CHANG GUNG MEMORIAL HOSPITAL
To meet with the needs of medical services and technologies that were lagged behind the prosperous economic growth in 1970’s.

Limited educational and developmental opportunities for medical graduates.

CGMH gradually becomes a world class medical center and is now the largest hospital in Taiwan.
CGMH at Taipei (1976)

Break ground in 1974
Mr. Wang & his mother

Inauguration in 1976
CGMH at Linkou (1978)
A non-profit organization founded in 1976

The vision of the CGMH is to be one of the world’s best health care institution.
Chang Gung Medical Foundation (1976-2010)

7 acute hospital (9,980 beds)、Nursing home (349 beds)、Culture village (706 units)

- Linkou Branch: Number of Beds: 3,715
- Taipei Branch: Number of Beds: 300
- Keelung Branch: Number of Beds: 1,090
- Taoyuan Branch: Number of Beds: 691
- Chiayi Branch: Number of Beds: 911
- Yunlin Branch: Number of Beds: 522
- Kaohsiung Branch: Number of Beds: 2,751
- Taoyuan Nursing Home: Number of Beds: 349
- Taoyuan Health and Culture Village: Number of Beds: 691
Chang Gung Medical System-Schools

Chang Gung Technology University (Taoyuan)
Number of Students: 5,819
1988  Chang Gung Nursing College
2002  Renamed Chang Gung Institute of Technology
2011  Renamed Chang Gung Technology University

Chang Gung University (Taoyuan)
Number of Students: 7,141
1987  Chang Gung Medical College
1991  Renamed Chang Gung College of Medicine and Technology
1997  Renamed Chang Gung University

Chang Gung Technology University, Chiayi Branch
Number of Students: 1,833
2004  Enrolled students
# Medical System Human Resources

<table>
<thead>
<tr>
<th>Staff</th>
<th>Linkou Area</th>
<th>Chiayi Area</th>
<th>Kaohsiung Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor</td>
<td>1,546</td>
<td>277</td>
<td>768</td>
</tr>
<tr>
<td>Nurse</td>
<td>3,477</td>
<td>777</td>
<td>1,954</td>
</tr>
<tr>
<td>Technologist</td>
<td>1,696</td>
<td>359</td>
<td>840</td>
</tr>
<tr>
<td>Administration and others</td>
<td>3,248</td>
<td>572</td>
<td>1,294</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>9,967</strong></td>
<td><strong>1,985</strong></td>
<td><strong>4,856</strong></td>
</tr>
</tbody>
</table>

**Pie Chart:**

- **Linkou Branch**
  - Doctor: 35%
  - Nurse: 17%
  - Technologist: 16%
  - Administration & others: 32%

**Medical System Human Resources**

- Doctor
- Administration & others
- Nurse
- Technologist
Vertical Integration - Continuous Medical Care

Diverse and Inclusive

Medical Care

Acute
Taipei Branch (1976)
Linkou Branch (1978)
Keelung Branch (1985)
Kaohsiung Branch (1985)
Chiayi Branch (2001)
Yunlin Branch (2009)

Chronic
Taoyuan Branch (2003)

Long-term Care
Nursing Home (2001)

Health Care Service
Health and Culture Village (2005)

Establish a Complete Medical Care System
Horizontal Integration - Patient Centered Care

- Multidisciplinary Team care
- Cancer Center:
  - 19 Teams for individual cancer treatment
  - Set up standard guideline and treatment protocol
  - Quality Control and surveillance
  - Cancer registration and case manager
Allocating new facilities

**ISDTC** Intraoperative Synchronized Diagnosis and Treatment Center
Trends of outpatient visits at CGMH

- **Linkou**: about **13,280 visits per day**

<table>
<thead>
<tr>
<th></th>
<th>CY 2009</th>
<th>CY 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keelung</td>
<td>768,801</td>
<td>772,023</td>
</tr>
<tr>
<td>Linkou</td>
<td>3,362,367</td>
<td>3,280,567</td>
</tr>
<tr>
<td>Chiayi</td>
<td>674,687</td>
<td>690,714</td>
</tr>
<tr>
<td>Kaohsiung</td>
<td>1,826,230</td>
<td>1,798,092</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6,632,085</strong></td>
<td><strong>6,541,396</strong></td>
</tr>
</tbody>
</table>
Services

Trends of Emergency visits at CGMH

- **Linkou**: about **660 visits per day**

<table>
<thead>
<tr>
<th></th>
<th>CY 2009</th>
<th>CY 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keelung</td>
<td>72,352</td>
<td>69,053</td>
</tr>
<tr>
<td>Linkou</td>
<td>242,683</td>
<td>234,277</td>
</tr>
<tr>
<td>Chiayi</td>
<td>65,482</td>
<td>73,873</td>
</tr>
<tr>
<td>Kaohsiung</td>
<td>133,202</td>
<td>130,763</td>
</tr>
<tr>
<td>Total</td>
<td>513,719</td>
<td>507,966</td>
</tr>
</tbody>
</table>
Number of surgery

- **Linkou**: about **200 operations per day**

<table>
<thead>
<tr>
<th>Location</th>
<th>CY 2009</th>
<th>CY 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keelung</td>
<td>12,967</td>
<td>13,431</td>
</tr>
<tr>
<td>Linkou</td>
<td>85,719</td>
<td>84,830</td>
</tr>
<tr>
<td>Chiayi</td>
<td>14,195</td>
<td>14,357</td>
</tr>
<tr>
<td>Kaohsiung</td>
<td>37,589</td>
<td>37,118</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>150,470</strong></td>
<td><strong>149,736</strong></td>
</tr>
</tbody>
</table>
One-fourth of medical graduates in Taiwan have residency training programs in CGMH.
Featured Education

Environment for clinical skills training

• Construct National Clinical Skills Training and Examination Center
  – Certified by TMAC in 2010 as No. 1『High-level OSCE center』

• Diverse training courses for all paramedics
  – 224 course for 11,372 people since 2009

OSCE  Clinical Skills  Drills for safety
Collaboration domestically and internationally

- MOFA、ICDF designated training center (Palau、Kiribati、Vietnam…)
- 2010 – 328 trainee (65% international)
- Assoc Med Edu Europe 2011 – 12 papers (100% accept) (AMEE)
Training Programs for Foreign Doctors

2001-2010 totally 1,471 fellows

Turkey 24
Vietnam 37
U.K 43
Singapore 44
Japan 73
Thailand 76
Philippine 88
Korea 136
U.S.A 136
India 164
China 179
Others 471
Research Development

YC Wang Advanced Medicine & Innovation Park

- Proton & Radiation Therapy Center
- Center for Lab Animal Research
- Biomedical Research Building
## Papers Published in SCI (Scientific Citation Index)

<table>
<thead>
<tr>
<th>Year</th>
<th>Linkou</th>
<th>Keelung</th>
<th>Chiayi</th>
<th>Kaohsiung</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>528</td>
<td>37</td>
<td>47</td>
<td>240</td>
<td>797</td>
</tr>
<tr>
<td>2007</td>
<td>488</td>
<td>51</td>
<td>65</td>
<td>239</td>
<td>792</td>
</tr>
<tr>
<td>2008</td>
<td>621</td>
<td>50</td>
<td>66</td>
<td>289</td>
<td>954</td>
</tr>
<tr>
<td>2009</td>
<td>648</td>
<td>61</td>
<td>75</td>
<td>335</td>
<td>1,024</td>
</tr>
<tr>
<td>2010</td>
<td>699</td>
<td>69</td>
<td>93</td>
<td>350</td>
<td>1,083</td>
</tr>
<tr>
<td>Total</td>
<td>2,984</td>
<td>268</td>
<td>346</td>
<td>1,453</td>
<td>4,650</td>
</tr>
</tbody>
</table>
Nature, August 2009
Gain-of-function of mutated C-CBL tumour suppressor in myeloid neoplasms

Division of Hematology-Oncology, Shih LY

The Journal of Immunology, May 2009
Effector/memory but not naive regulatory T cells are responsible for the loss of concomitant tumor immunity

Department of Gastroenterology & Hepatology, Lin YC

HEPATOLOGY, April 2009
Long-term outcome of hepatitis B e antigen-negative hepatitis B surface antigen carriers in relation to changes of alanine aminotransferase levels over time

Department of Gastroenterology & Hepatology, Tai DI

Journal of Hepatology, April 2010
Chromatin remodeling factor Mll specifies neurogenesis from postnatal brain neural stem cells

Division of Brain Tumor, Huang YC
**Journal of Hepatology, April 2010**
Impaired liver regeneration of steatotic rats after portal vein ligation: a particular emphasis on (99m)Tc-DISIDA scintigraphy and adiponectin signaling

General Surgery, Yeh TS

**BLOOD, March 2009**
Hidden abnormalities and novel classification of t(15;17) acute promyelocytic leukemia (APL) based on genomic alterations

Division of Hematology-Oncology, Shih LY

**PNAS, August 2010**
Magnetic resonance monitoring of focused ultrasound/magnetic nanoparticle Targeting delivery of therapeutic agents to the brain

Neurosurgery, KC Wei
Research

2006~2010 SCI publications from different hospitals
# Research – Budget allocation

## Innovation and Research

- **Trends of Budget for medical research at CGMH**
- **Trends of Research project at CGMH**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Budget (Million)</strong></td>
<td>1,954</td>
<td>2,416</td>
<td>2,511</td>
<td>2,858</td>
<td>2,858</td>
</tr>
<tr>
<td><strong>No.</strong></td>
<td>1,605</td>
<td>1,818</td>
<td>1,944</td>
<td>2,092</td>
<td>2,092</td>
</tr>
</tbody>
</table>
## Development – Centers of Excellence

<table>
<thead>
<tr>
<th></th>
<th>Clinical Trial Center</th>
<th>Cancer Research Center</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project</strong></td>
<td>Establishing an excellent clinical trials and research center</td>
<td>Establishing an Excellent Cancer Research Center</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>New Drug (3), New Device (7); Translational (4); Tech Transfer (1)</td>
<td>SCI paper (44); Symposium paper (1); IP (2)</td>
</tr>
<tr>
<td><strong>DOH Budget</strong></td>
<td>5,886,094</td>
<td>6,968,008</td>
</tr>
</tbody>
</table>
Center of Excellence - Team approach

- Cancer Center
- Sleep Center
- Trauma & Critical Care Center
- Stroke Center
- Intraoperative Synchronized Diagnosis and Treatment Center
- Epilepsy Center
- Minimally Invasive Therapy Center
- Children Hospital
• Integrate all medical informatics
• Paperless and filmless
• Real time information to cope with rapid changing medical environments
• Share and exchange information between organizations or institutions
• Provide data for researches and decision-making
Featured Development  e-HOSPITAL

Digitized image

Education

PACS system

Electronic Medical Record
International Charity Medical Aid

- Free Medical Help: Medical Aid to Vietnam, Cambodia, Philippine….
  39,970 p’t; 45 seeds.
- Medical Supply Aid to Vietnam total 4500 pc (USD 2 million)
International Cooperation

• In 2011, 180 Groups Visit CGMH (China 157, Others 23)

  Deputy Minister of DOH, Mr. Chang

• International Official Visits

  Visit of A* Star, Singapore

  Singapore DOH and ChangYi Hospital

  Korea National Chonnam University Hospital
Social Responsibility
Core Values

- **Care**  Elevate the dignity of life, enhance the intimate mixture of nature and society, to benefit the mankind

- **Innovation**  Explore new ideas, deep-root the research and development ability, to build a versatile health care system

- **Quality**  Bench-mark learning, to provide patient-centered best quality of medical care
THE END