

CHINA

HEALTHCARE SCOPING MISSION

10-20 MARCH 2003

On behalf of

Trade Partners UK

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SUMMARY OF KEY FEATURES AND RECOMMENDATIONS

Summary

Following a series of comprehensive meetings with government departments, hospitals and sections of the healthcare industry, the scoping team has concluded that China now offers rich and fertile ground for mounting trade initiatives.

However, throughout the programme of meetings, it was often said that Britain has been slow to enter the healthcare market in China. Several countries have clearly consolidated their market penetration and earned a good reputation and indeed respect from the Chinese authorities.

Notwithstanding this, the team are unanimous in the view that there is currently a real window of opportunity for the British healthcare industry and this must be seized now.

(Note: The timeframes and practicalities of certain recommendations are likely to be affected by the current SARS epidemic, and consequent restrictions/reluctance to travel.)

The recommendations reflect those of the business strategies 2003/4 for the Chinese healthcare sector, as produced by the China-based commercial officers. The focus is to:

- Continue to develop working relationships with relevant Chinese authorities *emphasising UK strengths in research, production, consultancy and management. Identify commercial opportunities in niche areas and support British companies wishing to enter the Chinese market.*
- Increase awareness among relevant UK companies of the healthcare opportunities in China, *focussing primarily on the areas of medical devices, technical know how, telemedicine, medical and management training.*
- Conduct a range of promotional activities *including inward/outward missions for Chinese officials and potential foreign customers, and sponsored visits to the UK for influential Chinese decision-makers.*

Key Features:

The following features support the above recommendation:

- There is a great desire to reform the health services in China from policy levels to operational providers.
- The increasing transparency and openness fuels consumer demand. Services cannot continue for very long in the way they are currently organised.
- Membership of World Trade Organisation (WTO) is changing the cultural dynamics of business and consumerism.

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- Demographic issues are considerable. With such a huge population and the increasing level of the elderly population, plans must be introduced to meet the needs of the people.
 - Evidence suggests that such developments will be in accordance to social needs matched with economic capabilities.
 - There is considerable interest in the western models of healthcare particularly clinical practice and management training/development.
 - DH International has hosted four very successful high-level delegations to the UK and there is no doubt that there is significant interest in exploring further the UK models of healthcare including PFI/PPP.

Recommendations

It is of paramount importance to develop a clear and cohesive strategy for China, prioritised on a regional basis.

Priority should be given as follows:

1. Guangdong/Shenzhen (plus Hong Kong*)
2. Shanghai
3. Beijing

(* Recognising the proximity of Hong Kong to Guangdong, together with the results of the recent scoping mission to Hong Kong, it is suggested that these two important areas be combined.)

China is a huge country (Shanghai province alone has some 85 million “official” population), and the scoping team are certain from the gathered evidence, that a strategic approach must be taken and that this should be structured as above. Progress has been demonstrated across all three main regions but some are more innovative and open to new ideas and indeed radical reform. The fact that this was so apparent, led to a very clear conclusion that this regional approach, under a countrywide strategy, is the most appropriate.

There should be a comprehensive and co-ordinated campaign of support, viz.

- UK healthcare promotion should be integrated with other major campaigns to achieve maximum benefit. As a significant and technologically diverse industry, healthcare provision can achieve a natural “fit” to other industries e.g. IT. The current “Think UK” campaign may provide such a vehicle.
- A PFI conference to be held in the autumn should include healthcare as a major component. PFI is of significant interest to local healthcare leaders as a route to developing a major hospital-rebuilding programme. The foundations

which have been developed with the NHS should be expanded into China and linked with other programmes.

- The marketing strategy should consider opportunities around Medica in Duesseldorf and the Chinese International Equipment Exhibition in Shanghai.
- Real opportunities exist in training and development, consultancy, PFI and indeed devices. It is important to develop a market strategy culminating with a trade mission led by a health minister in order to capitalise on this. The Shenzhen Bureau of Health is very keen to develop a Memorandum of Understanding to enter into joint partnership work. This, together with the country wide MoU (due to expire in 2003) could bond some of the elusive linkages which in turn could have positive commercial benefits.
- Recognising the significant development programmes and initiatives involving agencies such as DfID, it is important to address these on a more inter governmental basis.

Focus should be on the following areas:

- PFI/PPPs – Chinese officials recognise the advantages of PFI/PPP but still have much to learn. Although not fully understood, the concept of using private funds to build public hospitals and then manage them with some degree of autonomy is very popular in Guangdong and Shenzhen, and in particular in Shanghai.
- Health reforms currently in progress will provide a major opportunity for UK organisations. The NHS model of reform is seen as having potential benefit in addressing the challenges which China faces, and this in turn matches the capabilities of UK consultancy and educational institutes.
- Management Training and Education especially in public hospitals (viz. opportunity in Guangdong Province to run management seminars, including diploma programmes in distance learning) – financial management, human resources management, contracting out, clinical governance etc. The current strive for healthcare reform indicates that substantial professional development work will be needed to equip local personnel to fully meet their new roles. Frameworks for these types of programmes will already have been developed for NHS personnel and also provide opportunity for private providers of such services.
- Management Consultancy – help with accreditation, policies, procedures and standards, healthcare planning, HR and Financial systems, IT/MIS, logistics, clinical governance, PFI/PPPs, primary healthcare.
- Accreditation of private and public hospitals – help at national, regional and local levels. Existing academic and clinical exchange links should be developed, together with the regard that exists for the UK NHS delivery model.

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- Clinical Training – medical, nursing and allied health professions (by exchange, in situ and UK programmes and courses).
 - Telemedicine – The sheer size of China gives its government the challenge of providing both education and clinical care to large and remote communities. There is a strong desire for links with prestigious British bodies in both the public and private sector, and for those organisations to help major Chinese institutions to develop telemedicine within the country as well as externally.
 - Supply of appropriate systems/devices:
Areas of high technology and devices which relate to an increasing elderly community (e.g. disability/diabetes care) have particular relevance to the Chinese market. (For larger capital equipment items, buying policy tends to revolve around the recognised “world” brands.)
Telemedicine equipment and expertise as applied to healthcare delivery outreach and to health education.
The Chinese healthcare reform programme contains an element of budget for refurbishing and re-equipping public hospitals. As such distribution of relevant products through a competent local supplier is likely to produce benefit.
 - Manufacturing investment: Where funding allows, and with China now being a signatory to the WTO, there is opportunity for the creation of China-based manufacture. The legal system in support of IPR is nominally in place, but is probably variable in its application. (Note: *Market entry is only allowed through investment or distribution agreements with a local partner. This requirement, although bureaucratic, has a communications advantage, since few senior officials and company representatives speak English.*)

1. INTRODUCTION

1.1 Background

As part of its ongoing country focus, Trade Partners UK commissioned this scoping mission to assist the UK healthcare industry to take advantage of existing and emerging business opportunities in China.

The team comprised:

- Stuart Smalley - Head of International Developments,
Department of Health International
- Howard Lyons - Managing Director,
London International Healthcare
- Andrew Gibson - Project Director,
Southern Medical Alliance

The mission team were supported locally by Embassy/Consulate staff in Beijing, Shanghai and Guangzhou, who also organised the programme of meetings. The visit spanned nine working days in these three major economic centres, where the team were able to meet a representative cross section of health organisations and institutions. The programme is shown at Appendix 1.

1.2 Objectives

The team had the following objectives:

- To meet with key officials in Governments and the public and private healthcare sector in order to learn about the countries healthcare systems and identify market opportunities.
- To prepare the ground for a healthcare campaign to include missions, events and seminars.
- Identify and develop an appropriate market entry and development strategy for the British healthcare sector.

(Note that opportunities for Pharma/Bio were not part of the objectives.)

This report sets out the findings from the visit, but also includes information and observations from documents and briefings received by the team, thereby enabling the Trade Partners UK to gain a more comprehensive view of this market.

2. PROFILE OF CHINA

Size

The People's Republic of China is the most populous country in the world, accounting for around 20% of the world total. It is divided into 22 Provinces, four Municipalities and five Autonomous Regions. The country is further divided into 335 prefectures and 2,142 counties. (see map: Appendix 4)

The sheer size of the population, currently estimated at around 1.3 billion, has made China one of the best-perceived markets in recent years. While individual wealth is still very low, especially outside the big cities, many expect the total economy to become larger than that of the US by 2050.

The sheer scale of the Chinese market requires some demonstration in order to appreciate the task in hand when considering the healthcare challenges being faced, viz

Population: 1.3 billion, growing at 0.8%. This represents some 20% of world total

Demographics: 30% urban and rising, 70% rural

Real GDP growth 7%, now a bigger economy than Italy, and closing on the UK

Health expenditure: 45 billion US\$ (1999)

Healthcare expenditure as % of GDP: 5% (1999)

Beds/1000 of population: 2.5 (1999)

Doctors/1000 population: 1.7 (1999)

Medical devices market: 1,522 million US\$ (1999)

In population terms:

- Guangdong province has 78 million (plus an estimated 11 million migrant population)
.....and within it Shenzhen city has 4.6 million.
- Shanghai and its neighbouring provinces of Jiangsu and Zhejiang have an estimated 132 million population,
..... of which Shanghai municipality has 15 million.
- Beijing municipality alone has 14 million.

Government

The highest level of state legislative power is the National People's Congress (NPC). The NPC is 'elected' for a period of five years with real power in the NPC being exercised by the Standing Committee, which has around 150 members and is the principal legislative body. There are a series of permanent special committees, including the Educational, Science, Culture and Public Health Committees.

Members of the State Council are appointed by the President, and have wide-ranging responsibility for the development and implementation of government policies. At a

local level, there is a complex and often overlapping array of local people's congresses, local governments and municipal administrations.

In July 1997, Hong Kong was returned to China and the territory is classed as a Special Administrative Region (SAR) of China, and has its own political system.

The Economy

China began the process of economic liberalisation in 1978, with the announcement of the 'Open Door' policy, aimed at market liberalisation and the encouragement of foreign investment. Economic growth since then has been impressive, averaging at around 9% to 10% per year but reaching double-digit figures at times. However, this masks an enormous and growing disparity in income levels between favoured urban areas and rural communities. GDP per capita in cities such as Shanghai is now approaching that in other industrialised parts of southeast Asia (Singapore and Hong Kong excepted), but wealth levels in rural areas have remained virtually unchanged by the reforms, with many areas among the poorest in Asia.

Although growth of the economy has been impressive in recent years, it has tended to benefit the more advanced eastern coastal areas of the country, while leaving the rural west behind. Rural development has benefited far less from the 'open door' policy, than cities such as Shanghai or Shenzhen. The Chinese government has sought to encourage stabilisation through the lifting of barriers to private enterprise, and larger investment in the western side of the country.

HEALTHCARE SECTOR

Profile:

The potential market for healthcare is vast. Healthcare provision for most of the population is very poor. However, the economic growth experienced in China's cities has both increased the demand for better healthcare, and increased the ability to pay for western equipment and expertise. A recently re-developed health insurance scheme should help sustain this growth. Hospitals in China retain a high degree of autonomy with regard to purchasing, and are keen to invest in new equipment. This is because hospitals in China are generally free to charge patients for services, and only those with the best facilities will attract the largest numbers of patients.

There are pitfalls, however. The government, alarmed at the purchasing decisions of some hospitals, has intervened to control the buying of expensive items. Although the country has introduced more internationally harmonised device regulations, the public organisation of China remains an array of authorities and officials, where good personal contacts will be essential for the conduct of business. Many firms currently active in China expect the rewards to come in the medium-to-long, not the short term.

Funding:

It is estimated that China currently spends around 5% of GDP on health expenditure. This percentage has risen slowly during the last decade, from 3.8% in 1993. Total health expenditure in 1999 was estimated at US\$45 billion, or US\$37 per capita.

Health expenditure in China is from a wide number of sources:

- Funding from central and local government has continued to decrease since the 1980s and currently accounts for around 10% of the total.
- Insurance schemes account for approximately 40% of funding. These schemes include the newly developed government scheme and the remnants of the old rural co-operative scheme.
- Private spending now accounts for the largest percentage, at about 45%.
- Other sources of healthcare funding include provision made by local enterprises, village authorities and non-governmental organisations. At this level it becomes very unclear whether organisations fall into the public or private sector.
- A further source of funding is from the armed forces, which operate many of China's best-equipped hospitals.

Monthly income and disposable income in China's large and medium sized cities have both increased, and as a result the expenditure on healthcare per capita rose by about 31% in 1997. Improvement of healthcare awareness, a higher household income and the reform of the healthcare system have all been highlighted as reasons for the increase in spending. The government insurance scheme has also promoted a rise in private insurance among the urban population. Although urban out of pocket

spending is higher in per capita terms, the rural population spends more due to the lack of insurance schemes and government funding in these areas.

- World Bank Loan: In 1999, the World Bank approved a US\$10 million loan and an IDA credit of US\$50 million for China's healthcare sector. Additional funding from the Chinese government will bring the total value of the project to an estimated US\$94 million. The principal aims of the project include the reduction of maternal and child morbidity, the introduction of early child development projects and the prevention of sexually transmitted diseases including AIDS. The project, which is being executed in eight provinces, will run until June 2006.

Organisation and administration

The Chinese healthcare system is complex and fragmented. Authorities often overlap between regions and between tiers of government. Principal authority rests with the Ministry of Health, but in practice, control is exercised by public health ministries of provincial and city governments. Public hospitals are usually operated at this level.

Provincial governments have always been very strong in China, and guard their autonomy carefully. There is thus no guarantee that the system of organisation found in one area of China will be similar to that in a neighbouring area.

Departmental responsibilities:

- State Drug Administration (SDA):
 - Regulation of medical devices and drugs
- Ministry of Labour and Social Security:
 - Medical insurance
- Ministry of Health:
 - Drafting of laws, regulations and policies
 - Developing regional healthcare plans
 - Co-ordination and overseeing implementation of plans
 - Producing and implementing plans for rural and maternal health
 - Developing health education programmes, especially regarding preventive medicine
 - Monitoring of infectious diseases
 - Drawing up and implementing standards for medical institutions
 - Supervising the country's blood collection and storage service
 - Organising and supervising health programmes with other bodies, such as WHO
 - Promotion of traditional Chinese medicine

Healthcare coverage and delivery:

For a population of 1.3 billion, China has some 300,000 healthcare facilities, ranging from large hospitals though to local community clinics, which in total provide an average of only 2.5 beds per 1000 population.

Everyone, theoretically, has access to treatment, although in practice an estimated 75% of the population (mainly in the rural areas) are not covered by a healthcare system. These people are limited in their ability to pay for healthcare. For all practical purposes, all rural, primary health services are now provided on a fee basis. Rural doctors charge small consultation fees and earn the bulk of their income from profits on the medicines they dispense. Uninsured patients must also pay the full fees charged by clinics, hospitals and other health service institutions (public, enterprise or military).

The sheer size and largely rural nature of the country, highlights the need for major infrastructure improvements. The delivery of healthcare in China is complex. There is no General Practitioner service, with care being delivered through outpatient facilities at hospital/community clinic level. Average length of stay can vary widely, with up to one month being experienced in local centres.

Public versus Private Healthcare

There are relatively few (c.2000) private hospitals, often referred to as profit-making hospitals, although a few clinics are beginning to appear in major cities, principally catering for overseas nationals. The mission programme incorporated both public and private hospitals in Shanghai and Beijing (see Appendix. In addition a major private hospital is under construction in Shenzhen.)

Public hospitals generally fall into one of three categories: a Ministry of Health (MoH) hospital, a People's Liberation Army (PLA) hospital, or a hospital attached to a state-owned enterprise (SOE).

The majority of hospitals, as well as medical colleges, clinics and research institutions fall under the Ministry of Health. These are classified into three levels depending on the facilities available, with Class III being the best. Class III and Class II hospitals only account for around a quarter of the health care facilities in China, but have the most funding.

In terms of these classifications, the number of hospitals is estimated as follows:

Area	Primary hospitals	Secondary hospitals	Tertiary hospitals
Urban	6,238	11,912	2,198
Rural	52,455	2,096	N/A
Total	58,693	14,008	2,198

Source PRN Profile Dec. 2001

The PLA run around 400-500 hospitals and 4 medical colleges, providing care primarily to servicemen and their families. These hospitals are always well equipped with up-to-date equipment. Little published data exists for these hospitals, although they are a major purchaser of advanced medical equipment. The People's Liberation Army is responsible for the running and purchasing decisions of these hospitals, and is also involved in the production of medical equipment.

SOE hospitals cater to the employees of the state-owned enterprise to which they are attached and will be run either by the SOE or by the ministry under which that SOE falls. They are not always well equipped and a lot of the equipment used will be older than that in the larger MoH and PLA hospitals.

Large-sized MoH hospitals, those affiliated with education and research institutes, Sino-Foreign joint venture hospitals and privately owned hospitals are all permitted to import medical equipment for their own use.

The most important distinction for Chinese hospitals is the County level. Hospitals at or above County level usually have 100 or more beds, will be reasonably well staffed and will have a relatively good level of equipment. Below County level, hospitals tend to be small, poorly staffed and under-funded.

Public hospitals have a high degree of operating autonomy, no longer receiving the bulk of their funding from government sources. Hospitals are generally expected to generate revenue to cover 70%-90% of their operating expenses. The local health department will set staff salaries and possibly determine patient charges for selected basic services. Hospital managers are, however, generally free to raise revenue from patients, and are free to use this revenue for paying staff bonuses and purchasing advanced equipment. Traditionally, each hospital determines its own budget and how it will be spent. Each department of a hospital will bid for funds at the start of the year. Recently there have been moves to change this system in an attempt to reduce the cost of healthcare for the patient. Many hospitals are now joining together to purchase collectively.

This high degree of operational autonomy has had the effect of making the quality of healthcare provision in hospitals uneven, as facilities compete for patients and revenue. Generally speaking, large hospitals, those at County level or above, are the larger and better equipped, since they have the equipment and expertise needed to attract patient revenue. Small hospitals lack the money to invest in staff and equipment, and therefore fail to attract patients; they are therefore caught in a vicious circle, where fewer patients means less revenue and a subsequent deterioration of the service provided.

Community Based Healthcare

The Ministry of Health is developing a community based healthcare system, which will provide treatment for the urban population. Experimental community systems are taking place in 70 cities and the project is expected to be completed by the year 2010. The project, approved by the government in 1999, will provide urban residents with medical treatments at home and at local clinics. There is currently a culture in

China of patients visiting hospitals for minor treatment. In the absence of a GP referral system, this has the effect of saturating secondary hospital services. A large percentage of both inpatient and outpatient cases at large hospitals in China are believed to be unnecessary.

The new healthcare system will decrease waiting lists at hospitals, allowing more serious illnesses to be dealt with quickly. In addition to treating illnesses the new healthcare system will promote disease prevention, health promotion and family planning services. Personal health records will also be introduced to help produce earlier diagnoses and the initiation of preventive measures. The new system will be composed of community healthcare centres and stations, and general practitioners.

Traditional Chinese Medicine (TCM) remains a recognised and valued source of treatment, often with separate facilities set up within major hospitals. The Chinese government attaches great importance to the role played by traditional Chinese medicine in protecting people's health. Based on the co-existence of traditional Chinese and Western medicines and the actual needs of people, the government has supported the development of both traditional Chinese medicine and Western medicine in China. In 1986, the State Administration of Traditional Chinese Medicine was established.

In TCM, there are now more than 500,000 practitioners. By 1998, a total of 2,444 specialised hospitals, and numerous departments of traditional Chinese medicine had been set up in 95% of hospitals of Western medicine. Most village doctors have some familiarity with traditional Chinese medicine, such as medicinal herbs and acupuncture, in treating diseases. There are 28 colleges of traditional Chinese medicine and pharmacology, with a total of 73,000 graduates and 1,200 postgraduates with PhD or Masters degrees. In addition, there are 57 research institutions of traditional Chinese medicine.

Age Profile:

The age profile of the population is changing, with life expectancy currently being 69 years for women and 67 years for men, whilst the birth rate averages 15% in recent years. Child mortality rates have dropped significantly over the last decade so the population as a whole is ageing rapidly with only 35% of Chinese now being under 15 years of age compared with 47% in 1970. As in many cultures, the increase in life expectancy puts additional pressures on the healthcare delivery system. By 2050, it is estimated that China will have 500 million people aged 65 plus (with 1 million aged 100 plus!). This ageing population, coupled with the sheer volume of population, the huge rural expanse and the need to communicate effective healthcare regimes combines to create an immense challenge.

The Regulatory System

State Drug Administration (SDA)

Although undergoing reform, the Chinese system of medical device regulation is complex and can be inconsistent. Regulatory procedural authority may be seen to vary according to the political administrative strength of the areas involved. Since 1998, it has been administered by the State Drug Administration (SDA).

There are six divisions within the SDA:

- Medical Device Division – product classification, licence issuing, safety certification, advertisements and legal standard drafts.
- Drug Registration Division
- International Co-operation Division
- Personnel Education Division
- Market Supervision Division
- Safety Supervision Division

The Ministry of Health is no longer officially involved in most device regulation, although it does exert considerable influence over hospital purchasing, especially of expensive items. See below for further details.

A large number of other bodies may also become involved in the regulatory process. For some imported goods, such as ultrasound equipment, registration is required from the State Office of Import/Export of Machinery & Electrical Equipment before a safety licence can be issued. The Ministry of Labour is responsible for additional inspection and licensing of medical sterilisers, while the State Administration of Industry and Commerce is responsible for regulating all medical advertising.

The relative influence of any particular body can vary from province to province, as different provincial governments have different priorities, and regulatory bodies will be more active in some regions than others. The lack of centrally imposed conformity makes the regulatory system very much a personal process, where individual contacts are as important for getting a product approved, as a knowledge of the system itself.

Product Registration:

The law on the Administration of Product Registration of Medical Devices came into force in January 1997 and forms the basis of SPAC/SDA medical device regulation.

A medical device is defined as any product intended to be used on humans for medical purposes, with the exception of products achieving their function through principally pharmacological, immunological or metabolic means. Component parts, accessories, device software and instructions are all included in the definition.

The classification of medical devices follows international norms, being in three categories I, II and III.

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- Class I devices are those with the lowest risk to the human body and are subject to 'general controls'. No product certification is necessary.
 - Class II devices have a higher degree of risk and are subject to special controls. These products require certification, usually through a quality systems assessment.
 - Class III devices comprise active implantables, such as pacemakers. This class is the most stringently controlled and requires very detailed documentation.

Class I and II devices are regulated by provincial offices of the Medical Device Division of the SDA. Class III devices are centrally regulated by the SDA.

The SDA recognises products with US FDA approval, although the approval process must still be undergone. China will also accept imported medical devices with a CE mark. The manufacturer must also have a permanent representative in China.

The registration procedure should take 90 working days, or 4 ½ months. Re-registration should take only half of this time. The procedure may be abbreviated if the product has already been tested abroad. If testing in China is required there are 10 testing centres each testing different types of equipment:

Local manufacturing product approval:

Where a product is manufactured within China, there is a two-stage product approval process. The first stage is pilot product registration. To comply, the manufacturer must provide details of pre market investigations into the product, including clinical trials. Stage one approval permits are valid for up to two years.

Manufacturers of Class I devices only are able to bypass this stage. The process requires a large amount of documentation and a decision on approval is required within 40 days of the SDA receiving complete documentation.

This is then followed by the production permit registration, when the manufacturer must provide details of quality systems and product quality assessments during the trial production period under stage one. Once the production permit has been obtained, the product may be legally manufactured. This process applies to Chinese manufacturers and to enterprises involving overseas companies. The relevant provincial Medical Device Administration usually issues production permits.

Product permits are valid for four years. Once a product has been approved for manufacture, the company is subject to periodic checks on its operations. Sample product tests are carried out every year or two, while quality systems surveillance takes place every six months. Domestic manufacturing, whether by local firms or multinational joint ventures, must comply with ISO and IEC standards.

Where products are able to demonstrate the existing safety and efficacy of a device, for example through results of overseas trials, local clinical trials are not generally required. There are some exceptions. Products incorporating new technology must undergo trials, as must long term implantable products. The SDA lays down rules

regarding the duration and size of clinical trials; trials for active implantables must last for a minimum of two years.

The role of the Ministry of Health (MOH):

Whilst the Ministry of Health is not directly concerned with regulating medical devices, it exerts control over the public hospital expenditure. This is often done through control on purchasing, installation and use of expensive equipment. It is however felt that hospital managers will usually be able to purchase whatever they want, providing their budget is adequate.

In response to concern at China's lack of a national co-ordinating policy covering this type of equipment, the MOH has been developing an overall allocation strategy and procurement plan for large-scale medical equipment. The provincial health bureaus have simultaneously been working out annual allocation plans, which will be effective after the approval of the MOH. These plans are drawn up according to the level of economic development, local needs for medical and health services and the standard of existing medical installations in various parts of the country.

In an effort to regulate and control the distribution of large-scale, sophisticated and expensive medical equipment, the Ministry of Health issued "the *Preliminary Regulations on the Management of Purchase & Application of Large Medical Equipment*". Under these regulations, the MOH undertakes a three-tier licensing procedure – buying, installing and using – for the management of large-scale equipment. Examples of relevant equipment under these regulations are CT scanners and MRI systems, PET scanners, ophthalmic lasers and medical linear accelerators.

Market for medical equipment and supplies

The Chinese market is one of the most challenging in the world, due to its sheer size, lack of infrastructure beyond the major, and its political make-up. Since direct selling by foreign firms is not allowed, there are three basic choices:

1. Sell indirectly through a distributor
2. Establish a joint venture with a Chinese company
3. Establish a wholly-owned venture

The bulk of the market is concentrated in the cities along China's eastern seaboard, such as Shenyang, Beijing, Tianjin, Shanghai or Guangzhou. Allowing for problems of distance, cost and coverage, there is the additional aspect of language. Much of southern China speaks Cantonese, while the rest of China principally speaks Mandarin. For a major presence in China, therefore, a direct presence in one or more of the large cities, such as Beijing, Shanghai or Guangzhou, will be essential.

Of the population of 1.3 billion, around 870 million live in poor rural areas with little healthcare infrastructure, and no money to pay for treatments in expensive hospitals. The vast majority of the Chinese population, therefore, has severely limited access to healthcare, especially that provided by expensive imported products.

The medical device market is concentrated in the larger cities such as Beijing, Shanghai, Guangzhou, where incomes are capable of supporting greater expenditure on healthcare. The market is further fragmented. Local city governments have a great degree of autonomy, and cities such as Shanghai or Guangzhou are, in many ways, self-ruling. This leads to wide differences in regulatory policies and attitudes.

China is best seen as a collection of relatively small markets, each based around a wealthy eastern city, rather than a single large market. The choice of entry method and location will require appropriate market research and legal advice. However, in terms of IT literacy, hi-tech skills and high growth, the Guangzhou/Shenzhen region, followed by Shanghai are likely to yield best results.

Intellectual Property Rights (IPR)

IPR is a recognised problem in China. The following is extracted from an advisory document produced by the British Consulate(s) in China.

Whereas every effort has been made to ensure that the information given herein is accurate, the Consulate General accepts no responsibility for any errors, omissions or misleading statements in that information and no responsibility is accepted as to the standing of any firm, company or individual mentioned.

- IPR is a significant threat, although the Chinese government are aware of the problem and last year issued improved set of intellectual property laws. But the obstacle remains local enforcement. It affects all sectors.
- It is imperative that to register your trademarks, patents, copyright etc.
- You cannot register directly for trademarks, patents, copyright etc with the government bureaux but must go through an accredited agent.
- There are three types of legal action: civil proceedings, public prosecutions and private prosecutions. Civil proceedings are extremely expensive and damages can often be too light to act as a deterrent. Public prosecutions are extremely rare. Private prosecutions are in theory possible but have not in practice been used. A number of test cases are currently going through the courts. Again this is an avenue largely pursued by larger companies and corporations.
- Be aware of risks. Lack of problems in other markets does not equate to lack of danger in China.
- Find a reliable patent or trademark agent and ensure that you have all possible legal protection.
- Ensure that contracts/licenses etc protect you from intellectual property infringement by licensees, sub-contractors, JV partners, former employees etc.

4. STRATEGIC PRIORITY AREAS

As already shown, China is an enormous potential market, with an improving and evolving healthcare structure. Initially the major cities are seen as the places where healthcare facilities will develop most quickly and these should therefore be considered as the best starting point for British products and services.

Successful market entry in China remains an overall challenge. However, in the context of the overall healthcare situation in China, three areas stand out as offering the best opportunities for British healthcare organisations. In order of priority, these are seen to be:

1. Guangzhou/Shenzhen *
(high investment, high growth area)
2. Shanghai
(high growth, relative autonomy)
3. Beijing
(political and bureaucratic capital : less of an investment opportunity, rather for headquarter placement, policy influencers)

* Recognising the proximity of Hong Kong to Guangdong province, together with the results of the recent scoping mission to the former, it is suggested that these two important areas be combined.

The following section sets out some of the rationale behind this recommendation.

1. Guangzhou/Shenzhen (Guangdong Province)

Guangdong Province is China's 5th largest province, with a population of over 71 million (5.5% of the national total). It is also China's most prosperous province, accounting for 11% of China's GDP in 2001. Wealth is largely concentrated in Guangzhou, the Special Economic Zones of Shenzhen, and cities in the Pearl River Delta.

Guangdong has the largest number of foreign-invested enterprises in China. More than 80% of these are small and medium-sized enterprises from Hong Kong. Many have transferred their processing and light industry operations across the border. Japanese and Americans follow, with Europe increasing its share steadily.

The UK is the leading European investor by accumulated stock of investment. This influx of foreign investment enabled Guangdong's economy to achieve average annual growth rates of 14% during the 1980's and 1990's. It has also made it more exposed to the international economy.

While Guangdong remains China's leading light-manufacturing base, the provincial Government has signalled its long-term desire to transform the province's economy by 2020. The new focus will be on high technology, scientific and value-added

goods. New tax concessions and qualitative measures were introduced in 1999 to attract more foreign investment, especially in the science, technology and environmental fields. Guangdong's Governor, Lu Ruihua, established a panel of 20 foreign advisers from Fortune 500 multi-national companies (including Dr Colin Lucas, Vice Chancellor Oxford University, and Lord Browne, Chairman of BP) to assist in this process.

Guangzhou is the capital of Guangdong province. At the core of its infrastructure plans is the Nansha development zone –Guangzhou's answer to the Pudong Zone in Shanghai. Plans for the 22 square kilometre district to the southeast of urban Guangzhou include a hi-tech zone. Located at the heart of the Pearl River Delta, Nansha is seen by Guangzhou as central to its plans to develop the region's economy and reinforce links between Hong Kong and the Eastern Pearl River Delta.

Shenzhen borders the Pearl River Delta and Hong Kong. It boasts the economic strength of a medium-sized province. It has the country's highest per capita income and the fourth-largest GDP. It hosts 15% of China's IT industry and 80 of the US Fortune 500 companies. It has an officially recognised population of 4.68 million, of whom at least 95% are from other parts of China. The average age is 29.

The transformation of Shenzhen is widely seen as the most dynamic development in China – and stems from its status as the country's first Special Economic Zone (SEZ). This status gave the 2,020 square kilometre area a green light to experiment with the market economy. While other parts of China have gradually embraced elements of capitalism, Shenzhen has continued to take the lead in testing new policies. It now promises to implement WTO agreements ahead of schedule.

In 2001 Shenzhen's economy ranked fourth highest in China, and it maintained its position as China's top-earning city with a GDP per capita rate of US\$2,600. The economy is export-oriented and has largely been built up through an influx of foreign investment, attracted to the Special Economic Zone by generous tax and investment incentives.

An increasing number of British companies are active in the Shenzhen area. According to the China Britain Business Council (which has an office in Shenzhen), more than 100 companies have British links.

Shenzhen is targeting its development on the knowledge-based economy. Science and technology is playing an increasingly important role in the growth of the local economy with the hi-tech sector contributing 45.9% of industrial output in 2001. The city's target is that by 2005 hi-tech companies should account for 50% of Shenzhen's industrial GDP. Efforts to build the city into a hi-tech manufacturing and R&D centre are tied to a proposed "Hi-tech Belt". A cluster of domestic hi-tech companies has set up headquarters in the SEZ. They represent a range of sectors including computer hardware and software, telecommunications, bioengineering and microelectronics. The China Hi-Tech fair, which takes place in Shenzhen every October, is becoming a showcase for Chinese and international exhibitors. Shenzhen is also an important regional finance centre and is home to one of China's two stock exchanges.

Shenzhen is set to continue in its role as a testing ground for a range of economic and administrative reforms. Where successful, these are then applied more widely in China. Economically, the city should retain the status of one of China's most market-oriented economies: more expensive than inland cities, but offering a more highly skilled and market-oriented workforce, and a more business-friendly administration.

Guangdong Healthcare Infrastructure:

- There are 8,638 healthcare units in Guangdong Province, this includes 2,444 hospitals and clinical centres, 373 isolation units and maternity and children's health clinics, 21 medical research institutes and 94 medical schools. In addition there are approximately 4,000 small rural township clinics, without bed facilities, and approximately 700 administrative institutions.
- The average number of hospital beds and doctors per thousand population is currently given as 2.08 and 1.46 respectively. Many of Guangdong's hospitals are equipped with imported advanced medical equipment. *(However, it should be noted that Guangdong's population is currently in excess of 78 million, and that existing hospital resources are mainly focussed on the relatively wealthy Pearl River Delta Region. The effect of this is that healthcare services throughout the Province are in short supply. This is especially true in the rural areas.)*

Guangdong Healthcare Focus:

The Guangdong government has the following healthcare focus, in addition to the high-technology targets evidenced within their economic zone (see above).

- Healthcare reform: Guangdong has been one of the first provinces to initiate healthcare reform in China. Improvement in equipment procurement transparency and reduction of government interference have been seen in the past two years. Open tenders are required for the purchase of hospital equipment valued over RMB100,000.
- Improvement of service quality: Government subsidies in health services have been cut tremendously and hospitals are now required to assume sole responsibility for their profits or losses. This greatly pushes the improvement of service quality and the efficiency in hospitals.
- Development of community healthcare programme: According to the Guangdong government, the focus of work for the next three years will be the development of a community healthcare programme, similar model of UK general practitioners. This already includes the use of telemedicine in health education and it is planned that this be extended to other applications.

Guangdong province (particularly in respect of Guangzhou and Shenzhen) is recommended as a priority area, having the following characteristics:

- It is China's most prosperous and market-oriented economy, with a highly skilled and market-oriented workforce.

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- It has a more business-friendly administration than many other parts of China, together with an economically focussed local government.
 - Its economy already contains a strong international element
 - It has both a high-tech and healthcare focus
 - It has identifiable reform programmes in healthcare service and delivery
 - It has provided specific leads in the need for management training (viz. Shenzhen Central Hospital) and UK product and service supply (viz. Glory Medical co. Ltd.)

2. Shanghai

Shanghai is one of the most prosperous regions in China. Politically it has a great degree of autonomy, and able to drive forward business initiatives with less central intervention than may be evidenced elsewhere in China.

Shanghai municipality has a population of 13 million (with an additional floating population of 2 million). The GDP growth of Shanghai was 10.9% in 2002, 3% above the national average.

Shanghai Healthcare infrastructure:

- There are 432 hospitals, 76,300 hospital beds, 105,100 medical staff (48,500 doctors and 37,700 nurses and technicians).
- It has a well-developed medical teaching sector with six medical universities, some with existing links to UK institutions.
- The Zhangjiang Hi-tech Park is likely to be a leading location for industrial development in China.
- Private hospitals are being established in China. The very first, in Shanghai, was opened in June 2000. It is likely that the initial wave of private hospitals will be concentrated in the larger and richer cities such as Shanghai.

Shanghai Healthcare Focus:

The Shanghai authorities have recognised the healthcare challenges are targeting the following areas:

- Primary healthcare: the plan is to develop more local primary care centres spread across a wider geographical area. These will act rather like healthcare centres in smaller UK towns offering initial consultation, basic nursing skills, midwifery etc.
- Care for the elderly: in view of its relatively high standard of living Shanghai boasts an over 60s population of 2.4 million people. This is increasing steadily and it is essential that adequate healthcare facilities be in place for this ageing population.
- Provision of accident and emergency services and trauma units.
- The rationalisation of the number of hospitals, to offer a wider range of healthcare specialisation. Three larger hospitals (Ruijin, Zhongshan and Huashan) are now taking smaller hospitals under their umbrellas as a “cluster”, offering more varied healthcare provision.

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- Adoption of an appropriate healthcare delivery model: evidenced by current studies by the office of the Vice Mayor into healthcare delivery models, including that of the UK.
 - An international medical zone is planned, comprising an international hospital, plus a convalescence centre, academic exchange centre, medical campus, research and equipment area.

Shanghai is recommended as a priority area, having the following elements to enable successful introduction of UK healthcare services and products:

- Economic and political strength to enable healthcare change
- A degree of autonomy to effect change
- A recognition of the challenges and a focus on healthcare improvement areas
- An evolving hospital structure with developing private elements
- A strong academic base, with international connections
- Evidence of strong links to the NHS

3. Beijing

Beijing is the political centre of China. It has a population of 14 million people while its neighbouring city (about 1.5 hours away) Tianjin, has another 10 million people, together accounting for nearly 2% of China's population.

As a centre of government, it is a place of influence in the way business connections are made and policy decisions are ultimately administered. For many international companies it is therefore home to their headquarters.

Beijing Healthcare Infrastructure:

- In 2001 there were 458 hospitals, 215 health centers and 4,863 health clinics. (Additionally, there were 265 hospitals, 230 health centers and 2,068 health clinics operating in Tianjin.)
- In 2001 Beijing had 73,000 healthcare beds including 67,000 hospital beds. Tianjin had a total of 42,000 healthcare beds including 38,000 hospital beds. Together these two cities make up 4.7% of China's beds. Beijing and Tianjin have the highest County hospital bed to population rate in northern China, higher than cities to the south including Shanghai.
- In 2001, Beijing had 8.4 medical staff and 3.5 doctors per thousand population, with 48,000 doctors and 34,000 registered nurses, plus an additional 26,000 doctors and 63,000 medical personnel in Tianjin.
- China is home to 300-400 military hospitals. Beijing has the very high-level military hospitals, one each for the army, navy and air force. The largest and best equipment military facility in China is Hospital 301 in Beijing.
- Beijing itself has a high concentration of Universities and together with Tianjin the area has the largest number of universities in the country. It is home to Peking University (Peking Union Hospital) and Capital Medicine University, both leading medical universities in China.

Local focus includes:

- Beijing Heart Institute: a 50-bed cardiac speciality hospital with general services that will include obstetrics and an emergency room.
- Infectious disease focus on ailments such as hepatitis, tuberculosis and AIDS, with 90% of the patients in Beijing's infectious disease hospitals being hepatitis patients. However, only four hospitals specialise in infectious diseases in the city of 13 million people.

National focus: As a government centre, much of Beijing's focus is China-wide, viz.

- Severe Acute Respiratory Syndrome (SARS): SARS has pushed healthcare further up the list of China's political priorities. Inadequate response to the problem has been recognised. In May 2003, the Chinese government announced that it was setting aside US\$242m to finance the treatment of SARS patients and upgrade rural hospitals.

New incidences of SARS continue to be reported in China and the World Health Organisation (WHO) has expressed concern over the ability of poorer provinces to deal adequately with and report on SARS cases.

Large amounts of international assistance have been committed to aid China's fight against the epidemic. Foreign government investment has reached 31 million US dollars, with the British government providing some 5 million US dollars of aid through the World Bank and the Asian Development Bank. The World Bank has approved a plan to convert the 20 million US dollars of financial aid to China's western development into financial aid for SARS control in China's western areas.

- AIDS: Officially, there were 30,736 reported cases of HIV in 2001, including 1,594 cases of AIDS and 684 deaths related to AIDS according to UNAIDS. However, it is generally agreed that the actual figures are much higher than these, especially in rural areas where there is a lack of trained health staff, testing equipment and voluntary testing and counselling services. The Ministry of Health estimated in 2001 that there could be as many as 80,000 HIV cases. In 2001, 46.2% of AIDS patients died within a year of being diagnosed. National medium and long-term projects have been implemented to help control the spread of HIV

and aim to bring the number of cases below 1.5 million. This programme includes increasing public awareness of the disease, especially among rural populations.

- Tuberculosis: In 1999, there were 1.1 million reported new cases of TB including 250,000 deaths. 75% of those infected are between the ages of 15 and 54. The World part is partially funding a Government Prevention Programme and Dfid (The UK Department for International Development) play an active role in securing funding for the programme. In March 2002, the World Bank agreed to provide an additional US\$104 million to continue expanding China's TB prevention Programme.
- Emergency Service: The Ministry of Health is actively upgrading its Emergency Services by improving response times, upgrading emergency vehicles, and clinics. In January of this year, the Chinese Government introduced a new national information system and mandatory reporting rules for major threats.

Epidemics, mass poisonings, radiation leaks and other public health emergencies already have to be reported within six hours of their detection. Similar initiatives are being implemented.

Beijing is recommended as a priority area in view of the following features:

- Its economic and political strength to enable healthcare change.
In addition, it has very strong political power over all of China. It is advantageous to set up an office in Beijing in order to liaise with relevant Government personnel. The main policy makers are in Beijing as is the major Import Medical Device Agency.
- A recognition of the challenges and a focus on healthcare improvement areas.
As a proportion of its population, Beijing has a greater number of hospitals, beds and healthcare workers than anywhere else in China.
- An evolving hospital structure with developing private elements.
Beijing has a growing high proportion of residents able to afford western style private healthcare. Private healthcare is becoming increasingly attractive to professional classes and high earners.
- Its infrastructure reform, driven in part by specific projects.
For the 2008 Olympics Beijing is upgrading facilities (infrastructure and services), including upgrading hospitals, improving fire, police, and healthcare services, increasing hospital beds, and improving healthcare standards.
- Its strong academic base, with international connections.

5. OPPORTUNITIES FOR UK HEALTHCARE

The analysis contained in this report suggests that the opportunities for UK healthcare supply lies in the following areas:

- PFI/PPPs – the challenges faced by the Chinese authorities, although totally different in scale, point to the attractiveness of using private funds to build public hospitals. The UK has obvious experience in the practicalities and implications of this approach and is well placed to deliver this consultancy expertise.
- Management Training and Education in financial management, human resources management, contracting out, clinical governance etc. Substantial professional development work will be needed to equip local personnel to fully meet their new roles. Expressions of interest were received in forward-thinking institutions such as Shenzhen Central Hospital. Both NHS and private providers are in a position to transfer existing UK frameworks. Keenness was expressed by the hospital authorities in perhaps using a Memorandum of Understanding (MoU) as a vehicle for moving this forward.
- Traditional Chinese Medicine (TCM) - As explained in the healthcare analysis (see section 3), TCM is a significant part of the Chinese system. Senior officials indicated a strong desire to have further dialogue with UK clinicians and managers on areas of potential collaboration and knowledge transfer.
- Management Consultancy – help with accreditation, policies, procedures and standards, healthcare planning, HR and Financial systems, IT/MIS, logistics, clinical governance, PFI/PPPs, primary healthcare.
- Accreditation of private and public hospitals – help at national, regional and local levels. Existing academic and clinical exchange links should be developed, together with the regard that exists for the UK NHS delivery model.
- Clinical Training – medical, nursing and allied health professions (by exchange, in situ and UK programmes and courses).
- Telemedicine – there is a strong desire for links with prestigious British institutions in both the public and private sector. The need to deliver both education and clinical care to large and remote communities heightens this demand. Guangdong province in particular has recognised the value of this technology, but is only at an early stage of using its full potential. UK consultants and suppliers are well placed to extend existing programmes.
- Supply of appropriate systems/devices:
Areas of high technology and devices which relate to an increasing elderly community (e.g. disability/diabetes care) have particular relevance to the Chinese market.

The Chinese healthcare reform programme contains an element of budget for refurbishing and re-equipping public hospitals. As such distribution of relevant products through a competent local supplier is likely to produce benefit.

- Manufacturing investment: Despite IPR concerns, China remains a low cost manufacturing base. Areas such as Guangdong have a record of high growth, high investment, coupled with a ready supply of “skilled” labour. Where investment capability allows, and with China now being a signatory to the WTO, there is opportunity for the creation of joint ventures.

6. RECOMMENDATIONS

It is recommended that,

- China be considered a priority market by the Trade Partners UK and that efforts be co-ordinated in support of a campaign of events and activities designed to facilitate UK organisations gaining an understanding of, and then entering, the Chinese market. A further aim must be to demonstrate to Chinese decision makers the capabilities on offer from the UK's healthcare industry.
- A regional approach be adopted, with priority be given to
 - I. Guangzhou/Shenzhen (plus Hong Kong *)
 - II. Shanghai
 - III. Beijing

* Recognising the proximity of Hong Kong to Guangdong province, together with the results of the recent scoping mission to the former, it is suggested that these areas be combined.

- A marketing campaign, (initially integrated with the current cross-sectoral Think UK campaign), be mounted by Trade Partners UK. The delegation felt that it would be appropriate for a health minister to contribute to this. This would serve as an ideal initial vehicle for taking forward the future health related activities.

Contrary to evidence presented to us, it is further felt that the targetting of 18-35 year olds would be highly appropriate and would best benefit healthcare reform, to include smoking habits, sexual practices, dietary needs, exercise etc. This in turn would have a dramatic impact on the Chinese healthcare system in the next 20-30 years. (It is worthy of note that in Shenzhen, a city of 7 million people, the average age is 29 years.)

Also in relation to the recommended top priority area in Guangdong province, we recommend that the proposed technology fair (and associated events) be an initial focus to introduce UK healthcare expertise in all areas.

- DH International / TPUK continue to develop sound working relationships with relevant Chinese authorities emphasising UK strengths in research, production, consultancy and management.
- A range of lobbying and promotional activities be undertaken including:
 - inward/outward missions for Chinese officials and potential foreign customers.
 - sponsored visits to the UK for influential Chinese decision-makers.
 - awareness raising seminars for relevant UK organisations on the healthcare opportunities in China, in areas such as training, consultancy, IT and appropriate medical devices.

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- Urgent co-ordination work to build on this opportunity. Relevant parties would include:
 - Trade Partners UK
 - Report authors/current mission members
 - Department of Health
 - British Healthcare
 - Department for International Development (DfID)
 - Association of British Chambers of Commerce
 - Association of British Healthcare Industries (ABHI)
 - British Consultancy and Construction Bureau (BCCB)

APPENDIX 1: Acknowledgements and Shanghai Programme

Acknowledgements

The team would like to record their thanks and appreciation to all the individuals we met, both prior to our departure and during our visit, and for the advice, opinions and information provided on China and its healthcare system.

A special thanks goes to staff of the aforementioned Embassy/Consulates-General, namely:

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- Mr Sanjay Wadvani, Jo Carey, Vivian Zheng and Winnie Liang, British Consulate-General, Guangzhou
- Trevor Lewis and Beryl Chen, British Consulate-General, Shanghai

A final thank you goes to Katrina Gatley of ABHI in co-ordinating the production of the final program from the UK.

Shanghai Programme

Zhong Shan Hospital

To explore exchange / co-operation opportunities between UK and Zhong Shan Hospital.

Background: Zhong Shan Hospital, affiliated to Fu Dan University Medical School, is among the largest comprehensive hospitals in Shanghai with outpatients exceeding 1 million every year.

World Link Shanghai Centre Clinic

To give the mission an idea of how a joint venture clinic is operated in Shanghai.

Background: Managed in a western way, the clinic (which comes under the Ruijin Hospital) serves foreigners in East China and Chinese returnees from abroad.

Vice Mayor Yang Xiao Du and Directors of Shanghai Municipal Health Bureau

To follow up the visit to UK by Vice Mayor Mr. YANG Xiao Du last April and to discuss the forthcoming mission to UK by Shanghai Municipal Health Bureau at the end of this month to study further on PFI scheme.

Shanghai Municipal Drug Administration

To give the mission a clearer understanding on regulations and the current market for medical devices.

Background: Shanghai Municipal Drug Administration, a subordinate institution of Shanghai Municipal Government, authorises supervision on both drugs and medical devices.

Yin Hang Community Healthcare Centre

To give the mission an understanding of how the community healthcare market is developing and to how they can learn from the UK's GP system.

Shanghai Medical Device Association

To give the mission an understanding on how the Chinese industry association works and to explore opportunities of exchange / co-operation.

Background: the Association has responsibility for both manufacturing and trading in medical devices.

Informal Healthcare Dinner

To bring together different healthcare professionals and to exchange ideas about the market.

Attendees: Mission members, British Consulate General's office, Director of Legal and Foreign Affairs, Shanghai Municipal Drug Administration, Account manager of Weber Shandwick, Director Greater China of Torre Lazur - McCann Healthcare, Director of International Women & Children Hospital, China Marketing Specialist of GE Medical, Suzhou Health Bureau, Zhejiang Mental Hospital

APPENDIX 2: Guangzhou, Shenzhen Programme

Director General, Guangdong Department of Health, Responsible officials for doctoral and healthcare training programme, Responsible officials for General Practitioners programme.

Purpose: general briefing on Healthcare Industry and to discuss health reform in the province.

Director General of Guangdong Drug Administration

Purpose to gain understanding on policy of entry for foreign pharmaceutical and equipment.

Guangdong Healthcare Equipment Association Mr Liu Hua, Chairman

Purpose: To obtain a general idea on healthcare equipment market.

Zhongshan Medical University, Prof Wang, Vice Principal,

Purpose: to discuss collaborative research programme and training packages.

Representatives of GSK, Astra Zeneca, and representatives of British Chamber of Commerce

Purpose: To discuss local market issues and experiences

Shenzhen Bureau of Health with Director General

Purpose: to obtain a briefing on development of health sector and health reform.

Shenzhen Information Office

Purpose: to discuss opportunities in telemedicine/e-health services.

CBBC and representatives of Shenzhen biotech and pharmaceutical companies

Purpose: to gain an overall view on bio-tech and pharmaceutical industries.

Shenzhen Central Hospital senior management, the largest shareholding hospital in Shenzhen,

Purpose: to discuss hospital management, doctoral training packages.

Shenzhen Glory Medical Co. Ltd. with Mr Liang Guiqiu, General Manager, (a company engaged in hospital construction).

Purpose: to discuss their co-operation with UK companies and development plan.

APPENDIX 3: Beijing Programme

Ministry of Health International Health Exchange Centre

Background: This is the Ministry of Health point of interface for foreign nationals, and is a necessary first point of contact for any foreign companies and missions.

State Drug Administration (SDA)

Background: the SDA is the State Drug Administration, responsible for the control and regulation of pharmaceutical products and medical instruments / devices.

State Administration of Traditional Chinese Medicine (TCM)

Background: the agency formulates guidelines, laws and regulation in respect of TCM

China Chamber of Commerce of Medicines & Health Products

Background: A membership-based organisation, politically well connected, supporting import and export of healthcare products.

China Meheco Pharmaceuticals & Chemical Import and Export Corporation

Background: one of the largest companies in China, specialising in manufacture of health products, hospital supplies and chemicals.

China Medical Information centre

Background: The centre maintains a library of healthcare information and undertakes promotion on behalf of companies.

Peking Union Medical College Hospital - PUMCH

Background: PUMCH is one of the top 5 hospitals in Beijing and one of the best teaching hospitals in the country.

Beijing United Family Hospital and Clinic

Background: a full-service hospital of international standard.

ISIS Research

Background: Isis is the largest healthcare research agency in China, with 13 offices worldwide. A good potential source of healthcare overview, from ex-pat management.

DFID

To discuss opportunities for Technical Assistance and Consultancy support; Dfid is conducting several HIV/AIDS related projects in China.

China Association for the Medical Devices Industry

Background: 600 members across China, with 5% being overseas members. Services include consultancy, help with joint ventures, market research.

AEA/SOS

Background: develops and manages clinics for the international community.

Chinese Hospital Administration Association

To discuss opportunities for collaboration on healthcare management training in China.