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The Medical Devices Market in Thailand

November 2004

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THE MEDICAL DEVICES MARKET IN THAILAND

Team Canada Inc • Équipe Canada inc

EXECUTIVE SUMMARY

Thailand's health-care industry is attracting a global clientele and is emerging as one of the top medical tourism destinations in the world. With the medical tourism industry set to earn $3.3 billion[1] over the next three years, there are potential opportunities for Canadian products and services as the private health industry expands to meet growing demand.

In 2003, medical devices imports totaled more than $390 million. Electrodiagnostic apparatus, needles and surgical instruments were among the top products imported. Demand for these products is slated for continued growth, as is demand for rehabilitation equipment, laboratory equipment, dental equipment, and devices that assist in the care of elderly patients. Devices used for the early diagnosis and treatment of cardiovascular diseases and cancer are also in demand. Other key growth areas include orthopaedic replacement joints/implants and equipment that allows for the performance of minimally invasive surgery (MIS). Opportunities for joint ventures in the development of biomedical products is also growing.

Thailand's public-sector buyers give priority to local companies for medical goods. Generally, low-end and mid-range medical equipment is made by local manufacturers, while 70% of high-tech devices are imported. Thailand's private health sector tends to base purchasing decisions on consumer preferences, which are leaning toward high-tech Western medical solutions.

The Thai Food and Drug Administration (FDA)[2] oversees the regulation of medical devices in Thailand. Foreign companies are advised to engage the services of local distributors and agents to assist in penetrating the market.

[1] All monetary amounts are expressed in Canadian dollars, unless otherwise indicated. The conversion rate to Canadian dollars is based on Bank of Canada rates, October 2004.

[2] For contact information regarding key organizations mentioned in this report, see **Key Contacts and Support Services**.

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MARKET OVERVIEW

Thailand was one of the fastest-growing economies in the world until July 1997 when it, along with many other Asian nations, experienced an economic crisis. The crisis resulted from an overheated property market and weakening economic fundamentals, including declining exports, a deep current account deficit and a fragile banking system.

The country is recovering from the economic crisis and had a gross domestic product (GDP) of $668.9 billion in 2003. Thailand's GDP is expected to increase by 6.5-7.5% over 2004 as a result of strong exports and a rising exchange rate.

The Ministry of Public Health (MOPH) is focusing on three areas of health as a way to encourage continued economic growth. The three areas are medical services (general health care and surgeries), health promotion services (spas and massage) and herbal products (cosmetics and medicinal extracts).

Health-care System in Thailand

Health-care services are provided by both private and public sectors. Health expenditure in Thailand totaled $8.5 billion in 2003, with public spending accounting for only 25% of this total (see **Appendix A** for additional economic/health-care data).

Thailand has a strong private health-care sector with revenues reaching $923 million in 2003. Spending is largely concentrated in Bangkok and to a lesser extent in the Northern region of the country. There are two types of private hospitals in Thailand: those that specialize in primary care and day surgery, and those that admit patients for treatments.

The government is the major health provider for local residents, managing over 900 public hospitals and medical establishments. Public-sector health-care facilities are managed by different ministries and comprise:

- regional hospitals, which have between 500 and 1000 beds each and are well-equipped in terms of staff and medical installations;
- provincial hospitals. Thailand's 73 provinces each have a general hospital, health office and a Provincial Chief Medical Officer (PCMO), who runs the provincial

hospitals. Provincial hospitals have between 150 and 600 beds. Care offered in these facilities is mostly curative, but some prevention and rehabilitation services are available;

- community hospitals, which have between 10 and 60 beds and provide similar services as regional hospitals or provincial hospitals but on a smaller scale. These hospitals often have to refer patients to provincial hospitals for serious illnesses; and

- health centres run by the District Health Office (DHO), which are the smallest medical units and provide services to 6754 villages.

Although all Thai people are guaranteed health coverage under the country's universal scheme, most urban residents, particularly in Bangkok, opt for treatments in private hospitals.

The leading causes of death in Thailand are cancer[3], heart disease and diabetes. In terms of notifiable diseases, diarrhea, food poisoning, pneumonia and hemorrhagic fever have the most reported cases. Also, human immunovirus (HIV) is significantly on the rise, with an estimated 800 000 people infected. This figure is the highest in Asia. Although the Thai health-care system has been largely focused on curative care rather than preventative care, efforts have begun to control HIV and to provide programs to the public aimed at modifying lifestyles as a preventative measure against disease.

Health-Care Reforms

Thailand's population totals nearly 65 million people[4]. The main middle-class market is in Bangkok, with Chiang Mai in the north and some southern cities containing smaller populations of middle class with relatively higher disposable incomes. Bangkok households, and those in the richer provinces of Nonthaburi, Pathum Thani and Samut Prakan earn, on average, the highest incomes in the country. In 2002, 10.4% of the population lived in poverty.

Thailand's rural populations generally have different health concerns than those in urban communities. Infectious diseases and malnutrition are prominent in many remote rural areas, compared with chronic illnesses (such as cardiovascular disease) and stress-related illnesses (such as high blood pressure) in urban and suburban areas.

[3] Cervical cancer is one of the leading causes of death for women, accounting for 5000 deaths each year.

[4] See **Appendix A** for additional demographic data.

There is a wide gap between health services offered in urban areas compared with rural areas and between services offered in the northeast/central regions and the rest of the country. On February 26, 2001, the government launched the 30 Baht Health Policy, a universal health care program aimed providing equal health care services across the country. The first phase was established in six pilot provinces (Nakhonsawan, Phayao, Patum Thanee, Samut Sakhon, Yasothron and Yala) on April 1, 2001. In October 2002, this scheme was extended nationwide.

Under this universal coverage policy, the insured contribute 30 baht (C$0.89) per hospital visit. The service package includes most health services except cosmetic care, obstetric delivery beyond two pregnancies, drug addiction treatment, hemodialysis, organ transplantation, infertility treatment and other high-cost interventions.

Unequal access to health services prevails throughout the country regardless of the new system. An estimated one third of community hospitals is struggling under the plan; in fact, some hospitals have no budgets for even basic supplies. The deregulation of the health care system has also placed a burden on staff in public hospitals; as a result, many doctors are opting to work for private hospitals where they receive better pay and working conditions.

A contingency fund for hospitals has been requested by the Rural Doctor Society to amend the problems plaguing public health facilities under the 30-Baht medical care scheme. The monies would assist hospitals to pay off debt incurred since the launch of the plan and provide adequate wages to overworked staff to prevent further “brain drain” of rural medical staff to rural private facilities—as is the trend at the present.

Medical Devices

Thailand has a strong domestic medical devices sector, focusing primarily on low-cost disposables and other low- and mid-range medical equipment. While Thailand gives priority to buying locally produced medical goods, it relies on imports for approximately 70% of its equipment needs. Furthermore, imports account for 70% of expensive medical equipment.

The top import categories in 2003 were other needles, catheters, parts (HS Code 9018.39), other electrodiagnostic apparatus (HS Code 9018.19), other medical/surgical instruments, parts (HS Code 9018.9), compound optical microscopes, parts (HS Code 9011) and artificial joints and parts of the body (HS Code 9021.39). (See **Appendix B** for a complete list of global exports to Thailand from 2001 to 2003.)

As the economy improves, imports of medical devices and supplies are expected to increase. Thailand’s medical devices market is currently estimated at $490 million with a 10% annual growth expected for at least the next two years. The growth of the market should derive mainly from private hospitals, as the government is cautious about spending on new medical devices to upgrade its hospitals in rural areas. Most existing private hospitals have settled their liquidity problem and are increasingly providing services to more patients, resulting in good potential for the private medical market.

Key Factors Shaping Market Growth

As elsewhere in the industrialized world, Thailand is facing an ageing population. Residents aged 65 or more currently account for 7.3% of the total population and this figure is expected to rise to 10% by 2020. An increase in the actual number, as well as the relative proportion of senior residents, will contribute to an overall increase in demand for health-care services and, in particular, an expanded market for health-care devices and supplies that cater to the needs of elderly patients. Demand will increase for assistive devices and mobility aids, as well as other products that ease daily life for elderly individuals.

The increase of international patients seeking medical attention in Thailand is set to have the greatest impact on the medical devices market in the coming years.

Commercial Health Care for Foreigners

Thailand's health-care industry is attracting a global clientele and is emerging as one of the top medical tourism destinations in the world. It is estimated that 30 of Thailand’s 206 private hospitals offer services to a total of one million foreign patients[5] annually. In 2003, revenues from foreign patients totaled $784 million. Thailand’s medical tourism industry set to earn $3.3 billion over the next three years.

Thailand’s health-care sector has a strong infrastructure with high-tech equipment and offers reliable and safe treatments. Turnaround times for surgeries is also impressive, thus many foreigners forgo lengthy waits in their own countries for surgery to be attended to immediately by Thai medical professionals. Not only is Thailand’s high health standards a draw to international patients, but the cost of health care for foreign patients is considerably lower in Thailand than in private hospitals in the United States, Europe and many parts of Asia.

The top health services required by foreigners include surgeries, including heart surgery, hip replacements, cosmetic surgery[6] and a growing number of sex re-

[5] International customers comprise three groups: tourists, foreigners seeking inexpensive health care, and expatriates.

[6] Demand for cosmetic surgery is growing by 20% annually.

assignment operations[7]. Dental care as well as therapeutic massages and general checkups are also growing in demand.

Most foreign patients who take advantage of Thailand's burgeoning private health system are from Japan (accounting for 20% of health tourists), Indonesia, China, India and Vietnam. The industry is also serving patients from the Middle East (particularly Oman, Kuwait and the United Arab Emirates), as post-September 11, 2001 has made travelling to the United States for treatment difficult, and from Europe, particularly Nordic countries[8] and the Netherlands, whose patients seek treatments not covered by national health schemes.

In order to cater to foreign patients, leading private hospital chains provide services such as travel arrangements (including accommodations) and have on staff multilingual doctors and nurses. In some areas of Thailand, travel companies have opened with the purpose of offering tourist health-care packages.

Some private hospitals are going to great lengths to provide additional services to attract patients. Bangkok Dental Spa Clinic, for example, not only offers dental treatments but puts patients at ease by providing them with spa treatments such as massages before their checkups. Great care was put into setting a peaceful, relaxing ambience. The clinic caters primarily to tourists and expatriates.

At present, only five private hospitals meet international standards: Bumrungrad, Samitivej, BNH, Praram 9 and Phyathai. However, in June 2004, the MOPH approved a plan to encourage public and private hospitals to improve their services in order to receive international accreditation. The plan comprises three strategies: marketing, management (which includes setting standards for health services), and the development and promotion of local health products. The target areas for the plan are Bangkok, Phuket, Chiang Mai, and Samui Island.

Hospital operators have requested the government's help in maintaining Thailand's position as a leading medical hub in Asia. The procurement of visas for patients, for example, is source of contention. Currently, foreigners must wait at least three days to receive visas—such delays can be hazardous if a patient requires immediate attention. Requests have been made for more flexible immigration regulations so that foreign

[7] Sexual re-assignment surgery is growing in Thailand at a rate of 10% annually, catering mainly to foreigners. Ban Prakok Group opened a Sexual Health Centre in 2003.

[8] The Norwegian government is working on plans to form a co-operative agreement with Thai hospitals to provide treatments to Norwegian patients. It is estimated that over 7000 Norwegians seek medical treatment outside of the country every year. Doctor shortages are the main reason for seeking outside treatments.

patients can get treatments in a timely fashion and have full recovery time in the presence of their Thai doctors.

Thailand has taken over Indonesia’s foothold as the health-care hub of Asia. The high rate of taxes imposed by the Indonesian government on foreign medical equipment is having a negative impact on the local industry, thus opening the door for Thailand to capitalize on the growing industry.

Singapore and Malaysia are also leading health tourism destinations and are the top rivals to Thailand in Asia. Hospitals in Singapore have been able to offer lower costs to patients due to the country’s tax exemption policy. In fact, the country has set up the Health Service Committee to compete with other Asian countries for international health tourists. Other competing Asian health-care destinations include India, Hong Kong and South Korea.

Opportunities

With Thailand positioning itself as a key health-care destination for foreigners, the possibilities for imported medical devices is significant. Indeed, the medical tourism industry is set to earn $3.3 billion over the next three years and private-sector demand for foreign-made products is increasing.

Furthermore, the Thai government is encouraging the expansion of private sector's role in providing health-care services. This should also provide opportunities for Canadian medical devices exporters as the private sector tends to base purchasing decisions on price and quality, rather than giving preference to local companies.

Throughout the private sector, opportunities exist for a wide variety of medical equipment, provided they are of high quality and represent state-of-the-art technology and finishing. Demand continues to grow for products used for the early diagnosis and treatment of cancer and circulatory and respiratory diseases. Demand is particularly high for cardiovascular devices, for which Thailand has no domestic capabilities. Growth is also expected to be high for rehabilitation and therapy equipment, nuclear imaging equipment and emergency equipment.

Opportunities are also growing for devices used for procedures that are recently gaining acceptance in Asia such as organ transplants. Other key import categories include interventional cardiology products, catheters, stents, pacemakers, dental instruments, non-invasive surgical equipment, and electronic patient surveillance instruments.

The number of spas in Thailand is growing, with an increase of 25% to 400 spas in 2004 alone. A surge in spa visits by foreigners has led to growth in demand for herbal treatments. Local capabilities in manufacturing herbal treatments are lacking; however, this area is expected to increase significantly, sparking demand for laboratory equipment.

Although public hospital spending is limited, a government push to have local hospitals meet international standards will have a positive impact on medical devices imports. Public spending will not be as high as those of private hospitals, but efforts to decrease health-care spending, particularly through MIS, are expected to contribute to an increase in the demand for cost-saving technologies and cost-effective medical devices and supplies.

Public hospitals are endeavouring to make their operations more efficient, through offering more integrated and consistent services. Opportunity exists for production and installation of software and equipment that would allow systematic flow of information throughout a hospital. Furthermore, remote diagnosing is becoming increasingly important outside the Greater Bangkok Region, as staffing shortages have become acute in the outer regions. Data transfer systems to effectively link these areas with Bangkok-based hospitals are currently in demand and could be supplied by Canadian companies, providing that some training and after sales services were to be included in the package.

Biomedical Opportunities

The field of medical technology is continually changing as a result of major advances in other disciplines, such as biotechnology and informatics. Some innovative treatments available today for a range of medical conditions are now being enabled through synergies among these fields. Thailand’s National Center for Genetic Engineering and Biotechnology (BIOTEC), which serves as both a granting and implementing agency, is a driving force in the discovery of new biomedical devices in Thailand. BIOTEC is involved in the development of a variety of medical diagnostic and test kits for diseases such as Hepatitis C, Hepatitis B, SARS and Dengue fever.

Most of the funding for research in Thailand originates from the government. Private funds for research are very limited. As such, the availability and sufficiency of research funds are a key challenge in this area. Thailand is encouraging the development of a strong domestic research infrastructure through Thailand Research Fund (TRF). The TRF provides grants to local researchers and fosters collaboration with foreign research institutes and individuals. Partnerships between TRF and the Canadian Institute of Health Research, Canada’s International Development Research Council and National Research Council have already been established and as advances in medical technology occur, opportunities for further joint ventures in the sector are likely to increase.

Actual and Planned Projects

Plans for new hospitals as well as upgrades to established health-care facilities are under way throughout Thailand, which could provide opportunities to Canadian medical devices firms.

The Siriraj Hospital, Thailand's oldest medical facility, will be expanding its facilities over the next three years under a government-approved project, Siriraj toward Medical Excellence in Southeast Asia. The project, which will foster advancement of medical knowledge in the country, comprises seven subprojects:

- Center of Excellence in Medical Care;
- Center of Excellence in Bio-medical Research;
- Center for Medical Information and Communication Technology;
- Center of Advanced Geriatrics and Gerontology;
- Applied Thai Traditional Medicine Center;
- Royal Park and State Railway Museum; and
- Siriraj Medical Museum.

The Centre of Excellence in Medical Care will be of particular interest to medical device exporters since it will provide both traditional and modern health treatments, particularly geared toward the elderly, and will serve as a key research institution for medical discovery and development. Also of interest is the Center of Excellence in Bio-medical Research, which will emphasize international collaboration on biomedical research.

The Thonburi Hospital (Bangkok) will be investing $17.6 million over the next five years to improve services for foreign patients. Upgrades include improvements to current facilities as well as the procurement of high-tech medical equipment.

Bangkok Dusit Medical Services (BGH) has 13 branches in its hospital network and plans to increase this number to 20 over the next five years. The new facilities will be in the Bangkok region. The group had revenues of $231 million in 2003. Currently, 5 of its 13 hospitals focus on care for foreign patients.

The Bangkok Hospital network, also run by BGH, is investing $37.1 million to develop a heart centre, to be completed this year, and an international medical unit, to be completed in 2007. The facility, which will be located in Central Bangkok, will feature state-of-the-art equipment and have a number of specializations including cerebrovascular problems, heart disease and diabetes.

BGH's Bangkok Phuket Hospital will expand from 200 beds to 350 in 2005. The hospital, which offers services in 15 languages, expects revenues of $29 million by 2008. The hospital opened the Phuket Health and Travel Co. in 2002 to organize visits by international patients.

Sikarin Plc is building a hospital on Srinakin Road to accommodate its growing patient list. The hospital expansion will be completed in 2005.

Thai Nakarin Hospital is investing approximately $14 million in new health facilities over the next two years: one in Samut Prakan that will provide a broad range of services to patients, including those under the national health plan, and one in Sukhumvit that will cater to urban business people. The Thai Nakarin Hospital will also expand its services by opening specialized centres for eye surgery, pediatric care and heart disease treatments.

The former Vejsawad Hospital was re-opened in 2003 under the name Bangkok 9 International Hospital by the Bang Pakok Group. The facility has 300 beds with 200 new beds to be added in the near future.

Chiang Mai, a northern resort province, is home to 10 private hospitals, 77 dental clinics and over 30 spas. Already a key area for holistic medicine in the country, a movement is under way to expand its reputation for holistic and rehabilitative treatments. The National Economic and Social Development Board confirmed that the area’s five-year development plan has begun and will continue until 2008. Under the plan, funding will be provided to expand the local airport, and upgrade the port and roads to accommodate an expected growth in visitors. Hospitals and spas in the region have also been encouraged to upgrade their facilities.

COMPETITIVE ENVIRONMENT

Local Capabilities

There are about 100 domestic medical devices producers in Thailand. Local production of medical devices in Thailand is limited to less-sophisticated devices, due mainly to the limited number of qualified researchers and the inability of Thai companies to invest in the research and development required to produce more-sophisticated devices.

Disposables are the leading segment of the local market and include items such as condoms, gloves and bandages. Local capabilities are also growing in the areas of medical instruments and furniture.

The leading domestic medical equipment companies, based on size and revenues, include ME Meditek (infusion sets, blood transfusion sets, disposable medical devices), Medisoft (health-care software), Beiersdorf (Thailand) Co. Ltd. (surgical dressings), Kendall-Gammatron Co. Ltd. (disposable medical devices), Infus Medical (Thailand) Company, Ltd. (sterile tubing sets), Shun Thai Rubber Gloves Industry Co. Ltd. (rubber gloves), Thai Kawasumi Co. Ltd. (disposable medical products) and Thai Klinipro Co. Ltd. (surgical cloths, drapes and gowns).

International Competition

The United States is the top supplier of medical devices to Thailand, accounting for over one third of all imports. Other key exporting countries include Japan, Germany and the United Kingdom.

Some of the world leaders in the medical devices industry, including General Electric (U.S.), Siemens (Germany) and Kodak (U.S.), have established a presence in Thailand. Many Japanese medical devices manufacturers have also set up subsidiary companies or branches in Thailand, including:

- Hitachi Cable, which produces high-tech medical devices;
- Asahi Intecc (Thailand) Co. Ltd., which, like its Japanese parent, manufactures catheters. The Thai factory was established in 1989; and
- Nissho Nipro Corporation Ltd., which manufactures disposable medical devices.

Other key players in Thailand are fellow members of the Association of South East Asian Nations (ASEAN). ASEAN members—Thailand, Indonesia, Malaysia, Philippines, Singapore, Brunei, Vietnam Cambodia, Myanmar and Laos—share a tariff preferential agreement. Thailand has also signed trade agreements Australia, China and Bahrain and is currently negotiating a free trade agreement with the United States.

Canadian Position

The relationship between Canada and Thailand can aptly be described as warm, friendly and growing. Thailand is an attractive business partner for Canada: it is strategically located in the heart of Southeast Asia and has a favourable investment climate.

Canadian medical equipment exports to Thailand totaled $872 000 in 2003. Canada’s top export category was compound optical microscopes (HS Code 9011), which totaled $258 000. Other leading exports included apparatus based on the use of alpha, beta, gamma radiations (HS Code 9022.29), medical furniture (HS Code 9402) and other needles, catheters and parts (HS Code 9018.39). (See **Appendix C** for a complete list of Canadian exports to Thailand from 2001 to 2003.)

Canadian firms have exhibited strengths in niche sectors such as dental appliances and implants, nuclear imaging, hospital sterilization equipment, cancer therapies, as well as a range of assistive devices. Canadian firms in these fields are predominantly small and medium-sized enterprises (SMEs) and many of the most promising companies have products that are still in development.

Canadian medical devices firms are increasingly finding success in the Thai market:

- In 2004, IS2 Medical, based in Ottawa, entered into a sales agreement with Kamol Sukosol Electric of Thailand to sell a high-resolution gamma camera for use in nuclear cardiology, coronary disease diagnosis and other nuclear medical usage to the Nuclear Medical Department of the Thai Army Hospital. The camera and software system were installed at the hospital in mid-September.

- Montreal-based Medical International Technologies (MIT Canada) specializes in the development, production, marketing and sale of needle-free injectors both for humans and animals, for individual and mass vaccinations. In August 2004, MIT Canada signed letters of intent with two major Thai distributors, Phillips International Co. Ltd. and Giss Marketing. The two distributors have clearance from the Thai FDA to market MIT's AGRO-JET needle-free injectors, a state-of-the-art delivery system designed to vaccinate livestock in large volumes.

Competitive Advantage through Canadian Government Policies and Initiatives

Canada Foundation for Innovation

The Canada Foundation for Innovation (CFI) is an independent corporation established by the Government of Canada to strengthen Canadian capability for research, including in the biomedical field. Its mandate is to increase the capability of Canadian universities, colleges, hospitals and not-for-profit institutions to carry out world-class scientific research and technology development. The CFI promotes innovation by investing jointly in research infrastructures with institutions and their funding partners. More information is available at http://www.innovation.ca.

Canadian Commercial Corporation

The Canadian Commercial Corporation (CCC) gives Canadian companies access to financing and better payment terms under the Progress Payment Program (PPP). The PPP concept was developed as a partnership between major Canadian financial institutions and the CCC. It enables the exporter's bank to open a project line of credit for the exporter's benefit, based on CCC approval of the project and the exporter's ability to perform. The CCC will also act as a prime contractor on behalf of Canadian small and medium-sized enterprises, giving those businesses increased credibility and competitive advantage.

Canadian Institutes of Health Research

The Canadian Institutes of Health Research (CIHR) is the major federal agency responsible for funding health research in Canada. The CIHR uses a multidisciplinary approach through a framework of "virtual" institutes, each dedicated to a specific area of focus. This links and supports researchers and helps them pursue common goals. The institutes encourage researchers, voluntary health organizations, government and other partners to work together to shape the Canadian research agenda and translate research findings into practice within Canada's health system. The CIHR funds grants and training and actively engages in equal partnerships with the not-for-profit sector, provincial governments, industry and pharmaceutical companies. More information is available at http://www.cihr-irsc.gc.ca.

Export Development Canada

Export Development Canada (EDC) offers export financing and insurance to Canadian exporters. Additionally, insurance can be provided for larger transactions that are subject to the terms and conditions established by the buyer. EDC prefers to work through letters of credit, bank credits or bank guarantees. Approval for financing is considered on a case-by-case basis. Further information is available from EDC's Internet site at http://www.edc.ca or by calling, toll-free, 1-866-283-2957 (for companies with annual export sales up to $1 million) or 1-866-278-2300 (for companies with annual export sales over $1 million).

International Business Opportunities Centre (IBOC)

The International Business Opportunities Centre (IBOC) connects Canadian companies, particularly small- and medium-sized enterprises (SMEs), with foreign buyers through its unique company matching service. In providing its business lead service, IBOC works closely with the Canadian Trade Commissioner Service, which consists of trade officers located in Canadian embassies and consulates around the world. The business opportunities are handled on a case-by-case basis, spanning all markets and all sectors.

The Centre searches the Trade Commissioner Service database and Industry Canada's Canadian Company Capabilities database, as well as the vast resources of the Internet. In addition, IBOC taps into an impressive Canada-wide network of industry-sector experts at Industry Canada, Agriculture and Agri-Food Canada, and other federal Team Canada Inc departments and agencies. The organization also consults regularly with industry associations and provincial trade offices.

IBOC communicates business leads in two different ways: through direct personal contact with individual suppliers or electronically through e-mails sent to appropriate Canadian suppliers. These electronic leads are delivered through the Virtual Trade Commissioner (vTC). For more information or to register for the vTC, visit the following Web site: http://www.infoexport.gc.ca.

International Financial Institutions (IFI)

International financial institutions (IFIs) finance contracts worth over $56 billion per year in support of countries undergoing development or transition to market economies. Although many of these contracts are for goods and services that can be purchased locally, a significant percentage is for imported goods and services.

Canada is a shareholder in IFIs active in Thailand; therefore, Canadian companies are eligible to bid on these contracts. These institutions may also be interested in offering private-sector financing and/or guarantees. To find out more about these institutions' objectives for Thailand and if there are opportunities in the medical devices sector, refer to the appropriate IFI Web site:

- World Bank Group: http://www.worldbank.org; or
- Asian Development Bank: http://www.adb.org.

International Trade Canada's IFInet, at http://www.infoexport.gc.ca/ifinet, offers information and guides on how to be successful in bidding on these IFI-funded contracts. IFInet also highlights the support contacts outside and within Canada to advise Canadian exporters further on these contracting opportunities, in particular, the co-ordinates for the Offices of Liaison with the International Financial Institutions (OLIFIs), based within selected Canadian embassies where the above IFIs are located.

Natural Sciences and Engineering Research Council of Canada

The Natural Sciences and Engineering Research Council of Canada (NSERC) helps Canadian companies compete in today's economy by jointly funding collaborative R&D projects with scientists and engineers in universities across the country. More information is available at http://www.nserc.ca.

Networks of Centres of Excellence

Networks of Centres of Excellence are unique partnerships among universities, industry, government and non-governmental organizations aimed at turning Canadian research and entrepreneurial talent into economic and social benefits for all Canadians. An integral part of the Government of Canada's Innovation Strategy, these nationwide, multidisciplinary and multisector research partnerships connect high-quality research with industrial know-how and strategic investment. More information is available at http://www.nce.gc.ca.

Virtual Trade Commissioner

The Virtual Trade Commissioner (vTC) is an on-line service offered by the Trade Commissioner Service of International Trade Canada. Through a personalized and password-protected Web page, vTC-registered Canadian exporters will receive timely and relevant information on contacts and business opportunities in targeted foreign markets. The vTC offers registered users direct on-line access to market information, including market reports, business news, events and business leads related to the companies' industry sectors and markets of interest. Users can request services on line from a trade commissioner responsible for the industry sector in their target markets. They will also automatically receive new information as it becomes available. Canadian exporters can register for a Virtual Trade Commissioner at http://www.infoexport.gc.ca.

PRIVATE-SECTOR CUSTOMERS

The role of private hospitals has substantially increased during the last decade in order to meet growing local demand for health care, particularly in Bangkok, as well as international demand. Currently, foreigners account for 90% of patients in Thai private hospitals.

The Private Hospital Association of Thailand lists 197 members[9]. Bangkok is home to approximately 44% of private-sector hospitals, while 28% of facilities are situated in the central region of the country, which includes the provinces around Bangkok.

The largest private hospital chain is Bangkok Hospital, with a 15% market share. The network comprises 13 hospitals as well as numerous speciality clinics including Bangkok Heart Institute (the first private heart institute in Thailand) and Bangkok Hospital's Neuroscience Center, as well as medical centres focused on orthopedics, breast cancer, eye and kidney diseases, and rehabilitation. Bangkok Hospital invests 10% of its annual revenue on new medical equipment.

Approximately 30% of the Bangkok Hospital chain's patients are from other countries. Praram 9, another leading chain, estimates that 12% of its patients are foreigners. Other leading private hospital chains include Bang Pakok Group (operated by Hospital Network Co.), Samitivej Hospitals, Phyathai Hospitals and Kluaynamthai Hospitals.

As a result of the payment structure system in Thailand, major private hospitals—which attract more patients and thereby increase revenues—are in a stronger position to purchase higher-end medical equipment and devices than public health centres.

A private committee under the MOPH regulates private hospitals. As of July 2004, spas and massage centres also fall under the jurisdiction of the MOPH. Private facilities do not have to go through public-sector procurement procedures. Medications and supplies are under the responsibility of one hospital division. Sometimes, when

[9] Hospitals must have at least 25 beds in order to become a member of the association.

expensive material is involved, a purchase committee can be designated. Invitations to tender are not common practice but can still happen.

PUBLIC-SECTOR CUSTOMERS

Almost two thirds of hospitals in Thailand are publicly run. These include those run by various ministries, such as the Ministry of Defense and the Ministry of University Affairs. In addition, the government runs 19 state care homes for the elderly. Public expenditures on health care totaled $1.8 billion in 2001 (the most recent data available).

Although the Ministry of Public Health is the largest consumer of medical devices in Thailand, procurement of medical devices, particularly for expensive equipment, has slowed in recent years as the government has focused on the development of primary health care in rural areas. Cost containment is a significant issue with the Thai government. As such, the procurement of foreign medical devices is discouraged in favour of locally made products.

Thailand's public health-care system is under the auspices of the Ministry of Public Health, which has a central administration and also designates provincial responsibility.

Public hospitals submit their purchase proposition to a government agency, detailing the need, model, price, desired quantity and purchase justification. If dealing with expensive material or large amounts of equipment an invitation to tender may be issued.

MARKET LOGISTICS

Canadian firms interested in accessing Thailand's medical devices market are encouraged to visit the market and attend local trade shows. Exporters are also advised to register with the vTC, so that they can be contacted directly about potential business opportunities.

Channels of Distribution

Direct purchases by hospitals, particularly private facilities, and government procurement are the leading means to sell medical equipment in Thailand. For medical equipment, price is a key factor affecting a buyer's purchase decision.

Training is also a key sales component, especially when it comes to sophisticated equipment. After-sales service is of foremost importance because maintenance agreements have to appear on the sales contract. Public hospitals often require maintenance costs to be included in the purchase price.

It is important to choose a good local representative who will serve as interpreter and who can discuss technical details. Most agents are located in Bangkok, where 90% of all import activities occur.

Agents and Distributors

Exporters are advised to use a domestic agent and/or distributor when operating in the Thai market. In addition to offering exporters a physical presence in Thailand, and handling most regulatory requirements, these agents and sales representatives can provide vital links to distributors, wholesalers and retail outlets. Employing a reliable agent often involves taking on a variety of other partners including truckers, customs brokers and other agents.

An exporter must weigh a number of factors when selecting an agent, such as the individual's reputation, product knowledge, experience in handling the exported product, the commission to be paid, what (if any) after-sales service is provided, and the size and quality of the agent's staff. Determining which region(s) the agent covers is also vital. Most agents are based in Bangkok and traditionally have only covered that urban market. With the government-sponsored expansion of health services throughout the nation, more agents and distributors offer countrywide coverage. These attributes can best be assessed during a visit to Thailand, during which time manufacturers should also ensure that responsibilities are defined clearly and before entering into a contract. As a new exporter becomes more accustomed to the market, less dependence upon the agent will be required.

A list of reliable distributors can be obtained from the Canadian Embassy in Bangkok.

Market-entry Considerations

Suggested Business Practices

Business relationships in Thailand are not as formal as those found in many Asian countries, however, they are still much more formal than is common in the West. Therefore, it is best to overdress than underdress for a meeting. Also, late arrival for meetings is deemed to be unacceptable and can taint an otherwise positive relationship.

Although most Thais have a command of English, the use of interpreters is recommended for business meetings, particularly when dealing with small companies or firms outside of Bangkok. Interpreters allow Thai business associates, even those who speak English, to feel more relaxed and perhaps provide more details than they could while speaking English. Interpreters should be briefed, before the meeting, about both companies involved, specific products and the objectives of the meeting.

Participation in some of Thailand's trade shows and exhibitions is an excellent method for potential exporters to both assess the market and make contacts. Due to the extensive preparatory requirements of these events, the selection of an agent or distributor before attending a show is usually a prerequisite to effective participation.

Import Regulations

The tariff structure in Thailand is relatively high compared to other ASEAN members, although efforts are consistently being made to ease selected import duties in line with World Trade Organization (WTO) and ASEAN Free Trade Area (AFTA) obligations. The tariff structure is based on the Harmonized Commodity Description and Coding System. Import taxes on medical equipment range from 5% to 30%.[10] A 7% value added tax (VAT) is also imposed before the retail price is set.

There are no restrictions on exporting new medical equipment and supplies to Thailand. The sale of refurbished and used medical equipment, however, is prohibited.

Foreign companies seeking to introduce a medical product to the Thai market must obtain authorization from the Thai FDA, which is under the Ministry of Public Health. Import procedures vary according the classification of the device (see **Table 1**).

[10] Inquires about specific rates, product classification, customs duties, taxes and customs procedures may be made to International Trade Canada's Tariff and Market Access Division (EAT).

Table 1. Thai Classification of Medical Devices, 2003

Category	Description	Market Access
Licensed Medical Devices	Products in this group include life-sustaining devices, products used to prevent harm to an individual's health and those that present a risk of potential injury; examples include condoms, HIV test kits, insulin syringes.	Pre-market approval is required from the Thai FDA for products in this category in accordance with Ministerial Regulations Nos. 1, 2, 3 and 5 of B.E. 2533 (1990). Also, a certificate of free sales (CFS) must be provided to the Thai FDA.
Notification Medical Devices	Products in this group are those that could inflict harm to the individual; examples include orthopaedic implants and physical therapy devices.	Product details (descriptions, usage, specifications, labelling, and name of producers and distributors) must be provided to the Thai FDA. A CFS must also be provided.
General Medical Devices	Products in this group pose little or no risk to the patient; examples include X-ray film and diagnostic tests.	A CFS must be provided by the importer to the Thai FDA..

Sources: Thai Food and Drug Administration. “Medical Device Control in Thailand.” 2004. Medical Device Control Division. Accessed from http://www.fda.moph.go.th/fda-net/html/product/mdcd/eng/attach01_1.asp on October 8, 2004

———. “Pre-Marketing Control.” 2004. Accessed from http://www.fda.moph.go.th/eng/medical/pre.stm on October 8, 2004

United States. Department of Commerce. “Cardiovascular Devices.” March 19, 2003. Accessed from http://strategis.gc.ca/epic/internet/inimr-ri.nsf/en/gr112164e.html on October 8, 2004

As noted in **Table 1**, a certificate of free sale (CFS) must be provided to the Thai FDA by the importer for all categories of medical devices. It should be written in English, with an accompanied certified translation, and must include the following information:

- manufacturer's name and address;
- product name;
- product model or type; and
- an indication that the specific commodity is sold in Canada.

Certificates of free sale are issued by Health Canada[11] and must be authorized by the Royal Thai Embassy in Canada. A CFS is valid for five years.

For additional information on Thai regulations for medical devices imports, refer to Thailand's Medical Device Control Division's Web site (http://www.fda.moph.go.th).

[11] To obtain a CFS, contact Health Canada's Medical Devices Hotline (1-800-267-9675).

Intellectual Property

Thailand is a member of the World Intellectual Property Organization, is a signatory to the Berne Copyright Convention and has amended its intellectual property (IP) laws and regulations to conform to the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement. Nevertheless, Thailand's IP arena is not fully compliant. Therefore, Canadian companies should conduct thorough research and benefits-versus-risk analysis before entering the market.

The Patent Law was promulgated in 1979 and revised in 1992 and 1999. It covers general principles for the granting of patent rights, examination, approval and protection of patents. To comply with TRIPS, the 1999 amendment extends the duration of patent protection to 20 years from the date of filing.

The Trademark Law of Thailand, revised in 1992 and 2000, covers general principles on trademark registration, renewal, assignment, licensing, protection and dispute resolution. The validity of a trademark registration is 10 years, whereupon a renewal application can be submitted an unlimited number of 10 year periods. The 2000 amended trademark law into TRIPS compliance.

Companies should be aware that although Thailand has indicated a strong commitment to improving protection for intellectual property rights, infractions are still prevalent. Accordingly, Canadian exporters may wish to enlist the services of a qualified lawyer familiar with Thailand’s intellectual property rights environment.

Local Standards, Certificates and Registrations

All medical devices sold in Thailand must bear a label with the following information, in Thai, on its package or container:

- name, category and type of medical device;
- name and address of producer;
- licence number;
- quantity contained therein;
- number or letters indicating a lot number of production;
- purpose of use, including instructions for usage and storage[12];
- warnings and precautions; and
- an expiry date, if necessary.

Required documentation for imported products are:

[12] Single-use devices must display the words “disposable” or “for single use” in visible red lettering.

- bill of lading;
- commercial invoice;
- shipping list;
- import license;
- insurance certificate;
- packing list; and
- pro-forma invoice.

Export Credit Risks, Restrictions on Letters of Credit, Currency Controls

There are no export credit risks or restrictions on letters of credit inhibiting Canadian exports of medical devices and supplies into Thailand. Methods of payment such as open credit, letters of credit and advance payments are available.

PROMOTIONAL EVENTS

Event/Description	Organizer
Medica 2004 November 24-27, 2004 (Annual) Düsseldorf Fairgrounds Düsseldorf, Germany World's largest medical devices and medical technology trade show E-mail: info@medica.de Internet: http://www.medica.de	Messe Düsseldorf c/o Canadian German Chamber of Industry and Commerce, Inc. 480 University Ave., Suite 1410 Toronto, ON M5G 1V2 Tel.: (416) 598-1524 Fax: (416) 598-1840 E-mail: messeduesseldorf@compuserve.com Internet: http://www.messe-duesseldorf.de
Hospimedica 2005 September 6-8, 2005 (Biennial) Queen Sirikit National Convention Center Bangkok, Thailand	Messe Düsseldorf Asia Pte Ltd. 55 Market St. #09-01 Sinsov Building Singapore 048941 Tel.: (65) 6332-9620 Fax: (65) 6332-9655 or 6337-4633 Email: mdafairs@singnet.com.sg Internet: http://www.hospimedica-thailand.com
Thailand Healthcare Expo 2005 October 2005 (Annual) Impact Arena Exhibition and Conference Centre Muang Thong Thani, Bangkok	Thailand Healthcare Expo Royal Golden Jubilee Building, 11th Floor 2 Soi Soonvijai, New Petchburi Road Bangkok 10320 Thailand Tel.: (662) 716-6815/8 Fax: (662) 716-6819 E-mail: mail@thailandhealthcareexpo.com Internet: http://www.thailandhealthcareexpo.com
BioThailand 2005 November 2-5, 2005 (Biennial) Bangkok, Thailand	BioThailand Secretariat C/O National Center for Genetic Engineering and Biotechnology (BIOTEC) 113 Paholyothin Rd., Klong 1 Klong Luang, Pathumthani, 12120 Thailand Tel.: (662) 564-6700 Fax: (662) 564-6701 E-mail: biothailand2005@biotec.or.th Internet: http://biothailand2005.biotec.or.th

KEY CONTACTS AND SUPPORT SERVICES

Canadian Government Contacts

Canadian Embassy in Thailand
15th Floor, Abdulrahim Place
990 Rama IV Road
Bangkok 10500 Thailand
Contact: Surin Thanalertkul, Trade Commissioner
Tel.: (662) 636-0540
Fax: (662) 636-0568
E-mail: surin.thanalertkul@international.gc.ca
Internet: http://www.dfait-maeci.gc.ca/bangkok

Canadian Commercial Corporation (CCC)
50 O'Connor St., Suite 1100
Ottawa, ON K1A 0S6
Tel.: (800) 748-8191 or (613) 996-0034
Fax: (613) 995-2121
E-mail: info@ccc.ca
Internet: http://www.ccc.ca

Canadian Intellectual Property Office (CIPO)
c/o Industry Canada
50 Victoria St., 2nd Floor
Gatineau, QC K1A 0C9
Tel.: (819) 997-1936
Fax: (819) 953-7620
E-mail: cipo.contact@ic.gc.ca
Internet: http://cipo.gc.ca

Export Development Canada (EDC)
151 O'Connor St.
Ottawa, ON K1A 1K3
Tel.: (800) 850-9626 or (613) 598-2500
Fax: (613) 598-6697
Internet: http://www.edc-see.ca

International Trade Canada (ITCan)
125 Sussex Dr.
Ottawa, ON K1A 0G2
Internet: http://www.itcan-cican.gc.ca

Market Research Centre (TMR)
Contact: Michelle Morris, Senior International Market Analyst
Tel.: (613) 944-2462
Fax: (613) 943-1103
E-mail: michelle.morris@international.gc.ca

Southeast Asia Division (PSE)
Contact: Debra Boyce, Trade Commissioner
Tel.: (613) 995-7659
E-mail: debra.boyce@international.gc.ca

Tariff and Market Access Division (EAT)
Tel.: (613) 944-5070 or (613) 944-1569
Fax: (613) 992-6002
E-mail: eat@international.gc.ca

Health Canada
International Affairs Directorate
Brooke Claxton Building, Room 814A
Postal Locator: 0908A, Tunney's Pasture
Ottawa, ON K1A 0K9
Contact: Luc Pamerleau, Senior Policy Analyst
Tel.: (613) 941-3136
Fax: (613) 952-7417
E-mail: luc_pamerleau@hc-sc.gc.ca
Internet:
http://www.hc-sc.gc.ca/datapcb/iad/table.htm

Therapeutic Products Program Office
1600 Scott St., Holland Cross, Tower B, 2nd Floor
Postal Locator: 3102D1
Ottawa, ON K1A 1B6
Internet:
http://www.hc-sc.gc.ca/hpfb-dgpsa/tpd-dpt/aboutus_e.html

Health Canada Medical Devices Hotline
Tel.: 1-800-267-9675

Industry Canada (IC)
235 Queen St.
Ottawa, ON K1A 0H5
Internet: http://strategis.gc.ca

Canada Business Service Centres
Tel.: (888) 811-1119
Internet: http://www.cbsc.org

Market Support Division (TMM)
Contact: David Gillett, Trade Commissioner–Health and Biotechnology Industries
Tel.: (613) 996-1431
Fax: (613) 943-8820
E-mail: david.gillett@international.gc.ca

Life Sciences Branch in Ottawa
301 Elgin St.
Ottawa, ON K1A 0H5
Contact: Mary Boreskie, Industry Development Officer
Tel.: (613) 952-2022
Fax: (613) 952-4209
E-mail: boreskie.mary@ic.gc.ca
Internet: http://strategis.ic.gc.ca/ttchealth

Life Sciences e-Technology Transfer
Internet:
http://strategis.ic.gc.ca/epic/internet/inlsett-ettsv.nsf/en/Home

Canadian Industry Contacts

Alberta Health Industries Alliance (AHIA)
Internet: http://www.ahia.ca

Northern Chapter AHIA
Metro Edmonton Health Industry Association
PO Box 75169
Edmonton, AB T6E 6K1
Tel.: (780) 430-1260
Fax: (780) 435-7503
E-mail: home@tnc.com or north@ahia.ca
Internet: http://www.mehia.ab.ca

Southern Chapter AHIA
Calgary Association for Medical Products
c/o Calgary Innovation Centre
3553 31 St. NW, Suite 100
Calgary, AB T2L 2K7
Tel.: (403) 284-6400
Fax: (403) 282-1238
E-mail: south@ahia.ca

Association of Health Technologies Industry (AITS [Association de l'industrie des technologies de la santé])
8475 Christopher Colombus Ave.
PO Box 175
Montreal, QC H2P 2V4
Tel.: (514) 383-3268
Fax: (514) 383-3250
E-mail: info@aits.ca
Internet: http://www.aits.ca

Association of Ontario Medical Manufacturers (AOMM)
c/o Innovation Synergy Centre
1380 Rodick Rd., Suite 100
Markham, ON L3R 4G5
Tel.: (905) 248-2717
Fax: (905) 479-2055
E-mail: mail@aommcanada.com
Internet: http://www.aommcanada.com

British Columbia Health Industries Network (HINET)
4531 Emily Carr Dr.
Victoria, BC V8X 2N5
Tel.: (250) 652-0666
Fax: (250) 652-0645
E-mail: hinetbc@hinetbc.org
Internet: http://www.hinetbc.org

B.C. Medical Device Industry Association
Medical Device Development Centre
1099 W 8th Ave., Suite 101
Vancouver, BC V6H 1C3
Tel.: (604) 878-8718
Fax: (604) 878-8717
E-mail: info@bcmediabc.com
Internet: http://www.bcmediabc.com

Canadian Chamber of Commerce
Delta Office Tower
350 Sparks St., Suite 501
Ottawa, ON K1R 7S8
Tel.: (613) 238-4000
Fax: (613) 238-7643
E-mail: info@chamber.ca
Internet: http://www.chamber.ca

In Calgary
PO Box 38057
Calgary, AB T3K 5G9
Tel.: (403) 271-0595
Fax: (403) 226-6930
E-mail: info@chamber.ca

In Montreal
1255 University St., Suite 1510
Montreal, QC H3B 3X2
Tel.: (514) 866-4334
Fax: (514) 866-7296
E-mail: info@chamber.ca

In Toronto
BCE Place, 181 Bay St., Heritage Building (Galleria)
PO Box 818
Toronto, ON M5J 2T3
Tel.: (416) 868-6415
Fax: (416) 868-0189
E-mail: info@chamber.ca

Canadian Standards Association (CSA) International
178 Rexdale Blvd.
Toronto, ON M9W 1R3
Tel.: (800) 463-6727 or (416) 747-4000
Fax: (416) 747-4149
E-mail: certinfo@csa-international.org
Internet: http://www.csa-international.org

ExportMed
8475 Christopher Colombus Ave.
Montreal, QC H2M 2N9
Tel.: (514) 383-3241
Fax: (514) 383-3242
E-mail: info@exportmed.com
Internet: http://www.exportmed.com

Health Care Products Association of Manitoba (HCPAM)
435 Ellice Ave., Suite 464
Winnipeg, MB R3B 1Y6
Tel.: (204) 942-3829
Fax: (204) 942-3833
E-mail: info@hcpam.com
Internet: http://www.hcpam.com

Medical Devices Canada (MEDEC)
401 The West Mall, Suite 510
Etobicoke, ON M9C 5J5
Tel.: (416) 620-1915
Fax: (416) 620-1595
E-mail: medec@medec.org
Internet: http://www.medec.org

Medical Device Development Centre (MDDC)
1099 - 8th Ave West
Vancouver, BC V6H 1C3
Tel.: (604) 742-3808
E-mail: info@mddc.org
Internet: http://www.mddc.org

Thai Government Contacts

Royal Thai Embassy in Canada
180 Island Park Dr.
Ottawa, ON K1Y OA2
Tel.: (613) 722-4444
Fax: (613) 722-6624
E-mail: thaiott@magma.ca
Internet:
http://www.magma.ca/~thaiott/mainpage.htm

Royal Thai Consulate in Calgary
Lacey Court
344 - 12 Ave. SW
Calgary, AB T2R OH2
Tel.: (403) 266-6995
Fax: (403) 294-0667
E-mail: thaical@jrlacey.com

Royal Thai Consulate-General in Edmonton
10140-117 St., Suite 200 A, Lousage Centre
Edmonton, AB T5K 1X3
Tel.: (780) 439-3576
Fax: (780) 4521610

Royal Thai Consulate-General in Montreal
1 Ville Marie Pl., Suite #3303
Montreal, QB H3B 3N2
Tel.: (514) 996-6387
Fax: (514) 878-4541

Royal Thai Consulate-General in Toronto
Scotia Plaza, 40 King St., West 41st Floor
Toronto, ON M5H 3Y4
Tel.: (416) 367-6750, (416) 367-6235
Fax: (416) 361-7074

Royal Thai Consulate-General in Vancouver
1040 Burrard St.
Vancouver, BC V6Z 2R9
Tel.: (604) 687-1143
Fax: (604) 687-4434
E-mail: info@thaicongenvancouver.org
Internet: http://www.thaicongenvancouver.org

Ministry of Commerce
Sanamchai Rd
Pranakorn, Bangkok 10200 Thailand
Tel.: (662) 282-6171-9
Fax: (662) 280-0775
E-mail: webmaster@ceo.moc.go.th
Internet: http://www.moc.go.th (In Thai)

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Fax: (662) 547-4651
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Ministry of Public Health
Thanon Tiwanond, Amphoe Muang Nonthaburi
11000 Thailand
Tel.: (662) 590-1000, 591-8300/29
Fax: (662) 536-7477
Internet: http://www.moph.go.th

Department of Medical Sciences
Tiwanon Road, Amphur Muang
Nonthaburi 11000 Thailand
Tel.: (662) 589-0022 or 951-0000
Internet: http://www.dmsc.moph.go.th

National Statistical Office
Larn Luang Road
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Internet: http://www.nso.go.th

Thai Board of Investment
555 Vibhavadi-Rangsit Rd.
Chatuchak, Bangkok 10900 Thailand
Tel.: (66) 537-8111-55, 537-8555
Fax: (662) 537-8177
E-mail: head@boi.go.th
Internet: http://www.boi.go.th

Public Relations Division for Customs
Tel.: (662) 249-3298

Thai Customs Department
Thanon Sunthornkosa Khlong Toey
Bangkok 10110 Thailand
Tel.: (662) 249-0431-40
Fax: (662) 249-2874
Internet: http://www.customs.go.th

Thai Department of Foreign Trade
44/100 Sanambinnam-Nonthaburi Road
Nonthaburi 11000 Thailand
Tel.: (662) 547-4771-86
Fax: (662) 547-4791-2
E-mail: dft_info@mocnet.moc.go.th
Internet: http://www.dft.moc.go.th

Thai Food and Drug Administration
Thanon Tiwanond, Amphoe Muang Nonthaburi
11000 Thailand
E-mail: fda@fda.moph.go.th
Internet: http://www.fda.moph.go.th

Medical Device Control Division
Tel.: (662) 590-7245, 590-7251
Internet:
http://www.fda.moph.go.th/eng/medical/index.stm

Thai Industrial Standards Institute
Thanon Rama VI, Ratchathewi
Bangkok 10400 Thailand
Tel.: (662) 202-3301
Fax: (662) 202-3415
E-mail: thaistan@tisi.go.th
Internet: http://www.tisi.go.th

Thailand Research Fund
14th Floor, SM Tower
979 Phaholyothin Road Samsen-nai, Phayathai
Bangkok 10400 Thailand
Tel.: (662) 298-0455
Fax: (662) 298-0478
E-mail: Webmaster@trf.or.th
Internet: http://www.trf.or.th

Thai Industry Contacts

Dental Association of Thailand
71 Soi Lardprao 95, Bagnkapi
Bangkok 10310 Thailand
Tel.: (662) 539-4748
Fax: (662) 514-1100
Internet: http://www.thaidental.org

Medical Association of Thailand
67/9 Soi Soonvichai, New Petchburi Road
Bangkok 10320, Thailand
Tel.: (662) 314-4333 or 318-8170
Fax: (662) 314-6305
E-mail: math@loxinfo.co.th
Internet: http://www.medassocthai.org (in Thai)

National Center for Genetic Engineering and Biotechnology (BIOTEC)
113 Paholyothin Rd., Klong 1
Klong Luang, Pathumthani, 12120 Thailand
Tel.: (662) 564-6700
Fax: (662) 564-6701
E-mail: webmaster@biotec.or.th
Internet: http://www.biotec.or.th

Private Hospital Association
Royal Golden Jubilee Bldg.
2 Soi Soonvijai Petchburi Road
Huay Kwang, Bangkok 10320 Thailand
Tel.: (662) 716-7058-9
Fax: (662) 716-7059
Internet: http://www.thaiph.org (in Thai)

Thai Canadian Chamber of Commerce
139 Pan Road
Sethiwan Tower, 9th Floor
Bangkok 10500 Thailand
Tel.: (662) 266-6085/6
Fax: (662) 266-6087
E-mail: tccc@loxinfo.co.th
Internet: http://www.tccc.or.th

Thai Medical Device Suppliers Association (THAIMED)
11th Flor, Dr. Gerhard Link Bldg.
88 Krungthepkreetha Road
Huamark, Bangkapi
Bangkok 10240 Thailand
Tel.: (662) 379-4296 or 379-4279
Fax: (662) 379-4297
E-mail: info@thaimed.co.th
Internet: http://www.thaimed.co.th

Thai Spa Association
Suite 1809, One Pacific Place
140 Sukhumvit Road
Bangkok 10110 Thailand
Tel.: (662) 653-0644
Fax: (662) 653-0635
E-mail: info@thaispaassociation.com
Internet: http://www.thaispaassociation.com

APPENDIXES

APPENDIX A—KEY INDICATORS OF MARKET SIZE

Thai Demographic Data, 2004

Population	64.8 million
Population Growth Rate	0.91%
Birth Rate	16.04 births/1000 people
Death Rate	6.94 deaths/1000 people
Infant Mortality Rate	21.14 deaths/1000 live births
Life Expectancy at Birth	71.41 years
Female	73.7 years
Male	69.3 years

Sources: Nationmaster.com. “Southeast Asia: Thailand: People.” 2004. Accessed from http://www.nationmaster.com/country/th/People October 8, 2004

U.S. Central Intelligence Agency. “World Factbook: Thailand.” October 5,2004. Accessed from http://www.cia.gov/cia/publications/factbook/geos/th.html on October 8, 2004

Thai Population, by Age Category, 2003 (Million)

	0-14	15-64	65+	Total
Female	7.63	22.53	2.53	**32.69**
Male	7.98	21.99	2.16	**32.13**
Total	**15.61**	**44.52**	**4.69**	**64.82**

Source: U.S. Central Intelligence Agency. “World Factbook: Thailand.” October 5, 2004. Accessed from http://www.cia.gov/cia/publications/factbook/geos/th.html on October 8, 2004

Thai Economic/Health-care Data, 2003

GDP	$668.9 billion
Health Expenditure	$8.5 billion
Health Expenditure Per Person	$131.87
Medical Devices Market	$490 million
Hospitals, estimated number of	1093
Private hospitals	206
Public hospitals	887
Hospital Beds (in 2001), number of	134 249
Private hospital beds (in 2001)	39 551
Public hospital beds (in 2001)	79 840

Sources: Espicom. “Medistat World Medical Market Analysis: Thailand.” April 2004

The Nation. “Foreign Patients Top 1M.” October 22, 2003

U.S. Central Intelligence Agency. Op.Cit

World Markets Research Centre. “Country Summary: Thailand (Healthcare).” 2004

APPENDIX B—Thai Medical Device Imports from World, 2001-2003 ($ million)

HS Code	Product Description	2001	2002	2003
300630	Opacifying preparations for X-ray	5.249	5.290	6.181
300650	First aid box/kits	0.028	0.003	0.091
3701.10	Photographic plates and film for X-ray	10.179	10.857	10.851
4015.11	Medical/surgical gloves, vulcanized rubber	0.567	0.838	1.167
8419.2	Medical/surgical sterilizers	14.428	12.267	5.990
8713	Wheelchairs	0.715	0.588	0.773
9001.30	Contact lenses	8.411	10.780	10.546
9001.40	Glass spectacles	0.312	0.323	0.251
9001.50	Spectacles, lenses of materials other than glass	22.803	11.694	9.887
9004	Spectacles, goggles, etc., corrective	3.301	3.162	4.174
9011	Compound optical microscopes, pat*	12.919	16.081	16.383
9018.11	Electrocardiographs, pat	0.859	0.596	0.526
9018.12	Ultrasonic scanning app.**	2.584	3.247	5.221
9018.13	Magnetic resonance imaging (MRI) apparatus	1.438	1.139	2.560
9018.14	Scintigraphic apparatus	0.000	0.000	0.092
9018.19	Other electrodiagnostic app.	36.574	34.912	47.923
9018.20	Ultraviolet or infrared ray app., pat	0.492	0.166	0.258
9018.31	Syringes, with or without needles; pat	7.935	7.249	7.412
9018.32	Tubular metal needles and needles for sutures, pat	9.127	8.508	8.440
9018.39	Other needles, catheters, pat	17.276	18.591	21.787
9018.41	Dental drill engines, whether or not combined on a single base with other dental equipment, pat	2.936	2.286	2.269
9018.49	Other dental appliances, pat	13.465	15.292	13.400
9018.5	Ophthalmic instruments, pat	7.302	11.026	11.109
9018.9	Other medical/surgical instruments, pat	75.895	89.615	94.370
9019.1	Mechano-therapy app.	2.583	3.861	6.679
9019.2	Ozone/oxygen/respiration app.	12.755	11.158	13.385
9020	Breathing appliances, gas masks	3.003	2.623	3.795
9021.1	Orthopedic appliances	0.000	8.407	8.549
9021.21	Artificial teeth, pat	1.305	1.460	1.519
9021.29	Other artificial parts of the body for dental fittings	0.165	2.048	1.556
9021.31	Artificial joints	0.000	4.164	3.531
9021.39	Artificial joints and parts of the body	0.000	11.292	13.348
9021.4	Hearing aids	1.773	1.380	1.814
9021.5	Pacemakers	0.952	1.187	2.311
9021.9	Other appliances, worn or carried	2.465	4.079	5.082

9022.13	Apparatus based on the use of X-rays, for dental uses	0.242	0.925	1.185
9022.14	Apparatus based on the use of X-rays, for medical, surgical, dental or veterinary uses	9.430	9.504	13.226
9022.19	Apparatus based on the use of X-rays, for other uses	4.211	5.570	8.494
9022.21	Apparatus based on the use of alpha, beta or gamma radiations, including radiography or radiotherapy apparatus, for medical, surgical, dental or veterinary uses	1.858	3.562	0.666
9022.29	Apparatus based on the use of alpha, beta or gamma radiations, for other uses	1.302	1.094	1.642
9022.30	X-ray tubes	2.525	2.596	3.753
9022.9	Parts and accessories for medical X-ray	3.929	2.203	2.711
9025.11	Thermometers and pyrometers, not combined with other instruments: liquid-filled, for direct reading	2.056	2.092	1.877
9025.19	Thermometers and pyrometers, not combined with other instruments	10.165	9.002	10.630
9402	Medical/dental furniture	2.460	3.819	3.540
Total		**317.974**	**356.536**	**390.954**

*pat = including parts and accessories thereof; **app. = apparatus

Source: World Trade Atlas. “Thailand: Imports from the World.” December 2003

APPENDIX C—Canadian Medical Device Exports to Thailand, 2001-2003 ($ million)

HS Code	Product Description	2001	2002	2003
4015.11	Medical/surgical gloves, vulcanized rubber	0.000	0.013	0.000
8419.2	Medical/surgical sterilizers	0.019	0.019	0.023
8713	Wheelchairs	0.000	0.013	0.000
9001.50	Spectacles, lenses of materials other than glass	0.008	0.057	0.000
9004	Spectacles, goggles, etc., corrective	0.003	0.001	0.002
9011	Compound optical microscopes, parts and accessories	0.000	0.000	0.258
9018.12	Ultrasonic scanning app.*	0.000	0.000	0.032
9018.19	Other electrodiagnostic app.	0.000	0.088	0.008
9018.39	Other needles, catheters, pat**	0.025	0.000	0.068
9018.49	Other dental appliances, pat	0.000	0.000	0.014
9018.9	Other medical/surgical instruments, pat	0.141	0.054	0.048
9019.1	Mechano-therapy app.	0.036	0.000	0.016
9019.2	Ozone/oxygen/respiration app.	0.043	0.021	0.000
9020	Breathing appliances, gas masks	0.000	0.000	0.011
9021.4	Hearing aids	0.011	0.001	0.007
9021.9	Orthopedic and other appliances	0.036	0.012	0.016
9022.21	Apparatus based on the use of alpha, beta or gamma radiations, including radiography or radiotherapy apparatus, for medical, surgical, dental or veterinary uses	0.117	0.318	0.000
9022.29	Apparatus based on the use of alpha, beta or gamma radiations, for other uses	0.000	0.000	0.222
9022.9	Parts and accessories for medical X-ray	0.159	0.040	0.013
9025.11	Thermometers and pyrometers, not combined with other instruments: liquid-filled, for direct reading	0.001	0.000	0.000
9025.19	Thermometers and pyrometers, not combined with other instruments	0.045	0.116	0.041
9402	Medical/dental furniture	0.000	0.000	0.093
Total		**0.644**	**0.753**	**0.872**

*app. = apparatus; **pat = including parts and accessories thereof

Source: World Trade Atlas. “Canada: Exports to Thailand.” August 2004

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ExportSource: **http://exportsource.ca**

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