Healthcare
Gujarat: An Enduring Strong Economy

- Population: Over 50 million (5.0% of India)
- Geographical area: 1,96,000 sq. km (6.2% of India)
- Gross State Domestic Product (GSDP): US$45.3 billion
- Per Capita Income: US$915 at current prices
- Urbanisation: 37.4%

- High industrial growth: Gujarat has demonstrated a high industrial growth rate of 12.5% from 2002-2007
- Industrialisation: Gujarat is home to over 800 large industries and 3,20,000 micro, small and medium enterprises

Composition of GSDP as per economic activity (2006-07)

- Primary sector: 44.0%
- Secondary sector: 37.8%
- Tertiary sector: 18.2%

Source: Socio Economic Review 2007-08
Gujarat: A Thriving Industrial State

Contribution to India's economy

<table>
<thead>
<tr>
<th>Category</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>9.5%</td>
</tr>
<tr>
<td>No. of Factories</td>
<td>10.0%</td>
</tr>
<tr>
<td>Net value added by manufacture</td>
<td>14.0%</td>
</tr>
<tr>
<td>Value of output</td>
<td>15.6%</td>
</tr>
<tr>
<td>Fixed capital investment</td>
<td>17.0%</td>
</tr>
<tr>
<td>Exports</td>
<td>19.2%</td>
</tr>
<tr>
<td>Coastline</td>
<td>22.0%</td>
</tr>
<tr>
<td>Stock market capitalization</td>
<td>30.0%</td>
</tr>
</tbody>
</table>

Significant share in key sectors & products

- Soda ash production: 98.0%
- Salt processing: 85.0%
- Diamond processing: 80.0%
- Plastic industry: 65.0%
- Petrochemicals: 58.0%
- Chemicals: 50.0%
- Groundnut: 42.3%
- Pharmaceuticals: 42.0%
- Cotton: 35.0%
- Fabrics: 30.0%

Presence across industry sectors

- Petroleum products: 31.2%
- Chemical & Pharma: 22.9%
- Engineering Industries: 12.6%
- Food & Beverages: 9.7%
- Textiles & Apparels: 6.5%
- Mineral based industries: 2.9%
- Metallurgical Industries: 7.5%
- Others: 6.7%

- World’s largest producer of castor and cumin
- World’s largest gas based single location sponge iron plant
- World’s largest producer of processed diamonds
- World’s 3rd largest producer of denim
- Asia’s largest grass root petroleum refinery at Jamnagar
- India’s largest producer of cotton
- India’s first LNG chemical port terminal at Hazira

Source: Socio Economic Review 2007-08
Gujarat: Robust Infrastructure

**Power**

*Dependable power supply – key to industrial development*

- Present power generation capacity is **9,628 MW**; plans afoot to raise it to **25,000 MW** by 2012
- Per capita power consumption is **1,354 units** against the national average of **665 units**
- Rich availability of natural gas (34 MMCD) and lignite (1,072 MMT)
- 24-hour 3-phase uninterrupted power supply

**Gujarat is the only State to carry out interlinking of rivers**

- An extensive water grid network of **75,000 km** for irrigation and drinking
- It will cover **75%** population of the state by 2010

**Gas**

*Transformation of economy through natural gas*

- Gujarat State Petronet Limited (GSPL) supplies piped gas to 13 districts, 5 more districts will be added
- Total length of Integrated Gas Grid will be **2,200 km**, of which 1,453 km is complete and the rest is under construction
Gujarat: Robust Infrastructure

Rail and Road

**Surfaced road length – one of the highest in India**

- State-of-the-art road infrastructure: India’s first National Expressway from Ahmedabad to Baroda
- Total road length is 74,018 km - 95% surfaced road
- Total rail length - 5,188 km (8.25% of India)

Gujarat Ports opening the gateway to prosperity

- 42 ports along 1,600 km coastline, including 1 major port at Kandla and 41 minor ports
- Landmark projects such as LNG port terminal at Hazira developed by Shell India Limited, green field port at Mundra developed by Gujarat Adani Port Limited, LNG terminal at Dahej developed by Petronet LNG Ltd. and Pipapav port developed by Gujarat Pipapav Port Ltd

Airports

**Airport connectivity – a cutting edge for business**

- 13 airports - Vadodara, Surat, Jamnagar, Rajkot, Bhavnagar, Porbandar, Bhuj, Pipavav, Mandvi, Mundra, Kandla, Palanpur and Ahmedabad (International Airport)
The Indian Healthcare Sector

- The Indian Healthcare market has grown from **US$22.8 billion** in 2005 at a CAGR of 16% to **US$34.2 billion** currently.
- Revenues from the healthcare account for 5.2% of the Gross Domestic Product making it the third largest growth segment in India and is projected to grow to nearly **US$40 billion by 2012**.
- The private sector accounts for over 80% of total healthcare expenditure in India.

**Growth drivers of the Sector**

- India’s booming population, increasing at an annual rate of 2%, complemented by the thriving economic growth.
- Increasing urbanisation and expanding middle class with more disposable income and the ability to buy costlier western medicines.
- Revenue attributable to insurance or third party Administrators (TPAs) has grown from **2% in 2001–02** to **16% in 2005-2006**.
- Rise in infectious and chronic degenerative diseases and lifestyle-related diseases.

### Table 1:

**Snapshot of the healthcare market (US$)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Market Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>34.2 billion</td>
</tr>
<tr>
<td>Brazil</td>
<td>19.1 billion</td>
</tr>
<tr>
<td>China</td>
<td>137.0 billion</td>
</tr>
<tr>
<td>Germany</td>
<td>250.0 billion</td>
</tr>
<tr>
<td>USA</td>
<td>2,100.0 billion</td>
</tr>
</tbody>
</table>

**Public healthcare infrastructure**

<table>
<thead>
<tr>
<th>Healthcare Infrastructure</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Health Centres</td>
<td>23,000</td>
</tr>
<tr>
<td>Community Health Centres</td>
<td>2,935</td>
</tr>
<tr>
<td>District Hospitals</td>
<td>4,400</td>
</tr>
<tr>
<td>State Owned Hospitals</td>
<td>1,200</td>
</tr>
</tbody>
</table>

Healthcare Infrastructure needs in India

![Graph showing additional bed required (in million) over years 2008, 2018, and 2028.]

<table>
<thead>
<tr>
<th>Requirements</th>
<th>2008</th>
<th>2018</th>
<th>2028</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed/1000 population ratio</td>
<td>0.7 to 1.7</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Additional floor space (800 sq. ft./bed)</td>
<td>880 million sq ft</td>
<td>2480 million sq ft</td>
<td>1600 million sq ft</td>
</tr>
<tr>
<td>Additional land area (floor space index 1:1)</td>
<td>20,000 acres</td>
<td>56,400 acres</td>
<td>36,400 acres</td>
</tr>
</tbody>
</table>
At 1.9 bed per '000 population, India would be at 75% of current Chinese ratio and at 50% of the level of Brazil and Korea.
Gujarat Healthcare Sector – Growth Perspective

- Gujarat offers holistic medicinal services and cost effective treatment through various district hospitals, sub district hospitals and private specialty hospitals
- Most sought after super – specialties in the State include cardiology, neuro – surgery, orthopedics, infertility treatment, joint replacement and eye surgeries

- Share of primary care in the total healthcare market of Gujarat is around 75-80%. Secondary and tertiary care account for 17% and 4% respectively of the total healthcare market
- Market for tertiary care expected to grow at a faster rate, due to rise in income levels, increasing adoption of health insurance and rise in complex in-patient ailments (heart diseases, kidney ailments, cancer)

Source: Office of Commissioner Of Health : Government of Gujarat
Gujarat and Healthcare: Growing in Tandem

- The healthcare landscape in Gujarat is changing rapidly.
- The available medical infrastructure and easily accessible healthcare facilities have improved the health of the population of the State remarkably over the years.
- The State Government is taking several initiatives to make Gujarat a Global healthcare destination.
- Gujarat is evolving in terms of number of hospitals, healthcare centres, beds and are expected to continue a positive trend in future. Doctor to patient ratio is 1:10 and nurse to patient ratio is 1:5.
- By the use of latest technical equipment, efficient health insurance, major corporate investments and the services of highly skilled medical personnel, the Gujarat healthcare sector has set itself on a boom.
- Healthcare sector in the State has potential to grow at a much faster rate in the foreseeable future and shall be numero uno in providing healthcare facilities.

Source: Public Private Partnerships in India: Ministry of Finance, 2006
### Healthcare Dynamics

#### Indian healthcare pie

- **35%** Infrastructure
- **14%** Medical equipment
- **11%** Pharmaceuticals
- **18%** Health insurance
- **5%** Medical value travel
- **2%** Revenues
- **1%** Health outsourcing
- **1%** Research laboratories
- **1%** Clinical trials
- **1%** Training and education

#### Gujarat - healthcare snapshot

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Medical equipment</th>
<th>Pharmaceuticals</th>
<th>Health insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary care constitutes 75% of total healthcare market of Gujarat</td>
<td>Welltronix, A.B.C. Sons, GE healthcare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 district and 25 sub district hospitals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welltronix, A.B.C. Sons, GE healthcare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zydus Cadilla, Claris, Aventis, Cadilla</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health insurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Govt. Schemes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Players</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health outsourcing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Claims processing, Medical Billing, Medical transcription and Medical Coding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Players - BVS Trans technology, Healthcare Informatics Pvt. Ltd</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical value travel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment at cost-effective rates, state-of-art medical facilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical research</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major hospitals are into clinical research on stem Cell therapy infertility, foetal medicine, Cardial Drugs and others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.B.B.S., Dental, Ayurvedic, Physiotherapy, Homeopathic colleges present across the State</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: IBEF Report 2007, Industry Analysis
Available Infrastructure and Resources

- Capacity building
- Nursing services
- Efficient manpower
- Hospital management
- Public health
- Bio-medical engineering
- Physiotherapists
- X-ray technicians

- Clinical
- State-of-Art Hospitals
- Blood Banks
- Diagnostics- MRIs, CT Scans etc

- Holistic wellbeing
- Yoga
- Siddha
- Meditation

- Support services
- Hotels
- Boarding and lodging facilities
- Catering

*Source: Industry Analysis*
Facilitating Good Health

No. of registered doctors: 42855
No. of registered nurses: 17551

**Health pyramid of Gujarat**

- Maternal Mortality Rate (Per '000): 172 (SRS*-2003)
- Infant Mortality Rate (Per '000): 53 (Source NFHS** III)

**NFHS – National Family & Health Survey**
**SRS – Sample Registration Survey**

* * Included Self Finance
Manpower and Education

**Manpower Statistics**
- Number of doctors: 42,285
- Number of nurses: 17,551

**Medical Colleges**
- MBBS – 13 (six Govt., Five Private & 2 Municipal)
- Homeopathic – thirteen
- Ayurvedic – nine
- Dental – Nine (Two Govt. and seven Private)
- Physiotherapy – Sixteen
- Pharmacy - Fifty

**Key Education Centres**
- Institute of Kidney Disease and Research Centre (IKDRC)
- Gujarat Cancer Research Institute (GCRI)
- U.N. Mehta Cardiology Research Institute
- B.J. Medical College Ahmedabad
- Medical College Baroda
- Government Medical College Surat
- M.P. Shah Medical College Jamnagar
- Government Medical College Bhavnagar
- Pandit Dindayal Upadhyay Medical College Rajkot
- Gujarat Ayurvedic University, Jamnagar
- Nathiba Hargovindas Lalbhai Medical College, Ahmedabad
- Surat Municipal Institute of Medical Education and Research, Surat

Source: Department of Health, Government of Gujarat
## Gujarat Growing as Medical Hub

### Gujarat Ayurved University
- Gujarat Ayurved University Jamnagar is the only statutory University of its kind both at national and international level - exclusively devoted to Ayurvedic studies and research
- Students from all over the world come here for studies
- This University is administratively linked to Ministry of Health and Family Welfare both at State and Centre indicating its special status.

### B.J. Medical College
- With the intake of 250 students per year, B.J. Medical College (Ahmedabad) is one of the largest source of medical manpower in the country
- Doctors from this college are found all over the world today as evidenced by the presence of the B.J. Medical Alumni Association in U.S.A., U.K. and other parts of the world

### Dental colleges
Some of the major dental colleges in Gujarat are Government Dental College - Jamnagar, K.M. Shah Dental College – Vadodara, Ahmedabad Dental College - Ahmedabad, Manubhai Patel Dental College – Vadodara and Dharamsinh Desai Institute of Dental Science – Nadiad

### Upcoming education facilities
- The State government is joining hands with private players to set up medical education facilities in the State
- Well known hospitals like Narayan Hriduyalaya, Fortis, Bombay Hospital and Artemis Group of Hospitals will set up Medical colleges in the State
Drivers of the Sector: Holistic Wellbeing

### The concept

- Hospitals and wellness centres now looking at **a comprehensive and holistic approach** towards treating their patients.
- **Naturopathy** or nature cure is fully developed and scientific system which utilises the scientifically designed dietary principle in combination with Yoga and physiotherapy for physical and mental health.

### Wellness centres- as centres of holistic well-being in Gujarat

- Kalpa Sidhi Health, Ahmedabad
- Life Care, Ahmedabad
- Mind Body Zone, Vadodara
- Reiki, Grandmaster, Vadodara
- Gujarat Ayurvedic University, Jamnagar
- Kudrati Upchar Kendra, Amreli

### Services offered in wellness centres in Gujarat

- Diet and nutrition
- Gym and fitness
- Yoga
- Herbal medicine
- Healing touch therapy
- Stress Management including relaxation, and meditation
- Reiki
- Acupuncture
- Acupressure
- Pranic and crystal healing
- Magnetotherapy
- Aroma Therapy

*Source: Industry Analysis*
Drivers of the Sector: Moving Up The Value Chain

- The healthcare sector in Gujarat has moved up the value chain by imbibing the global best practices to deliver seamless patient care of highest quality.
- Major corporate hospital groups such as Sterling, Apollo, Fortis, Wockhardt have made significant investments in setting up state-of-the-art hospitals in major cities of Gujarat.
- Greater emphasis on education, research and development.
- APOLLO tyres-promoted Artemis Health Science is finalising plans to set up a INR 500 crore medical education hub on the Surat Baroda-Ahmedabad highway in Gujarat.
- The medicity envisions a research centre, a medical college, nursing college, pharma college, medical administration college and a hospital which will have over 500 beds.
- Bombay Hospitals has signed an MoU during Vibrant Gujarat 2007 to establish a medical institute with Multi speciality Hospital to offer under graduate and post graduate courses.

ğer

Source: Industry Analysis
Drivers of the Sector: Health Insurance

- Health insurance policy not only covers expenses incurred during hospitalisation but also during the pre as well as post hospitalisation stages like money spent for conducting medical tests and buying medicines.

**Integrated insurance scheme, Gujarat**

- This Community based Health Insurance Scheme is run by the non-government organisation (NGO) Self-employed Women Association (SEWA), based in Ahmedabad, Gujarat

- One of its primary activities is providing financial services for women and this was widened in 1992 to include health insurance as part of a wider insurance package including life, accident and asset insurance

- The scheme covers:
  1. Inpatient care
  2. Hospitalisation cover, plus one-time payment for denture and hearing aid. Members can use any kind of hospital, public private or trust.
  3. Delivery benefits for fixed deposit members.

- There is a cap on reimbursement of INR2,000 per year. At the time of discharge, the member must pay for the bill and apply for reimbursement from the scheme

- The scheme is managed by SEWA which purchases medical insurance from a Government Insurance Company subsidiary National Insurance Company (NIC) and ICICI Lombard.

*Source: Department of Health, Government Of Gujarat*
Employees State Insurance Scheme, Gujarat

- Each person after joining an insurable employment, after completing certain formalities, is issued an identity card which has all essential particulars i.e. name, insurance no. of the IP, dispensary and local office to which he is attached and names of his/her family members.
- This card is a very important document and has to be produced while obtaining medical benefits
- Beneficiaries can claim treatment at the dispensary/clinic of the IMP to which he/she is allotted on the production of the card
- Total number of beneficiaries are around 5,14,000

Private players in Gujarat

- Bajaj Allianz Health Insurance Company Limited
- TATA AIG General Insurance Company
- Vysya life Insurance Company
- National Insurance Company Ltd.

Source: Department of Health, Government Of Gujarat
Drivers of the Sector: Impelling Technology

- Gujarat boasts of modern medical technology and well equipped healthcare facilities.
- The procedure costs around INR2 million in US whereas it can be accomplished for INR0.25 million.
- Muljibhai Patel Urological Hospital will become the only hospital in Gujarat and second after AIIMS in the country to start nephro–urological surgeries using robotic technology.
- Anand (a district in Gujarat) is renowned globally as a pioneer in offering paid surrogacy through the in-vitro fertilisation technique.

Current trends in Medical technology

- Micro-processor-based implantables in patients
- CPU-driven technology supported by artificial intelligence
- Robotics in OTs, path-labs/ research
- Instrumentation in medical and surgical practices
- Stem cell research
- Innovative treatments for cardiac and diabetic patients to be monitored with sensors installed in homes or devices such as mobiles
- Helping hand pill dispenser
- Electronic medical records
# Major Players in Gujarat

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Merits</th>
<th>Key Features</th>
</tr>
</thead>
</table>
| Civil Hospital | Civil hospital is a Largest in ASIA  
  ▪ Tertiary care hospital  
  ▪ It treats about 6 to 6.5 lakh outdoor patients,  
  ▪ The hospital admits 70,000 patients annually  
  ▪ It performs about 26,000, surgeries and 6,500 deliveries per year | State-of-art facilities for  
  ▪ Cancer treatment and research at GCRI  
  ▪ Kidney and urology-related ailments at the IKDRC  
  ▪ Cardiac diseases at the UN Mehta Cardiac Institute                                                      |
| Sterling Hospital | Sterling hospital is a  
  ▪ Multispecialty (Ahmedabad) hospital  
  ▪ Has a networth of over INR 1 billion  
  ▪ It has a capacity 300 beds  
  ▪ It has state-of-the-art infrastructure to provide high quality services across a range of specialties  
  ▪ Around 60-70 medico tourists visit the hospital for treatment | Has been rated Ahmedabad’s Best Hospital – 2007 by IMRB and “The Week Magazine”  
  ▪ First private bone marrow unit set up in Gujarat  
  ▪ Pathology department ranked 3rd in India and 10th in the world over  
  ▪ 150 successful cadaver and living related renal transplants                                                  |
| Apollo Hospital | Apollo Hospital is  
  ▪ Largest corporate hospital in Gujarat  
  ▪ It has a number of specialized clinics and centres of excellence  
  ▪ 400-bed  
  ▪ It handles around 10,000 patients every year  
  ▪ Its success rate of 98%                                                                                                                                 |
  |                                                                                                                          | Metal knee replacement surgeries  
  |                                                                                                                          | Renal transplant for both live donor and Cadaver  
  |                                                                                                                          | Stem cell transplant  
  |                                                                                                                          | Largest and most sophisticated dialysis Unit with an in-house reverse osmosis plant  |
## Major Players in Gujarat

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Merits</th>
<th>Features</th>
</tr>
</thead>
</table>
| **RAJASTHAN HOSPITALS** | Rajasthan hospital is  
- A charitable Trust  
- It has 230 beds  
- Its quality System Is Certified as fulfilling the ISO 9001-2000 standards  
- It provides medical relief by way of medical research, medical treatment and medical education | **Multi purpose laser centre**  
**Orthopedic hospital**  
**Handicapped centre**  
**Research unit** |
| **Mayflower Hospital** | Mayflower hospital is  
- The largest private care Women’s hospital in Western India  
- It is a 50 Bedded Hospital  
- It is a tertiary care super specialty hospital | **In vitro fertilisation**  
**Endoscopy (Laproscopy)**  
**Karl Storz in Germany is the key supplier of the medical equipments**  
**Mayflower children's hospital**  
**Neonatal intensive care unit (NICU)** |
| **N.M. Virani Wockhardt Hospital - World-class super specialty hospital (Rajkot)** | N.M. Virani Wockhardt Hospital - World-class super specialty hospital (Rajkot)  
- It has 200 beds  
- Rich medical expertise from Wockhardt’s association with Harvard Medical International (HMI), the international arm of Harvard Medical School, USA | **Dedicated Cardiothoracic and Orthopedic/ replacement operation Theatres**  
**True flat panel cardiac catheterization lab**  
**Dedicated super specialty hospital to offer comprehensive end-to-end care in cardiology, cardiac surgery, Neurology, neurosurgery, orthopedics, joint replacement and minimal access surgery** |
| **Banker’s Heart Institute** | Banker’s Heart Institute  
- Superspeciality cardiac centre  
- ISO 9001:2000 Certified heart institute  
- More than 4500 Cardiac Angioplasties | **Non Invasive cardiology**  
**Balloon Valvuloplasties**  
**Pacemaker implantations**  
**Coronary/ radial angioplasties** |
## Key Facts

### Expansion projects

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Investment plans</th>
</tr>
</thead>
</table>
| **Sterling Addlife India Ltd**          | • Surat–150 beds hospital – INR 700 Cr  
• Rajkot-125 beds hospital–by 2008  
• Mundra SEZ– 100 beds-by 2008 |
| **Medisurge Hospital**                  | • Ahmedabad Multi Specialty - 100 Cr  
• Surat- Oncology – 20 Cr  
• Rajkot- Oncology- 20 Cr  
• Bhavnagar- Oncology- 20 Cr |
| **Rajasthan Hospital**                  | • Medicity – Hansol Ahmedabad  
• Transplantation Hospital- Ahmedabad  
• Naturopathy Hospital –b Ahmedabad |
| **Pulse Women’s Hospital**              | • Palanpur– 1 Cr  
• Surat– 25 Cr |

### Foreign collaborations

- **Krishna Heart Institute** (New York)  
  - Private Equity Investor  
  - **Interfaith Medical Centre**

- **Sterling Addlife India Ltd.**  
  - **Actis Equity Firm**

- **Pulse Women’s Hospital Pvt. Ltd** (Ghana)  
  - Jubail Specialist Hospital

- **Mayflower Women’s Hospital Pvt. Ltd** (Germany)  
  - Karl Storz,

- **Apollo Hospital** (Bakersfield CA)  
  - Comprehensive Blood and Cancer centre (CBCC),

*Source: Industry Analysis*
Major Healthcare Players in Gujarat *

SAL Hospital
Medisurge Hospital
IKDRC

Source: Industry Analysis
* Indicative List
Upcoming Trends: Medical Tourism

Gujarat’s medical expertise and the strength of its facilities are better than those of some of the South – East Asian Nations and Gujarat hospitals are trying to do a lot more hard selling abroad. They are seeking to achieve this by measures such as Creating centre of excellence in respective fields, Developing a Network, Customised packages available and Quality stamp through accreditation from global certification agencies such as JCI.

Medical Tourism: Key Drivers In Gujarat

Advantage Gujarat

- No waiting list
- Experienced and qualified specialists
- Holistic medicinal services
- Language is another plus point – English widely spoken
- State-of-art multispeciality hospitals
- Each Corporate hospital receive about 60-70 international Patients per month (during October to March)
- 6 million Gujaratis spread across the world – constituting 32% of Indians abroad
- Gujarat contributes to 25-31% of Medical Tourism
- Highest number of airports in India
- Excellent rail-road connectivity

Source: Industry Analysis, Gujarat Infrastructure Development Board (GIDB)
Gujarat is poised to be a leader in the medical tourism development of India. This state offers tremendous potential to develop medical tourism particularly in its major cities like Ahmedabad, Baroda, Surat and Rajkot. Gujarat has world class medical facilities in its various hospitals, which have set new standards of healthcare in all disciplines of modern Medicine. Health care is available at very competitive charges so Gujarat has become a lucrative destination for people wanting to undergo the best treatment at cost-effective rates. There are excellent multi-specialty hospitals with ultramodern infrastructure which offers attractive options for foreigners and NRI. There are facilities for Indian system of medicine coupled with resorts and premium hotels, which offer various facilities aimed at attracting both the domestic and international tourist.

Source: Department of Health Government of Gujarat

### Cost benefits in Gujarat

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Cost in US</th>
<th>Cost in Gujarat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Heart Procedure</td>
<td>$50,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Joint Replacement Operation</td>
<td>$39,000</td>
<td>$4000</td>
</tr>
<tr>
<td>Root Canal</td>
<td>$100</td>
<td>$20</td>
</tr>
</tbody>
</table>

Source: Technopak Healthcare Outlook

---

### Upcoming Trends: Medical Tourism

- Medical tourists visiting India, 2000-2006

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>10,000</td>
<td>40,000</td>
<td>40,000</td>
<td>140,000</td>
<td>140,000</td>
<td>230,000</td>
<td>230,000</td>
</tr>
</tbody>
</table>

Source: Department of Health Government of Gujarat
Public Private Partnerships (PPP)

Benefits of PPP

- Cost effectiveness, higher productivity
- Accelerated delivery, clear customer focus
- Enhanced Social Service, Recovery of user charges

Current Infrastructure and future investments

Technologies like Telemedicine

Enhanced utilisation of resources, improved access to healthcare for remote areas and higher patient base for private players

Institute of Kidney Diseases and Research Centre (IKDRC), U.N.Mehta Institute of Cardiology and Research Centre And Gujarat Cancer Research Institute are government-funded institutes, administered by various private organisations

Public Health Institute (a part of London School of Science, School hygiene and Tropical Medicine and Havard School) will be established in the state. For 2008-2009 INR 200 million have been allocated (15% will be funded by the State Government and rest by Rashtriya Swasthya Aarogya Mission)

Source: Department of Health : Government of Gujarat
**Public Private Partnerships (PPP)**

- Five CHCs (Malav, Shamlaji, Rajsitapur, Mota Phospholiya, Golagandi) and PHC (Chansad) being run by Community based organisations. Shamlaji Hospital located in tribal area of Sabarkantha district of Gujarat is managed by All India Movement for Seva.

- Centre for Health, Education, Training and Nutrition Awareness (CHETNA) has been actively supporting a total of 14 mother NGO's working effectively to implement Reproductive and Child Program (RCH).

- Sarva Swastha Abhiyan (SSA, an NGO dedicated to taking quality healthcare to inaccessible areas) has opened 10 centres in the five predominantly tribal areas of Idar, Prantij, Bardoli, Hansot and Mundra that will be connected through telemedicine to the super speciality hospitals at Ahmedabad, Nadiad, Vadodara and Surat.

- Wockhardt Hospitals Group (WHG) along with the Government of Gujarat will conduct and manage the 275-bed Palanpur Civil General Hospital.

- PPP for delivery services under Chiranjivi Yojna (853 Gynecologist are part of the scheme).

- Gujarat Government with the Emergency Medical Research Institute (EMRI) will take care of road and fire accident victims on a 24-hour basis through the year by just dialing 108.
Medical Equipment Market

- Gujarat medical device industry consists of firms that produce a wide range of medical, surgical and dental products used for diagnosis and treatment of ailments
- The demand for hi-tech devices is growing in Gujarat
- Has great potential to tap the growing demand for hi-tech devices
- Several favourable factors, such as economic growth, free market environment, a developed industry and investment in health infrastructure, are driving increased demand for high quality medical devices in Gujarat

Some of the suppliers of medical equipments/ Diagnostic kits in Gujarat *

- Welltronix Instruments
- A.B.C.Sons
- Bhupendra Surgicals
- Excel Enterprise
- RLS Techno Services
- GE Healthcare

- Medical disposables
- Surgical instrument
- Otoscope
- Ear curettes
- Physiotherapy equipment
- Rehabilitation equipment
- Hot therapy equipment
- Cold therapy equipment
- Fitness equipment
- Slimming equipment
- Short wave diathermy
- Ultrasonic therapy
- Lumber traction
- Traction table
- Interferential therapy
- Muscle stimulator
- Tens and CPM
- Ophthalmoscopes

* Indicative List

Source: Industry Analysis
In order to initiate clinicians in the concept of scientific evidence-based medicine and to address burning medical and epidemiological questions, many hospitals in Gujarat are engaged into clinical research.

VEEDA CR, India's fastest growing Clinical Research Organisation (CRO), has opened its new clinical pharmacology Unit (CPU) at Muljibhai Patel Urological Hospital (MPUH), Nadiad, Gujarat.

- **Pulse Women’s Hospital PVT. LTD.**
  - Infertility, foetal medicine, embryology

- **Krishna Heart Institute**
  - Stem cell therapy, cardial drugs

- **Apollo**
  - Radiation therapy for cancer care

- **Rajasthan Hospital**
  - Plastic and Burns hematology
  - otolaryngology
  - anaesthesiology

- **Sterling Addlife India Ltd**
  - Nephrology, oncology, respiratory System, cardiology

- **IKDRC**
  - Nephrology

*Source: Industry Analysis*
Special Economic Zones: The Hidden Opportunity

- For a sector-specific zone a hospital with minimum bed strength of 25 is stipulated
- 100 beds for a multi product special economic zone
- Sterling multi-product SEZ in Gujarat, 45 kms from Vadodara is going to be an ‘Economic Hub’

Sterling SEZ Highlights

- Promoted by multi-billion dollar Sandesara Group
- Sandesara Group is known for creating world class facilities in many segments and business.
- Comprehensive infrastructure solutions meeting all the short and long term requirements.
- Integration of Business Living with education, healthcare and recreation
- Sterling SEZ is the most favourite destination because of world class environment, proximity to Vadodara, internationally competitive prices and single window clearance
Outsourcing in the healthcare sector has come a long way — from low-end claims processing and medical transcription to medical analytics and clinical processing.

Healthcare BPO is still not very large in Gujarat, but it has immense potential and is growing at fast pace.

Gujarat is home to Healthcare BPOs like BVS Trans Tech in Vadodara. In collaboration with its US partner Pertexa, it provides medical coding, billing and transcription services to doctors, lawyers and insurance professionals based in USA, UK and around the World.

Similarly, Healthcare Informatics Pvt. Ltd. (Vadodara) - a captive Healthcare KPO, is one of the biggest providers of Medical Transcription services in Western India.

It is the sister concern of Digidms Inc., U.S.A. - A Healthcare information software company.

Source: Industry Analysis
# Government Initiatives: Health Reforms

## Pre hospital emergency medical services
- **Golden hour concept: (Pilot Project Ahmedabad)**
  - 40% deaths following injury instantaneous
  - 30% death within hours – preventable if appropriate treatment can be provided within an hour
- **Components**
  - Multiple level trauma centres
  - Centralised ambulance services
  - Trained personnel
  - Injury surveillance/information system
  - Training / awareness of community

## Special innovations
- **Web-based Integrated Disease Surveillance Programme**
- **Improving MIS through computer applications**
- **State Medical Relief Society**
- **Indian system of medicine**
- **Hyderabad-based Emergency Medical Research Institute (EMRI) with GoG will take care of road and fire accident victims on a 24-hour basis through out the year by just dialing 108**

## Decentralisation
- **Financial Decentralization for Medicines and Maintenance**
  - 25% of allocated budget transferred to facility
  - No prior approval required up to INR 10,000
  - Rate contract system to be followed

## State medical relief society
- **INR40 million fixed deposit**
- **Interest spent on medical expenditure of BPL families**
- **Limit of INR15,000/- per patient**
- **80.54 lakhs utilised in 03-04**

"Source: Department of Health: Government of Gujarat"
Government Initiatives: Quality Assurance

- Quality Assurance Group (QAG)
- Quality Improvement Programme (QIP)
- National Accreditation Board for Hospitals and Health Care Providers (NABH)
- National Accreditation Board for Testing and Calibration Laboratories (NABL)

Each district has a QAG with a clear mandate for steering QA programme interventions.

- Eight Civil Hospitals
- One Teaching Hospital
- Six laboratories of All Govt. teaching hospitals

Investment information and credit rating agency of India (ICRA) limited has graded six hospitals under the grading agency’s pioneering services of Grading Healthcare Institutions in India. One medical college hospital – District Hospital Ahmedabad, Vadodara, Surat, Mehsana, Gandhinagar, Sola, Godhara and Junagadh.

Gujarat is the first state in Asia to bring its public hospitals under NABH. National Accreditation Board of Hospitals and Healthcare Providers (NABH) would certify general hospitals at Rajpipla and Junagadh, civil hospitals of Ahmedabad and Sola and the general hospitals of Gandhinagar, Mehsana, Bhuj, Godhara and Valsad.

Source: Department of Health, Government Of Gujarat
Government Initiatives: Chiranjeevi Yojna

- Chiranjeevi Yojna – a local name, meaning long life (of mothers and children)
- Gujarat health department worked out a scheme of PPP in 2005 to through a series of collaborations with key stakeholders to provide delivery care to the poor in rural areas
- The scheme was operationalised in 5 backward districts of the State with a total population of 9.7 million
- Most of the Chiranjeevi users have income levels less than INR 12,000 per annum indicating the scheme is able to target the poor families across the State
- Private specialist enrolled: 869/2000

<table>
<thead>
<tr>
<th>Outcome of Chiranjeevi Scheme: Mothers and New Born babies saved</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Deliveries under Chiranjeevi Scheme</strong></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>258361</td>
</tr>
</tbody>
</table>

Source: Department of Health: Government of Gujarat, February 2008
International Accolades

- Shortlisted by the Kennedy school of Governance as an important global initiative
- Asian innovation award
- WHO consulting for possible worldwide replication

Source: Department of Health: Government of Gujarat, February 2008

• The department of Health and Family Welfare, Government of Gujarat aims at minimising regional variations in the areas of Reproductive and Child Health (RCH) including population Stabilization through an integrated, focussed and participatory program.

• The entire State Health and family welfare team is working in a mission mode to achieve goal set in for the State and effectively dealing with the challenges. Convergence of strategies and progress is as described below:
Government Initiatives: Hospital Management and Information System (HMIS)

- Conceptualized by the department of Health and Family Welfare, Govt. of Gujarat
- Objective: To ensure the quality health using Information and Communication Technology (ICT) as the tool to provide standard clinical and diagnostic tools, hospital management tools and integration of management information at the state level to ensure online review and monitoring
- Aim: Management of vital patient records, analysis of the critical health related data so as to provide an updated planning and policy tool towards provision of quality health services
- Assists the doctors and medical staff to improve health services with readily reference patient data, work flow enabled less-paper process and parameterized alarms and triggers during patient treatment cycle
- Computer Society of India ; HMIS - Nili Hunt Awards for e-governance

Current status of HMIS project is as follows

<table>
<thead>
<tr>
<th>No. of Users</th>
<th>9000 +</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Modules</td>
<td>26+3 (MIS/EIS/Information Kiosk)=29</td>
</tr>
<tr>
<td>Size of Database</td>
<td>500 - 600 MB at each hospital. 3 GB at central server</td>
</tr>
<tr>
<td>No. of District Hospitals covered</td>
<td>24</td>
</tr>
<tr>
<td>No. of Teaching Hospitals covered</td>
<td>5</td>
</tr>
<tr>
<td>No. of LIVE Hospitals</td>
<td>29 (5 Teaching + 24 Non Teaching)</td>
</tr>
<tr>
<td>No. of registrations (Average Daily) ( Data for 13 LIVE hospitals)</td>
<td>750 per hospital. Overall Gujarat – 8000 +</td>
</tr>
<tr>
<td>Average No. of Transactions</td>
<td>Approx 1,00,000 per hospital</td>
</tr>
<tr>
<td>No. of Users Trained</td>
<td>9000 +</td>
</tr>
</tbody>
</table>
Government Initiatives: Swasthaya Bima Yojana Gujarat

Insurance scheme for the workers in the unorganized sector

- Unorganized sector workers belonging to BPL category and their family members a family unit of five, will be the beneficiary under the scheme
- Pilot Project for the five district Bharuch, Dahod, Jamnagar, Kutch and Patan this year. Covering around 4.5 Lakhs BPL families of 42 Talukas and over 3500 villages
- Entire state to be covered in five years

- Security against unforeseen health expenditure Cashless health facilities up to INR 30,000 (on floater basis for the family), for Medical emergencies

Shortlisted companies by government of gujarat

- ICICI
- Reliance
- Oriental
- New India
- Star Health Allied
- Cholamandalam
- United
Vibrant Gujarat – Global Investors’ Summit (VGGIS) is an initiative by the Government of Gujarat to promote the State as a potential investment destination. It was organized during 2003, 2005, and 2007 in Ahmedabad.

<table>
<thead>
<tr>
<th>Name of the Company</th>
<th>Project Details</th>
<th>Location</th>
<th>Cost (INR Crore)</th>
</tr>
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<tbody>
<tr>
<td>Apollo Tyres, Artemis Health Science (AHS)</td>
<td>Medical College cum Hospital Ayurvedic College Paramedical College Nursing College</td>
<td>Baroda</td>
<td>500</td>
</tr>
<tr>
<td>Wockhardt Hospitals</td>
<td>Tertiary Care Hospital</td>
<td>District Hospital Palanpur</td>
<td>2</td>
</tr>
<tr>
<td>Anoop kothari, VC Kapoor and Other</td>
<td>150 bedded multispeciality and superspeciality hospital</td>
<td>Surat</td>
<td>90-100</td>
</tr>
<tr>
<td>Public Health Foundation of India</td>
<td>Indian Institute of Public Health</td>
<td>Ahmedabad</td>
<td>140</td>
</tr>
<tr>
<td>United Phosphorus Ltd and Rotary Club of Vapi</td>
<td>1. Civil Hospital 2. Medical College</td>
<td>Valsad</td>
<td>Investment by GoG URMET Trust</td>
</tr>
<tr>
<td>Bombay Hospitals</td>
<td>Under Graduate and Post Graduate Medical institute with MS Hospital</td>
<td>Ahmedabad</td>
<td>150</td>
</tr>
<tr>
<td>Fortis Healthcare</td>
<td>Setting up a healthcare hub</td>
<td>Ahmedabad</td>
<td>750</td>
</tr>
<tr>
<td>Clinical Islet Transplant Group Inc</td>
<td>Clinical Islet and Transplantation for diabetes</td>
<td>Ahmedabad</td>
<td>450</td>
</tr>
</tbody>
</table>

Source: Health Department, Government of Gujarat
State Health Budget - 2008

Health

Allocation for Health and Family welfare in 2008-2009 has increased to INR 820 crore which is 56% higher than INR 525 crore allocated during 2007-2008

- INR 25 crore for getting accreditation for 6 govt. laboratories and 9 hospitals
- INR 32 Crore for qualitative ayurvedic and other alternative medicines
- INR 12 Crore for extending emergency service 108 in the entire State

Insurance scheme for BPL families of 5 districts in the State
INR 400 lakhs allocated for the purpose
Beneficiary to pay only INR 30/- incase Of medical expense upto INR 30,000 and serious illness upto INR 1,00,00

Gujarat State Health Infrastructure Development Corporation to be set up for excellence in infrastructural construction repairs and maintenance of health institutions

Post – graduate level hospital management course in North Gujarat University
Invest in Gujarat: A world-class Business Destination

- **Logistics park**
- **Kutch**
- **Jamnagar**
- **Porbandar**
- **Junagadh**
- **Amreli**
- **Bhavnagar**
- **Rajkot**
- **Surendranagar**
- **Banaskantha**
- **Patan**
- **Mehsana**
- **Himmatnagar**
- **Kheda**
- **Panchmahal**
- **Dahod**
- **Vadodara**
- **Bharuch**
- **Narmada**
- **Surat**
- **Navsari**
- **Valsad**
- **Anand**
- **Gandhinagar**
- **Ahmedabad**

**Knowledge corridor**
- Chemicals, petrochem., pharma, textiles and engineering

**Industrial corridor (DMIC)**
- 55 special economic zones (SEZs) across Gujarat
- Gujarat International Finance-Tec City
- Savli Biotech Park
- Petroleum, Chemicals and Petrochemicals Investment Region (PCPIR)
- Soda ash and salt-based industries, cement and steel pipes
- 202 industrial estates across Gujarat
- Petroleum and brass parts
- Engineering and ceramics
- 18 Captive Ports along 1600 km coastline across Gujarat
- Special Investment Region (SIR)
- Bio-Tech cluster
- 202 industrial estates across Gujarat
- 55 special economic zones (SEZs) across Gujarat
Investment Opportunities

Integrated medicity

Healthcare outsourcing (BPO)

Establishing global accreditations facilities

High – tech MRI/CT scan facilities

Establishing chain of primary public /community centres

Holistic wellbeing- yoga, physiotherapy, acupressure

Computer navigated surface replacement surgery of the hip and knee-joint

Low cost paid surrogacy through in- itro Fertilisation

Hospital management on rehabilitate, operate and transfer (ROT) basis

Clinical research and trials
## Key Contacts

<table>
<thead>
<tr>
<th>Department/Agency</th>
<th>Contact Information</th>
</tr>
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<tbody>
<tr>
<td>Health and Family Welfare Department, Govt. of Gujarat</td>
<td><a href="http://www.gujhealth.gov.in">http://www.gujhealth.gov.in</a></td>
</tr>
<tr>
<td>Commissioner of Health, Medical Services, Medical Education and Research</td>
<td><a href="cohealth@gujarat.gov.in">cohealth@gujarat.gov.in</a></td>
</tr>
<tr>
<td>Gujarat Industrial Development Corporation</td>
<td><a href="http://www.gidc.gov.in">http://www.gidc.gov.in</a></td>
</tr>
<tr>
<td>Industries Department, Govt. of Gujarat</td>
<td><a href="http://www.gujaratindustry.gov.in">http://www.gujaratindustry.gov.in</a></td>
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</tbody>
</table>