on children. The health of children should be promoted, protected and maintained with our best effort.

Introduction

The neonatal and infant mortality rates have improved significantly over the past three decades in Hong Kong (Figure 1).[1] However, over the period, there has been considerable change in psycho-socio-economic environment that has tremendous adverse impact on the health of the children of Hong Kong.[2] The health needs of children have changed dramatically. Paediatricians, being the best trained professional to understand those needs and be able to provide quality health care services to infants, children and adolescents within the context of their family, community and environment have a mammoth task of renovating the child health services to meet these challenges.

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Changing Psycho-socio-economic Environment and Health Status of Children

Demography

In the 60s, Hong Kong was called the City of Children where almost 40% of the population was under 15 years of age and at end of 2000 the total population is 6.87 million with 17.2% and 11.2% <15 years of age and 11.2% over 64 years of age respectively (Figure 2). The birth rate has been on the decrease (Table 1)[3], however, every year about thirty thousand children from mainland immigrate to Hong Kong. They will contribute to about a third of our new childhood population posting considerable challenges to our education, social and health care system.

Physical Health

With urbanization, children are exposed to many environmental hazards especially air and water pollution that are detrimental to their well being. Asthma and allergy rates are on the rise. With improvement in living standards, nutritional deficiencies are a rarity but what follows are problems of unhealthy eating habit, physical inactivity and obesity.[4] With improvement in medical care and provision of active immunization programme and other public health measures, infectious diseases and many acute illnesses are adequately treated or controlled and the challenges now are injuries as leading cause of death and disability and rehabilitation and care of children with chronic illnesses or handicaps.

Psycho-social Health

The social and cultural environment has shown remarkable changes over the past three decades (Table 2).[5] Traditional extended families have increasingly been

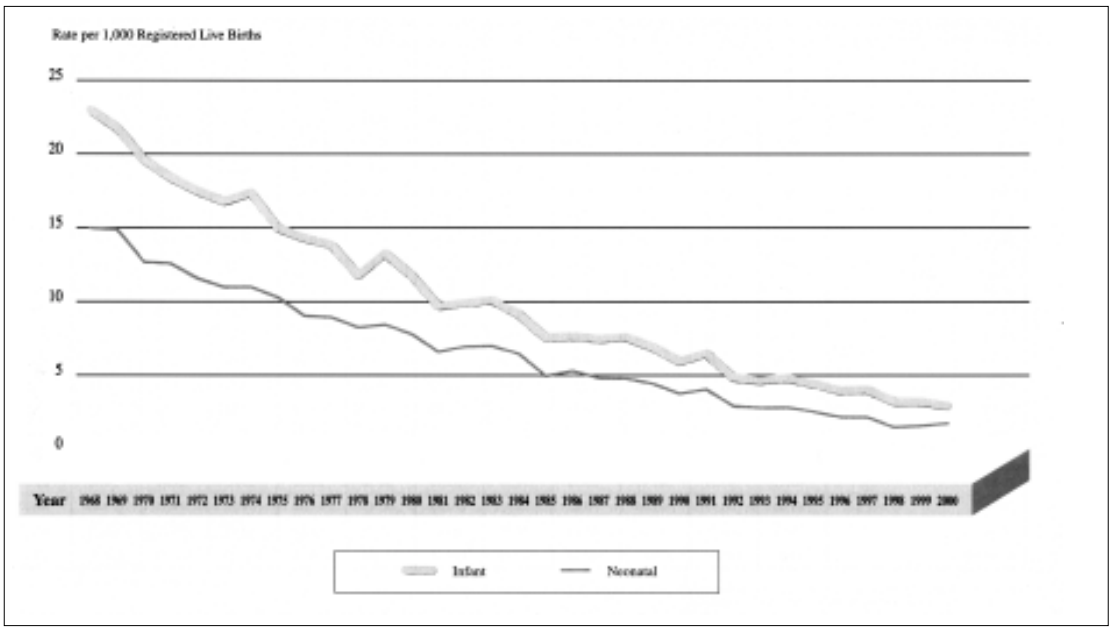


Figure 1 Infant and neonatal mortality 1968-2000.

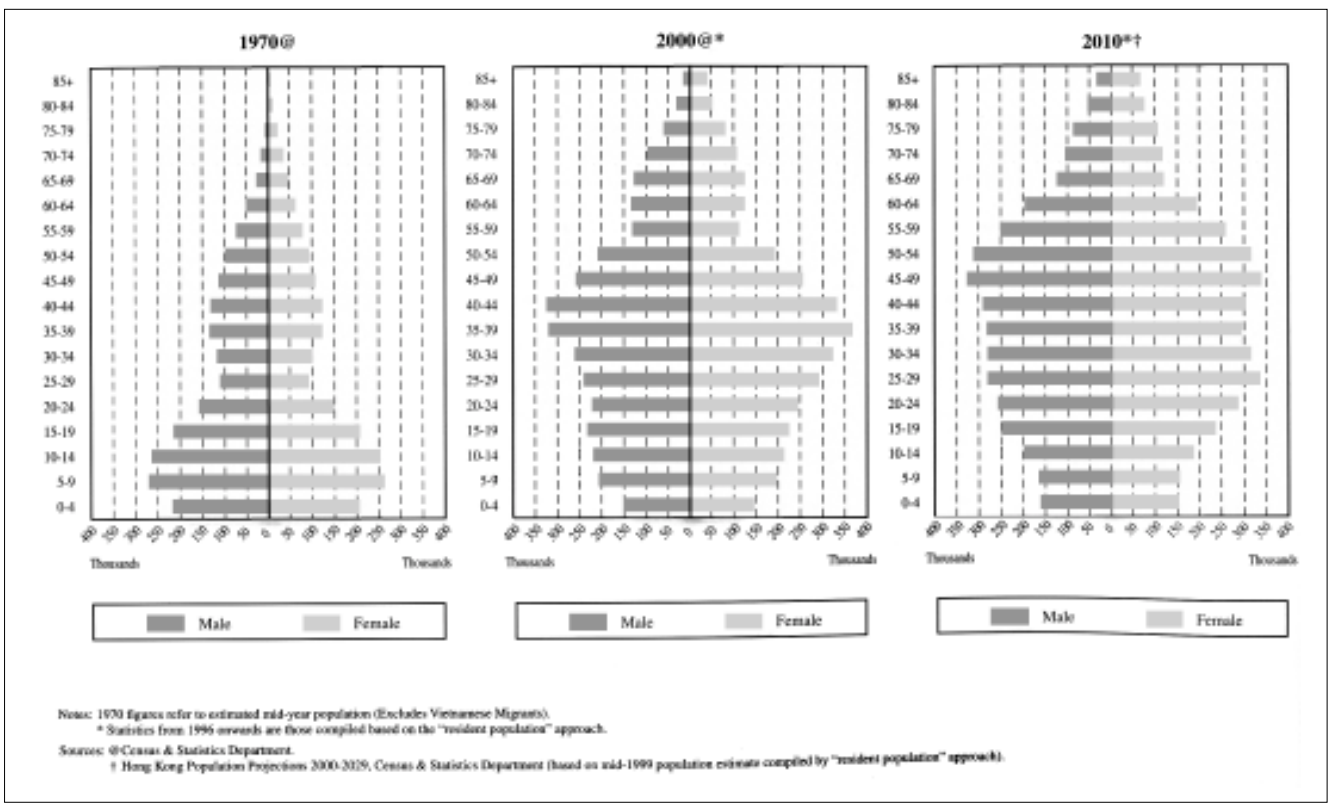


Figure 2 Population age pyramid 1970, 2000 and 2010.

Table 1 Selected vital statistics

Selected vital statistics in Hong Kong	1995	1999	2000
Infant mortality (per 1000 live births)	4.4	3.2	2.9
Total birth (thousand)	68.6	51.3	54.2
Crude birth rate (per 1000 population)	11.2	7.6	8.0
Total marriages (thousand)	38.8	31.3	30.9
Crude marriage rates (per 1000 population)	6.1	4.6	4.5

Ref: Annual Report, Department of Health 2000.

Table 2 Social development trends of vulnerable populations 1986-1998[5]

	1981	1986	1991	1996	1998
14. FAMILY SOLIDARITY SUBINDEX					
Reported domestic violence cases per 100,000 households (-)	2.9	54.4	NA	68.1	57.4
Marriages per 100,000 persons aged 15+ (+)	1111	880	866	690	564
Divorces as % of marriages (-)	4.7	11.4	16	26.8	42.2
1. WOMEN STATUS SUBINDEX					
Married women's labour force participation rate (+)	40.9	43.4	42.5	43.7	45
% District Board political positions occupied by women (+)	3.8	7.2	8.8	10.4	14.6
% women administrators and managers (+)	NA	19	20	19.6	20.8
Med women's wages as % of med men's wages, all ages (+)	64	66.7	75	80	75
% of women in low income households (-)	NA	10.4	12.4	14.4	16.7
2. ELDERLY STATUS SUBINDEX					
Turn out rate of elderly voting in most recent DB election (+)	NA	25	25.9	34.8	42
Years of life expectation at age 65 (+)	16.3	16.7	17.4	18	18.9
% elderly with lower secondary educational attainment (+)	11	12	13	13	13
Elderly suicide rate per 100,000 (-)	27	36	35	29	29
% of elderly participating in organized social programs (+)	NA	5.1	7.7	14	15.9
Percentage of elderly aged 65+ living alone (-)	NA	13.6	11.6	11.4	12.6
% of persons aged 65+ in low income households (-)	NA	22.4	24.8	25.9	33.7
3. CHILD STATUS SUBINDEX					
Under age 5 child mortality per 100000 pop aged 0-4 (-)	247	163	147	87	68
Children 7-15 arrested per 100,000 (-)	604	788	929	860	783
% children immunized against DPT (+)	NA	77	84	89	88
Children aged 2-6 enrolled in kinder & child care centers/100,000 (+)	52474	59035	58165	55820	54918
% children living in single parent households (-)	NA	3.97	3.65	4.29	4.2
% children aged 0-14 in in low-income households (-)	NA	13.2	17.1	21.4	23.1
Child abuse cases per 100,000 (-)	12.2	14.0	12.6	21.5	28.6
4. YOUTH STATUS SUBINDEX					
% aged 15-24 studying full-time at tertiary education (+)	NA	3.3	5.5	9	10.3
% youth aged 15-19 attaining S4 or above (+)	54.7	63.9	68.5	76.7	78
Arrest persons 16-20 for violent crimes per 100,000 (-)	313	366	562	472	403
Prevalance of drug use among persons 15-19 per 100,000 (-)	122	239	233	655	492
Youth suicide rate, aged 10-19 years (-)	2.06	2.5	2.3	4.4	4.2
% of youth aged 15-19 in low-income households (-)	NA	9.4	11	15.4	19.7
Youth unemployment Rate (-)	9.2	10.3	8.1	12.5	20.5
5. LOW INCOME SUBINDEX					
Homeless persons per 100,000 population (-)	17.4	23.2	18.7	15.9	11.1
Real Wage Index of wage workers (+)	85.7	90.3	99.8	102.8	104.4
% low income household expenditure on housing & food (-)	NA	60	62.8	61.2	62
No. persons in low-income domestic households/100,000 (-)	NA	9490	11710	14127	16338
Unemployment rate of persons in low-income households (-)	NA	8.6	5.7	9	19.9

Ref: Social Development in Hong Kong – The unfinished agenda, June 2000. The Hong Kong Council of Social Service.

replaced by small nuclear families. Many young and inexperienced couples have difficulties in coping with child rearing problems and are not provided with sufficient help from their elders within the family nor from the community. There have been considerable changes in family structures – single parent and divorce rate are increasing, more children have both parents under employment etc. Parents tend to spend less and less time with their children leaving them exposed to influence of media especially the electronic means, video games and internets. However, children are under enormous pressure to excel in academic performance. The modern family is increasingly under stress and have lead to increase in physical and psychological morbidities besides child abuse/neglect and injuries. In a recent survey, Hong Kong children are the most unhappy group in Asia.

The societal relationships and values of older generations are very different from the newer generations. The values associated with post-war need for survival, shelter, stability and the consequent need for authority and external control have shifted towards expectations for a good quality of life including health, decline in trust in institutions and authorities, less compliant and more questioning and demand for real control over one's own life and local circumstances. The recent economic downturn with increase in unemployment rate together with rapidly changing political environment has added significant sense of uncertainties and anxiety among adults and children alike. The rich-poor divide has widened and some 300,000 children lives in poverty. All these have generated tremendous psycho-socio-medical child health problems in the community that have not been properly recognized, adequately studied nor tackled.

It is important to note that people tend to form their values between 17 and 24 years. These are then carried throughout life with only marginal change over the years. Children and adolescents' attitudes are largely shaped by family and social environment they live through. With globalisation, the influence of the mass media especially television can be considerable and evidence has shown that this may lead to increase in violence and risk behaviours. Another way in which the child is influenced without our overt awareness concerns peer pressure. This is an immense influence in persuading a child or adolescent to smoke, try drugs or experiment with sex. The survey by District Board of Central-Western District in 1991 confirmed that 70% of adolescents first tried drugs for fun or curiosity and the main source was from friends. The 1999 survey by the Council of Social Service is even more worrying. Employers considered 85% of our youths lack sense of responsibility and 40% was poor in interpersonal relationship and lack communication skills. About half of our youths would consider using illegal means to earn money if needed. These psycho-social problems and insidious pollution of the mind may be a far more potent threat to the present and future generations than anything else. The social developmental trend of children and youth in past two decades has shown significant deterioration compared with women and elderly as shown by a study by The Hong Kong Council of Social Services[5] (Tables 2 & 3, Figure 3).

Mental Health

> *The foundation for healthy growth and development in later years is established to a large degree in the first six years of life.*
> ***Towards a Healthy Future: Second Report on the Health of Canadians.***
> F/P/T Advisory Committee on Population Health (1999).

- All children are born wired for feelings and ready to learn.
- Early environments matter and nurturing relationships are essential.
- Society is changing and the needs of young children are not being addressed.
- Interactions among early childhood science, policy, and practice are problematic and demand dramatic rethinking.

From Neurons to Neightbourhoods – the science of early childhood development. Institute of Medicine 2000.

There is strong scientific evidence showing the importance of early life experiences on the development of the brain and the evolvement of human behaviour.[6] Research clearly demonstrates the strong links between an adult's health status and his or her coping skills, sense of identity, competence and personal effectiveness. There is strong evidence to support the fact that the development of these important coping skills along with resistance to health problems and overall health and well-being are profoundly influenced by early childhood experiences.[7]

With modernization and socio-economic changes, "new morbidities" of behavioural or emotional problems, learning

disorders, decision problems (e.g. suicide, accidents and violence), life-style problems (e.g. smoking, drug abuse, unhealthy eating habit) and child abuse have emerged as major health problems facing our new generation.[8-11] With economic downturn, the rich-poor divide has widened considerably with more and more children living in poverty. Our children are now exposed to different sets of adverse factors.

Value of Health to Children on Society

"Children are a quarter of our population but all of our future". Health and nutrition of children have long-term effects on productivity and output because they influence a child's ability and motivation to learn. These effects, in turn, influence adult productivity. The protection of health and improvement of health status especially of the children must therefore become fundamentals of any socio-economic policy.

Special Needs of Children

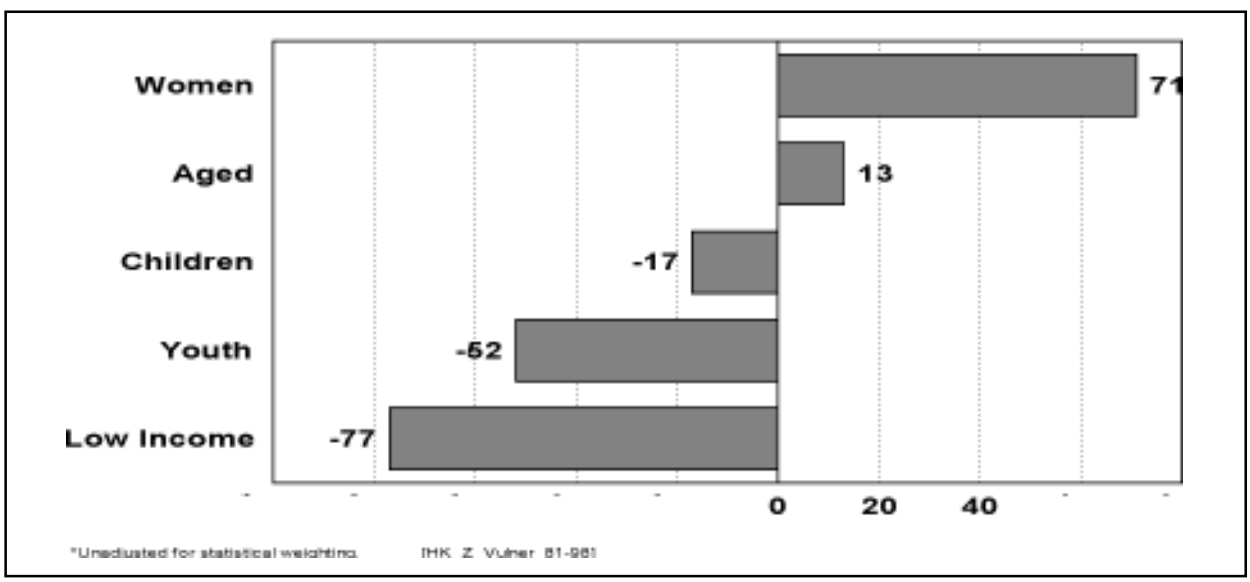
The health needs of children thus have changed dramatically in the past few decades (Table 4).

To meet the basic health needs of children, they need be provided with a safe, loving, nurturing and responsive environment to grow and develop, to experience and learn, to interact with people and to participate so to maximize

Table 3 Youth Health Risk Surveillance 2001[4]

	1999	2001
Perform regular exercise	37.2%	51.4%
Have more than 5 serves of vegetable/fruit per day	8.5%	8.9%
Smoke cigarettes	11.2%	11.9%
Drink alcohol*	12.2%	18.2%
Tried illicit drugs	5.1%	6.2%
Felt hopeless*	14.2%	28.7%
Had suicidal thoughts*	25.1%	36.6%
Had depressive symptoms		35.8%

Ref: Health Crisis of our New Generation: Surveillance on Youth Health Risk Behaviours. Centre for Health Education and Health Promotion. School of Public Health, Faculty of Medicine, The Chinese University of Hong Kong 2002.
* significance difference between period ($p<0.05$)



Ref: Social Development in Hong Kong – The unfinished agenda, June 2000. The Hong Kong Council of Social Service.

Figure 3 Social development trends for Hong Kong's historically vulnerable populations, 1986-98.

their full potential and become a responsible adult who can meet the challenges of their futures. Their needs vary considerably at different ages. The infant requires complete care on *some basic needs for survival* which include feeding, warmth, cleanliness, protection from harm and treatment of acute or chronic illnesses. As they grow, in addition to these basic needs, they will express their own *wants* to an increasing extent and would demand respect and being listened to although the young continue to need guidance especially on such matters as safety and healthy life-style. With greater independence and the start of formal education come more opportunities for self-expression, risk-taking attuned to experience, and *social intercourse* with peers and other members of their community. They should be provided with every opportunity to establish value for life and for their full *development* in addition to advice on life-style, social behaviour and counselling about future career and other aspects of adult life. At all ages children need care, affection and companionship best supplied by loving parents and a warm accepting home. They will also need *protection* from environmental hazards which may be physical, chemical, psychological, social, moral or spiritual.

The health needs of children and their families are diverse and ever changing. Thus, it is vital that they be taken care of by professionals who are trained and experienced in recognizing the needs of children and who can advocate for them. There is a need to integrate the whole range of health services and supports and to link this system to other services to form a more comprehensive and coordinated system of services and supports for expectant parents, children and their families.

The Present Child Health Care Services

The bulk of curative primary health care is provided by private sector and preventive care by Department of Health. The more specialized problems are referred to specialist in the Hospital Authority and the private sector (Tables 5 & 6). It is obvious that services for children are fragmented

Table 4 Changing needs of Hong Kong children

Decrease in need	Increase in need
Infectious diseases – vaccine preventable, water borne, parasites	Emerging infectious diseases – food borne, multi-resistant bugs, AIDS
Under-nutrition	Life style related problems – obesity, smoking, drug abuse, physical inactivity
Acute illness	Decision problems – violence, injuries, suicides, STDS Chronic illnesses & disabilities
Physical hazards	Psycho-social problems Child abuse and neglect Learning disorders
Environmental hygiene	Environmental hazards – pollution, industrial and biological
Acute hospital care	More ambulatory, community and preventive care

Table 5 Organization of child health service

Health & Welfare Bureau	Formulation of medical and health policies
Department of Health • Health promotion • Disease control • Preventive services • Special services	Health Promotion, Disease Surveillance & Control; Family Health Services; Student Health Services; Dental Services; Special Services on TB, AIDS, STDs, Hepatitis; Child Assessment Services; Clinical Genetic Services; Narcotics and Drugs, Occupational Health Services
Hospital Authority • Hospital services	Management of hospital services – acute emergency, secondary, tertiary and rehabilitation services
Private Sector • Primary and secondary	90% of Primary medical care 7% of Hospital care
Social Welfare Department	Complementary social services and safety net for those unable to pay

Table 6 Work distribution

Organizations	HA	DH	Private	Others*
Primary medical care	5%	5% (63 GOPDs)	90%	
Secondary and tertiary medical care	90%		10%	
Child assessment service	✓	✓✓✓✓ (6 CAC)		
Rehabilitation	✓			✓✓✓
Antenatal and postnatal	30%	20% (50 MCHCs)	50%	
Deliveries	68%		32%	
Neonatal intensive care	>90%		<10%	
Neonatal physical examination	50%	✓✓	50%	
Hypothyroid & G6PD screening		90%	10%	
Clinical genetic service	✓	✓✓✓	✓	
Health education	✓	✓✓✓	✓	✓
Health surveillance		100%		
Immunization		90%	10%	
School health services (6-17 years of age)		100% (12 SHSC 3 SAC)		
School guidance service				✓✓✓
Adolescent health	✓	✓		✓✓✓

*These include Social Welfare Department, Educational Department, Non-governmental organizations and professional organizations.
Abbreviations: HA=Hospital Authority; DH=Department of Health; GOPD=Government General Outpatient Clinics; CAC = Child Assessment Centre; MCHC=Maternal and Child Health Centre; SHSC=School Health Service Centre, SAC=Special Assessment Centre.

and compartmentalized. A comprehensive ranges of services are available but parents often need to shop or approach several organizations for the services they need. Communication not to mention collaboration that span across all sectors: social, health care and education are lacking. Continued emphasis has been on hospital paediatric specialist care with little planning on preventive, protective and promotive services. The system is non-responsive and is unable to meet the changing trends of society and total needs of children.

Maternal and Child Health (MCHC) Service (0-5 years)

At present, there are 50 MCHC centres providing health and development surveillance, health education (on breastfeeding, nutrition, childcare skills and home safety etc.) and immunization services. A positive parenting programme will be introduced to help parents to develop a positive relationship, encourage desirable behaviour and to teach new skills or behaviour to their children. Coverage for immunization is very good however, attendance for comprehensive observation scheme after one year of age has not been high. Hearing screening is still mainly by behaviour distraction test and pilot has been conducted on the use of oto-acoustic emission (OAE) to replace distraction test. The whole delivery system of the MCHC needs reevaluation on its effectiveness, efficiency, training and collaboration with other services.

Student Health Service (6-17 years)

Student Health Service with its 12 Student health service centres and 3 special assessment centres provide voluntary and free annual appointment for all students for assessment and counseling to promote and maintain the physical and psychological health of students to enable them to maximize their potential for education. In 2000, 1445 schools with 684,510 students join the service. Participation rate is high for primary school (98.3%) but much lower for secondary school (74.7%). In the assessment the followings were conducted: physical examination, screening for nutrition & growth, blood pressure, vision, hearing, spinal curvature, psychosocial health, sexual development, individual counselling and health education. Abnormalities were detected in 38% of students and the major problems were visual abnormalities, growth problems (mainly obesity or short stature), psychosocial problems, phimosis, scoliosis, heart murmur and hearing defect. Those with special problems will be further assessed at Special Assessment Centres or referred to paediatricians for further management.

Child Assessment Centre and Rehabilitation

Child Assessment Services with its 7 centres provide comprehensive physical, psychological and social assessment for children with developmental anomalies. They were usually referred from MCHCs or hospital for assessment. Those with diagnostic problems will be referred to Hospital Authority for diagnostic workup. Developmental diagnosis followed by of formulation of rehabilitation plan will be developed. The child will then be referred to appropriate education facilities for training, and education. Parental support and counselling, talks and support groups will also be provided. Screening is of little value in itself unless it leads to action with adequate provision for subsequent assessment and ongoing management. There is great needs for more integration of hospitals and habilitation services.

Rehabilitation

The rehabilitation service is very much compartmentalized. The Commissioner for Rehabilitation under HWB is responsible for planning and coordination of the services, however services at operation level are not well coordinated. Communications and collaboration among services providers at operation level are very much lacking.

Clinical Genetic Service

It provides comprehensive genetic services to whole territory through diagnosis, counselling, prevention and overall management of genetic diseases. The Genetic Screening Unit conducts screening programme for G6PD deficiency and congenital hypothyroidism. The Genetic Counselling Unit deals with over a thousand different types of genetic diseases.

Child Protection

It is a great worry that the incidence and also complexity of child abuses is on steady rise. It is well established that being abused or neglected in childhood has profound effect on the healthy development of a child. In 1998 a guideline has been established for the multi-disciplinary handling of child abuse cases. The emphasis is still mainly on the investigatory side without much attention on the prevention and management of abuse. There is little evaluation on the effectiveness of the programmes. Coordination and collaboration among different services providers is improving but is still far from satisfactory.

Secondary and Tertiary Paediatric Services (Table 7)

Over 90% of hospital services and follow up of children with chronic illnesses are provided by Hospital Authority and over 90% of primary medical care provided by private sectors. Communication and coordination of care between the two sectors is still far from adequate.

Collaboration Between MCHC, SHS and Hospitals

Shared care programmes and referral guidelines/ protocols have been established among the services however, the services are still fragmented with duplications and poor coordination.

Table 7 In-patient workload distribution for selected conditions 1999[12]

	Hospital Authority	Private Hospital
Short gestation & LBW	98.91%	1.09%
Intrauterine hypoxia & birth asphyxia	97.79%	2.21%
RDS & other respiratory conditions	97.79%	2.21%
Infections specific to perinatal period	94.46%	5.54%
Perinatal jaundice	94.46%	5.54%
Congenital anomalies of heart	95.71%	4.26%
Congenital anomalies of GI system	93.28%	6.67%
Hereditary haemolytic anaemia	96.98%	3.02%
Normal delivery	73.42%	26.59%
Infantile cerebral palsy	83.82%	15.39%
Acute appendicitis	*69.20%*	*30.34%*
Inguinal hernia	*78.19%*	*21.64%*
Burns	*91.86%*	*7.47%*
Asthma	*91.55%*	*5.84%*

Need for Change in Delivery Model for Child Health Services

The health of young children is affected by a wide range of social, cultural, physical and economic determinants. Health services, thus is part of a broader strategy for improving health and issue of health is now much wider than traditional health care and must include other issues such as social (e.g. poverty, unemployment, and housing) educational and economic concerns. To meet the needs of children, well-child care will be an important part of child health services. Well-child care will need to address total needs of children and parents, as well as their time limitations for accessing clinical visits.

Much of the ill health and injury that manifest among children and young people is potentially preventable but this has to be achieved through a multi-level, multi-component and multi-disciplinary approach following the life-course of the child in the context of family and community. Hence the goals of child health care services should be:

1. Enhance the strengths and involvement of children in creating, maintaining and improving their own health.
2. Ensure that all children have access to the necessary conditions required for optimal health and growth.
3. Promote healthy behaviours and reduce the incidence of preventable death, disability, injury and diseases.
4. Foster strong and supportive families, caregivers and communities.
5. Ensure a safe, sustainable, high-quality, physical and mental environment for all children.
6. Provide a comprehensive, cost-effective network of policies, programmes and services for all children and families that stresses health promotion, disease prevention, protection and care.

To meet these goals, child health services needs to be linked to other services to form a more comprehensive and coordinated system of services and supports for expectant parents, children and their families. Primary care practitioner is usually the first point, and sometimes the only point, of contact for a child and parent. It is essential that primary care practitioners be connected to a network or system of services that can support families through pregnancy, birth and child rearing. Education and preventive care (including screening, mental health care, family planning and sexual health advice), and access to a coordinated system of hospital and community services and supports are crucial components of an integrated system to support all expectant parents and families with young children. It is critical that primary care providers have sound knowledge about healthy child development, determinants of health and the full range of available services and supports in order that timely and appropriate referrals can be made.

Emphasis on Integrated Preventive Services

As rightly pointed by the Hong Kong College of Paediatricians in her submission to Government on "Lifelong investment in Health" that Government should concentrate on the following important issues in the delivery of services related to child health:

1. Preventive Paediatrics:
   - Primary prevention: to reduce incidence of disease.
   - Secondary prevention: to reduce the prevalence of disease by early diagnosis and treatment.
   - Tertiary prevention: to reduce the complications of established disease.
2. Acute care of sick and injured
3. Rehabilitation of disabled and chronically ill
4. Proper interface and collaboration among providers in child health

   Dual system of public and private practice.

   Better coordination between health care services and other service providers, such as education and social services.
5. Research
6. Advocacy

The practice should also be re-designed so that they are:

i. Integrated childhealth services that is family centred.
ii. Delivered by trained & experienced specialist.
iii. More emphasis on quality of outcomes.

Needs for Primary Care Paediatricians

There is great need to train more Primary Care Paediatricians whose role primarily involve ambulatory care and includes co-ordination of care with other health care professionals. The role of the primary care paediatricians emphasizes continuity of care, comprehensiveness, and coordination and the primary care pediatricians have an extremely valuable and central role to play in the provision of health care to children. The training, therefore, should emphasize on the knowledge, skills, and attitudes necessary for a sound foundation in general pediatrics for all possible roles. The job included in the primary care paediatricians,

besides acute and general remedial care is extensive which may include:

Disability – assessment, diagnosis and management Chronic illness – 1 in 10 children will have chronic illnesses including growth and developmental disorders, mental health impairments, psychological conditions asthma, etc.
Child protection and social paediatrics (i.e. adoption, fostering, children looked after), including statutory roles
Educational medicine (school health and health promoting school) – care of children with long term medical problems in school, consultation on children with problems (both physical and behavioural/emotional/ educational)
Screening and surveillance – mainly a teaching and support role for primary care teams; coordinator role
Immunisation
Health education – parenting, child rearing, nutrition, anticipatory guidance
Health promotion policy = well child health care:– issues such as baby friendly hospitals, injury prevention programmes, encouraging dental care policies, etc.
Adolescent programmes especially clinic services – risk behaviours: sexual activity, substance abuse, smoke, drinking, violent behaviour, injury deaths, suicide, teen births, mental health, obesity, physical inactivity; common problems
Public health overview of regional care programmes, workforce needs, etc.; linkages with other agencies

As seen from above, community child health as a whole is an impossibly large portfolio of work. With advances in technology and changes in service delivery model, the distinction between hospital and community care is less clear cut and in fact outdated – they form a continuum. While children are best managed out of hospital, specialist paediatric teams have a responsibility to ensure that care of these cases be continuous either being provided by specialists and/or a network of well informed and supported competent community paediatricians. To be effective, we do need an integrated child health care service model for the delivery of services.

Community-based Integrated Child Health Care Service Model

Thus a "Community-based Integrated Child Health Care Model" (Appendix 1) was proposed by the Hong Kong College of Paediatrians to set up network of health services for children in which various child health disciplines will be integrated and contribution by professionals in the private and public sectors will be better coordinated.[13] A proper interface and collaboration should be established among various healthcare providers, namely the Department of Health, Hospital Authority, private sectors and the Social Welfare Department and schools. Rehabilitation services for children with disabilities are currently compartmentalized. The proposed "Child and Adolescent Health Centres" could play a major role in the proper coordination of these services. The services currently provided by the Social Welfare Department, non-Government organizations and Education Department for children with physical disabilities, learning and behaviour disorders, hearing and visual deficit could be better integrated. The role of the centre is to ensure, through effective consultation and referral systems, that children with illnesses or disabilities would receive appropriate care, attention and educational and social benefits.

These centres should be run by community paediatricians who are trained and experienced in the care of children. They are able to provide a continuing spectrum of care from preventive paediatrics to providing medical treatment to children. As specialists in the field of paediatrics, they will effectively provide one-stop service for children and reduce referrals to specialized care; hence significantly reduce pressure on secondary and tertiary services in the hospitals and thus the overall health care expenditure of the community. These community paediatricians with their better understanding the determinants and consequences of child health and illness as well as the effectiveness of services provided, are instrumental in improving the health of children by creating, organizing and implementing changes in communities. They will provide a far more realistic and complete clinical picture by taking responsibility for all children in the community, providing preventive and curative services. The establishment of "Child and Adolescent Health Centres" will enable a more integrated approach in the care of children in the community.

References

1. Annual Report, Department of Health, HKSAR, 2000.
2. 2001 Population Census - summary report, HKSAR, 2001.
3. Hong Kong 2000.
4. Health Crisis of Our New Generation: Surveillance on Youth Health Risk Behaviours. Centre for Health Education and Health Promotion. School of Public Health, Faculty of Medicine, The Chinese University of Hong Kong, HKSAR, 2000.
5. Social Development in Hong Kong. The unfinished Agenda, June 2000. The Hong Kong Council of Social Services, HKSAR, 2000.
6. From Neurons to Neighbourhoods - The Science of Early Childhood Development. National Research Council, Institute

of Medicine. National Academy Press, 2000 .
7. Investing in Early Child Development: The Health Sector Contribution. The Federal/Provincial/Territorial Advisory Committee on Population Health (ACPH) Working Group on Healthy Child Development, Ministers of Health, Canada, 1999
8. Child Protection Registry Statistical Report 2000 Social Welfare Department, HKSAR, 2000.
9. Central Registry of Drug Abuse 46-Report (Jan 1991- Jun 2000), Narcotics Division, Government Secretariat, HKSAR.
10. Education Indicators for Hong Kong School System 1999, Education Department, HKSAR, 1999.
11. COSH - Reports.
12. Epidemiological Report for Public Hospital Services, Hospital Authority 1997-2000, HKSAR.
13. Response of the Hong Kong College of Paediatricians to the Consultation Document on Health Care Reform: 'Lifelong Investment in Health' by the Health and Welfare Bureau, HKSAR, 2001.

Appendix 1