

Molecular Imaging

tracking the expansion of PET

World markets



www.medicaloptions.co.uk

April 2016

Included within this document :-

- ***Background to the study***
- ***What subscribers to the study will receive***
- ***Cost of the study to subscribers***
- ***Table of contents of the report***

Introduction

The first wave of development of molecular imaging has been primarily focused in the world's developed markets – United States, Western Europe and Japan. These markets are now showing slower growth which is partly a function of the economic challenges which they face and partly that PET/CT is now, in many of the countries, an established technique.

Markets Reviewed

Latin America:

- Brazil.
- LA North: Mexico, Colombia, Venezuela,
- LA South: Argentina, Chile

Middle East and Africa:

- Turkey
- South Africa
- Russia

Asia:

- India,
- South Korea,
- Greater China,
- Japan

Pacific:

- Australia

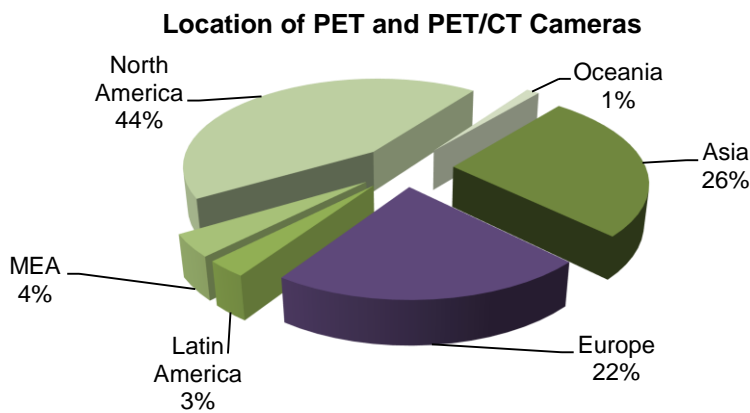
The past ten years have seen the establishment of molecular imaging in markets outside these regions. Commentators refer to the majority of these countries as emerging markets. These markets are those which economists expect to see the largest growth in GDP in coming years. All are Growth Markets. Development of PET/CT in these countries has been driven by the private sector in response to rising living standards and the demands for healthcare placed by an expanding middle class.

Many of these markets show different characteristics to developed markets. Projecting how these markets will develop in the future will be key in deciding where marketing resources need to be directed.

To provide an up-to-date picture of the status of these Growth Markets Medical Options has identified those with an established PET infrastructure and surveyed sites providing PET examinations.

The majority of markets are reviewed individually as there is little interplay between them. In understanding how they may develop comparison is made with other emerging and developed markets.

Location of PET and PET/CT systems



Source: Medical Options 2015

Background

In 2015 almost 1,300 sites operated dedicated static PET and PET/CT cameras in the regions studied. This represented ~ one third of worldwide installations.

Over 400 cyclotrons operate in these regions of which almost half are in Japan. This report identifies sites which receive radiotracers as well as their source of isotope and price paid.

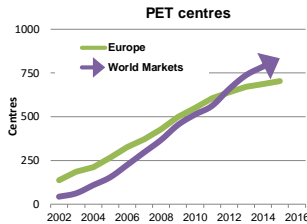
The future market will be driven by clinical need and forecasting future opportunities will depend on a detailed understanding of how today's equipment is being utilised. This report includes an analysis of the current mix of studies at each site as well as the user's predictions of growth and how patient mix will alter.

The resulting report will provide an audit of important fundamentals including:-

- provision of equipment - PET, PET/CT and cyclotrons
- patient volume - segmented by provider
- mix of studies - segmented by provider
- radioisotopes used
- reimbursement and payment
- isotope supply and pricing
- market share by supplier by product and by application

providing a detailed insight into the activities at sites and providing a valuable reference tool for companies seeking to do business in these growth markets.

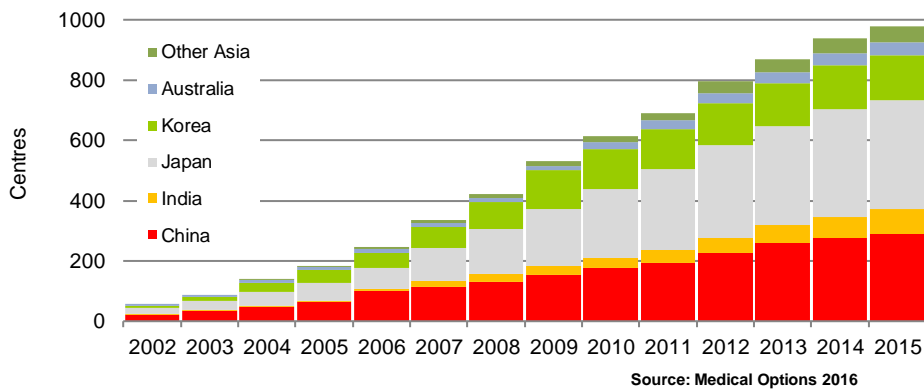
Growth markets overtake Europe
Emerging markets have shown an annual compound growth in PET/CT numbers of ~24%.



The development of new sites in Europe has slowed while centre numbers in the emerging markets continue to grow

Growth of PET centres

Growth in PET and PET/CT - Asia-Oceania



Source: Medical Options 2016

The studies are based on interviews with cross section of centres operating PET and or PET/CT.

PET and PET/CT systems per million population



Sites are interviewed by telephone and have the opportunity to make electronic returns.

Source: Medical Options 2015



By presenting sites in their locality we can confirm we are capturing sites in the area.

Sites entering data electronically are provided with feedback on for example how their average throughput per scanner compares with others in their country and with similar providers in their region.

Average throughput at comparable sites



Source: Medical Options 2015

Report

A consolidated report based on tabulation of the survey responses comprising a series of individual reports on the countries and regions making up our 'Growth Markets'. Associated commentary will analyse the results with respect to clinical developments.

Activity in each of the regions are analysed with the countries highlighted reviewed in greater depth.

- Latin America
 - Brazil
- Asia
 - China
 - India
 - Korea
 - Japan
- Pacific
 - Australia
- MEA
 - Turkey
 - Russia
 - South Africa

Reports

We have tried to cover the same subject headings in each of the countries/ regions so comparisons are easy to make

Typical country chapter

X.1	Overview	1
X.2	Healthcare	3
X.2.1	Purchasing Healthcare	
X.2.2	Providing Healthcare	
	Public	4
	Private	5
X.3	Imaging Services	6
X.4	Suppliers	8
X.5	Standards	11
X.6	Reimbursement	12
X.7	Nuclear Medicine	13
X.8	PET Provision	14
X.8.1	Centres	14
X.8.2	Cameras	16
X.9	Radiopharmacy	17
X.9.1	Cyclotrons	17
X.9.1	Supply of tracers	17
X.10	Patient studies	20
X.10.1	Clinical FDG Studies	20
X.10.1	Other Tracers	22
X.11	Future projections	24

The complete study:-

- tracks the growth of PET cameras
- provides an accurate track of the sales of radiopharmaceuticals
 - identifies the suppliers of radiopharmaceuticals
 - describes the use of products by application and the use of generic and proprietary products.
 - monitors market share by product and by application
 - tracks the growth in examination numbers
 - looks in depth at the types of study being performed and examines how case mix will change in the future.
 - Projects the growth in centres, cameras and applications over the next five years (2016 – 2020).

The report is ~305 pages and contains over 300 tables and charts

What is the price of the report?

Available on request.

Database

A site database of ~1,000 providers including:-

- Full address and contact details
- PET/CT, PET/MR, PET Mammo
 - make, model, date of installation, replacement date
- Cyclotron
 - make, model, date of installation, replacement date
- Radiopharmacy
 - Hot cells, synthesis units
 - Generator (^{82}Rb , ^{68}Ga)
 - PET Injector
- Isotope supply
 - Provider, deliveries #
 - Price #, typical dose #
- Patient throughput in 2013 and 2014 and 2015 #
 - routine ^{18}F FDG
 - ^{18}F (^{18}FNa , $^{18}\text{FCho}$ #, ^{18}F DOPA, ^{18}F Amy#, ^{18}F Other)
 - ^{11}C (^{11}C Acetate, ^{11}C Choline, ^{11}C PIB, ^{11}C Other)
 - ^{68}Ga (^{68}Ga -*Oc, 68Ga- HBED-CC-PSMA, 68Ga Other)
 - ^{13}N , ^{15}O , ^{18}F , ^{82}Rb , ^{131}I
- Studies performed #
 - ^{18}F FDG Oncology, Neurology, Cardiology, Other
 - Detailed breakdown
 - Other tracers

Database

The sites are described by their English name and the local equivalent when available (Korea and China)

Zone	Asia
SupRegion	India
Country	India
Region	Karnataka
Hospital	Mazumdar Shaw Cancer Center
Lat	12.9715987
Long	77.5945627
Town	Bangalore
Addr2	Narayana Hrudayalaya Health City, No. 258/A, Bommasandra Industrial Area, Anekal Taluk
Code	560099
Facilitytype	Specialist
Operation	Clinical 9012
Public/Private	Private
web	www.mscc.in
Con	Dr HV Sunil
FDGmake	Yes
FDGbuyin	No
FDGsupply	Yes
Cyclotron	On-site cyclotron
FDGSupplier	InHouse
FDG 1ry Location	FDI-Bangalore
FDG 2ry Location	
No. FDG Suppliers	0
No. of Cameras	1
Make	GE
Model	Discovery 8
Date	2009
BandFDG2012	<2500
BandRes2012	<250
% Oncology	80
% Cardiology	17
% Neurology	3
Infection/Inflammation	0

This extract is not the full information set for the site

^{18}F methyl choline, ^{18}F ethyl choline, ^{18}F ACBC; Amyvid, Vizamyl, Neuraceq

Sites were given the opportunity to restrict the commercially sensitive information which we make available. For this reason, throughput and study pricing is banded as per 500 patients and per \$50 respectively.

dependent on the response rate

What will be the price of the database?

The total number of records held for these markets is >1200.

- Latin America 120
- Asia 932
- Pacific 42
- MEA 148

A detailed breakdown of numbers per country and a sample of the information is available on request.

How will this benefit your business?

- Enable better use of resources through identifying those segments which are growing, those which are stable and those which are falling.
- Provides a comprehensive competitive picture.
- Allows you to address these important markets based on an accurate picture of where it is now and where it is likely to be going in the future.

Availability

Report: 1st qtr 2016

Database: January 2016

About Medical Options

We consult in the UK and Europe

Primarily for companies supplying to the acute secondary and tertiary healthcare sectors

Providing a range of information and solutions:-

- **Market research**
 - Sampling the views of customers and patients
 - Their degree of satisfaction
 - Their levels of activity
 - Their future intentions
- **Economic evaluation**
 - Presenting the costs and highlighting the benefits of technologies
- **Health Technology Assessment**
 - Showing value
- **Market modeling**
 - Refining the present
- **Market dynamics**
 - Forecasting the future
- **Market strategies**
 - Developing markets
 - Improving share through better targeting of potential clients

A more detailed description of our services can be found at www.medicaloptions.co.uk

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