



**Taurus Glocal**

# TAURUS GLOCAL PROFILE

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7/2/2018

# MEDICAL TECHNICAL AND BUSINESS KNOWLEDGE ROLLED INTO ONE SINGLE HARMONIOUS FLOW

Horizontal breadth of the Healthcare Business Knowledge and Experience to understand What needs to be done, Why it needs to be done and the Trends.



Depth of Healthcare Technology in terms of Technical Architects who have spent their life working in Healthcare and can credibly pass off as Healthcare Professionals in a Healthcare conference

Depth of Medical Technology in terms of Doctors and Clinical staff who has spent their life working in Healthcare Technology and can have an intelligent technical conversation in a Technology conference

## BRIDGE BETWEEN VISION AND EXECUTION

Management and technology consulting by combining deep healthcare expertise with paradigm shifts in strategy, operations, technology and performance management.

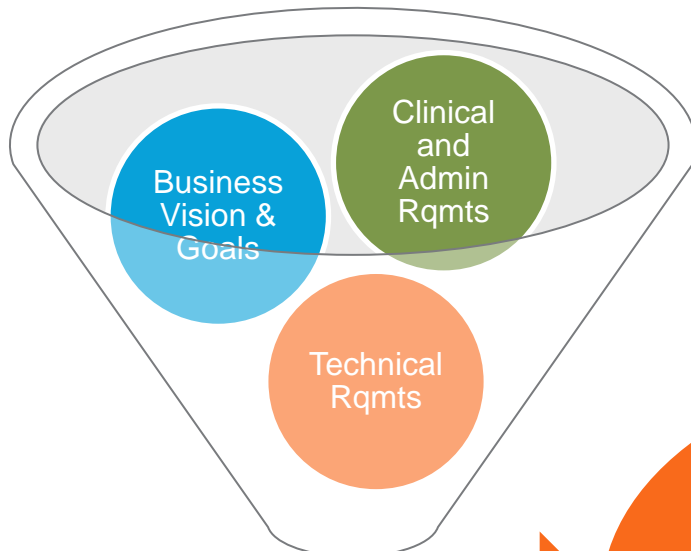
CLINICAL AND BUSINESS TRANSFORMATION TO ACCELERATE RETURNS

Consulting Services Portfolio	Consulting Services Details
Public Health Consulting	<ul style="list-style-type: none"> <li>-Public Health IT Consulting</li> <li>-Standards Consulting</li> <li>-Strategy Consulting</li> <li>-Program M&amp;E Consulting</li> </ul>
Healthcare IT Portfolio Management	<ul style="list-style-type: none"> <li>-Providing Technology evaluations and deployment strategies</li> <li>-Leading Clinical Transformation using Technology</li> <li>-Boot-Strapping Healthcare Organizational Change Management –CAUSE Methodology</li> <li>-Accelerating Health IT product innovation</li> <li>-Executing Quantitative Program Management Projects</li> <li>-Expertise to support US Meaningful Use Requirements</li> </ul>
Healthcare Quality Consulting	<ul style="list-style-type: none"> <li>-Building Next Generation Practices</li> <li>-Healthcare Processes Optimization Methodologies</li> <li>-Deploying Healthcare Service Innovation Strategies</li> <li>-Analyzing Root Causes and Risk Management Approaches</li> <li>-Decision Support for C-Level</li> </ul>
Healthcare Facility Planning	<ul style="list-style-type: none"> <li>-Green-field Hospital design including IT, process and people planning and program management</li> </ul>
Healthcare Investments Portfolio Consulting	<ul style="list-style-type: none"> <li>-Force Multiplier Framework</li> <li>-Defining Market Entry and Growth Strategies</li> <li>-Rationalizing and Maximizing healthcare investment portfolios.</li> </ul>
Capacity Building	<ul style="list-style-type: none"> <li>-Healthcare Education</li> <li>-Healthcare Skill Development</li> </ul>



# HEALTHCARE-IT STRATEGY WORKSHOP - OVERVIEW

## Phase I - Assessment



Filter as per IT Standards for Healthcare

## Phase II – Formulation of Recommendations



Formulate CRM enabled IT Portfolio and Clinical Transformation Plan



Healthcare-IT Roadmap including Technology, Process and People



Guidelines for Clinician Driven Governance Model



Recommendations for Setting up TG + Client joint PMO to Monitor Execution of Projects



Healthcare-IT Product and Vendor Sourcing Guidelines

7/2/2018

# TG FORCE MULTIPLIER FRAMEWORK: HEALTHCARE ECOSYSTEM



# HEALTHCARE TECHNOLOGY AND HEALTHCARE QUALITY PROJECTS DONE BY TG

PROJECTS*	CUSTOMER
<p>Public Health IT study done with national health systems resource centre [NHSRC], as a background study for ICT sub-group of Health SIC and inputs to the 12th Plan.</p> <p>Consultant for Health Domain Meta Data and Data Standards [MDDS] development project with MOHFW, and NHSRC as project secretariat.</p>	<p><b>MOHFW, Govt of India</b></p> 
<p>TG has worked with Hospitals for IT Strategy Consulting, PMO, Product Selection, Vendor Selection, Change Management</p>	 
<p>Worked with Angel Funds and large PE/VC, to advise on their Healthcare investments in India.</p>	  
<p>TG has worked with Chain of Clinics for IT Strategy Consulting, PMO, Product Selection, Vendor Selection, Change Management</p>	  
<p>Indian Cancer Society Delhi Branch has appointed TG as the Comptroller of Data and IT Systems</p>	
<p>TG is working in healthcare management education: Dr Gupta has been on the academic advisory board of international institute of healthcare management and research [IIHMR] Delhi and is a visiting faculty to Apollo Medvarsity and Chitkara University.</p>	 
<p>TG has been doing product management consulting for consolidating the Healthcare Application portfolio of TCS</p>	
<p>Advisors to the Board of Top 3 Hospital Chains in Saudi Arabia and PMO for building and commissioning 3 new Hospitals.</p>	<p>Cant Disclose Name due to NDA</p>

\*TG believes in a Partner Ecosystem based on trust and integrity. TG treats all its vendors, collaborators and customers as valuable partners.

7/2/20



# CASE STUDY 2 – A LARGE HOSPITAL CHAIN OF 3 HOSPITALS OVER 300 BEDS EACH IN RIYADH

## WHAT –

Engaged by the Chairman's Office to setup a high profile PMO to evaluate the expansion plans of the Hospital Chain

This includes Building Design, Architecture, Project Plans, Equipment Planning, IT infrastructure, IT Applications portfolio and the related Financials

## WHY –

Key Objective is to stop the bleeding of cash that has been happening due to ad hoc working without proper planning.

Reinstall the Confidence and Credibility of the Hospital Management as it got dented due to excessive bleeding of cash in the expansion program

## HOW –

Get an external Expert team consisting of Hospital Architects, Process Experts and IT Experts to Validate the Strategy, Design, IT, Process, Plans and Financials

Structured Workshops in Dubai and Riyadh to study the documentation in detail. Extended Interviews of the relevant stakeholders including the CxO and the Board members.

Setup a joint high powered PMO under the Chairman's office to implement all the changes

Structured Planning for Medical Devices - ICU, ECG, EEG, LIMS, Lab Analysers, CT, MRI, Modalities, RIS, PACS, Surgery, Scopes, Nursing Devices, BCMA, CPOE, CRM.

## IMPACT –

The internal teams, processes, templates and tools got developed to manage the Expansion program.

The bleeding of Cash slowed down. It could have stopped but the Chairman couldn't implement all recommendations due to cultural issues.

The organization saved \$ 27 Million due to the suggested changes over 2 years period.

# CASE STUDY 3 – A LARGE HOSPITAL CHAIN OF 3 HOSPITALS OVER 300 BEDS EACH IN JEDDAH

## WHAT –

Engaged by the Chairman's Office to study the Hospital expansion program and validate the IT Roadmap.

Develop the Clinical Transformation plan

Provide Validations and/or Recommendations about the way forward in terms of Fully Digital Hospital Design

## WHY –

Chairman has invested \$ 7 Million into 2 HIS products A and B, where B was designed to replicate A. Also B was to be developed in new Digital technology and replace A.

Whereas both A and B took different paths and diverged so much from each other that the whole investment seems to be at risk.

The A product team and the clinical staff has fallen in love with the product A.

## HOW –

Get an external Expert team consisting of Hospital Process Experts and IT Experts to Validate the Strategy, Design, IT, Process, Plans and Financials

Structured Workshops in Dubai and Jeddah to study the documentation in detail. Extended Interviews of the relevant stakeholders including the CxO and the Board members.

Setup a joint high powered PMO under the Chairman's office to implement all the changes

Structured Planning for Medical Devices - ICU, ECG, EEG, LIMS, Lab Analysers, CT, MRI, Modalities, RIS, PACS, Surgery, Scopes, Nursing Devices, BCMA, CPOE, CRM.

## IMPACT –

The internal teams, processes, templates and tools got developed to manage the Expansion program.

The Hospital Board got a framework for making a decision on the HIS and Digital Hospital Design.

The A product team and the clinical staff has fallen in love with the product A. Hence rip and replace isn't an option. Gradual upgrades are planned on the product B over 3-4 years.



# CASE STUDY 4 – RGCI CANCER HOSPITALS

## WHAT –

TG was engaged as a Consultant to design, build and implement a Tele-Radiology system

Convert the existing Radiology unit to a commercially viable Tele-Radiology centre

## HOW –

TG worked with clinicians, staff and administrators to standardize the Tele-Rad processes and prepare the ground for IT implementation.

TG wrote the RFP, floated the RFP, evaluated the responses, Selected the vendor.

TG setup the PMO to oversee the implementation and change management.

## WHY –

RGCI anyways gets a lot of requests for Radiology reads and second opinions on Cancer diagnosis.

RGCI wants to convert it into a profit centre and a viable business model not only for 1 location but for multi-locations.

## IMPACT –

Replaced the legacy RIS/PACS with a Tele-Rad capable RIS/PACS on the private cloud. The product can share data across locations.

Now RGCI has the technical and process standardization for Tele-Rad. Pending a Board decision to approve the business case to make Tele-Rad a profit centre or keep it as a service in-house.

# CASE STUDY 5 – NXXXXXXA HXXXXXXXXXA HOSPITALS

## WHAT –

TG outsourced the CMIO office from NH.

TG was engaged to provide strategic inputs for standardizing the processes to enable the design and implementation of a clinical decision support system.

## WHY –

NH believes that clinical processes need to be streamlined, and documented before designing and implementing a clinical decision support system.

Only a Techno-Functional expert can look at the clinical and hospital processes and design a Healthcare-IT system suited for the processes.

## HOW –

TG worked with clinicians, staff and administrators to standardize the hospital processes and prepare the ground for IT implementation.

TG helped NH create a Techno-Functional team from within NH.

TG selected and engaged external vendors for design and development – SI, Products and US university.

Structured Planning for Medical Devices - ICU, CCU, Emergency, ECG, EEG, LIMS, Lab Analysers, CT, MRI, Modalities, RIS, PACS, Surgery, Scopes, Nursing Devices, BCMA, CPOE, CRM.

## IMPACT –

Design of a clinical decision support system is ready

Development will be done by an SI partner

US university will help implement, test, improve and adopt the product on a global level

# CASE STUDY 6 – NATIONWIDE CHAIN OF CLINICS

## WHAT –

TG is engaged with NW to setup the IT roadmap

TG is doing the PMO for selection of products/vendors for implementation and support of the IT Roadmap

TG is also helping NW standardize and document their operations and clinical processes.

## WHY –

NW has a target of rapidly growing, and that growth cant be achieved without commensurate IT setup.

NW needs external help from experts for process and IT consulting. NW doesn't have the IT skill sets and bandwidth to do all of this internally.

## HOW –

TG engaged with NW and put together a complete IT roadmap for NW to be rolled out in 3-4 phases.

TG has setup a PMO with Techno-Functional and Project management experts for product/vendor selection.

TG is defining SLAs and Support model

Structured Planning for Medical Devices - ECG, LIMS, Mobile Lab Devices, X-Ray, RIS, PACS, Minor Surgery, Scopes, Nursing Devices, CPOE, CRM, Home Visits, Remote Monitoring.

## IMPACT –

An IT product based roadmap has been built to support NW grow to a chain of clinics across India

# CASE STUDY 7 : MDDS HEALTH DOMAIN STANDARD

- MDDS is an initiative taken by Department of Electronics and Information Technology (DeitY) to promote the growth of e-Governance within country by establishing interoperability across e-Governance applications. This will help in semantic standardization and when aligned with the integration solutions will ensure interoperability among disparate systems.
- MoHFW engaged Taurus Global Consulting and UHG to write the MDDS for Health Standard. This has now been approved and rolled out.
- National Identification Number for Healthcare Facilities of India [NIN HFI] is based on MDDS
- IHIP Health Information Exchange will be based on MDDS for Health

## Building Blocks of MDDS Health Domain

- The health domain landscape are broadly divided into **39 Entities**.
- These entities are described and qualified with the help of **1077 Data Elements**.
- Values of Data Elements are categorized under **Data Elements (735), Values List (201) & Code Directories (141)**
- **Meta Data** are constructed to define **each Data Element and Code Directory** to establish Interoperability Standards
- Interoperability Standards
- Reference Architecture for Interoperability

Institutional Interoperability

Syntactic Interoperability

Semantic Interoperability

# CASE STUDY 8 – PUBLIC HEALTH IT STUDY REPORT WITH NHSRC, GOVT OF INDIA

## WHAT –

This is an assessment of public health IT systems in India.

It is an attempt to learn from the past, look forward and leap ahead. The findings and recommendations will feed into the 12th Plan and the ICT sub-group of the Healthcare SIC.

## HOW –

While it was not possible to study every system existing, we have picked up a representative set that was diverse enough to extract critical findings that need urgent attention.

Systems studied: RCH Systems – Web portal, MCTS, DHIS; National Health Programs – IDSP, Malaria, NACO; State IT Systems – HMIS TN, eMamta Gujarat, AP public health IT.

## WHY –

In the absence of any national guidelines for ICT in public health, various national programs and States have taken the lead in building their own IT systems. However most of them have not achieved their own objectives. The adoption of these systems fell after the initial surge. They have become islands of data collection systems that don't talk to each other.

## IMPACT –

The report formed the basis for the ICT sub-groups report to the Health sector innovation council.

Most of the recommendations were adopted by the Health sector innovation council

The team got an opportunity to present the findings to the Planning commission. Many recommendations got included in the 12<sup>th</sup> plan.

# CASE STUDY 9 – INDIAN CANCER SOCIETY DELHI

## WHAT –

TG is the Comptroller of Data for ICS.

TG is helping ICS for deriving information out of data collected in screening.

TG is trying to solve the Treatment Compliance and Drug counterfeit issues of Cancer.

## HOW –

TG has implemented opensource EMR on the cloud and automated the screening process.

TG is enabling ICS for implementing Teleradiology solution such that the images from the mobile vans can be reported remotely.

TG is implementing CRM for improving engagement with people who have been screened.

## WHY –

Drug Counterfeit and Treatment Compliance is a major issue in Cancer.

Need to engage better with the community.

Need to create an Ecosystem for Cancer including screening, treatment, pharma, insurance and Govt.

## IMPACT –

The real impact is yet to be seen. It is a long drawn process to be achieved over many years.



# CASE STUDY 10 – A LARGE INDIAN IT SERVICES MAJOR'S HEALTHCARE DIVISION

## WHAT –

Product Strategy Consulting, Product Management Consulting, Useability Consulting

Process Standardization and KPI Definitions for their Customers

Large Complex RFP Response Management across multiple geographies and multiple International Partners

For a Medical Device Customer – Strategy Consulting (Business, Service and Technology)

## HOW –

TG was engaged as a strategic advisor at the Top Leadership level.

TG's Partner was embedded inside the customer organization for over 1.5 years.

## WHY –

Need to consolidate Healthcare projects spread across verticals and horizontals in the organization

Need to develop product driven services. Hence build Healthcare Products and Platforms capability

## IMPACT –

The internal teams, processes, templates and tools got developed to manage the Healthcare products, platforms and customers.



**Taurus Glocal**

# TAURUS GLOCAL CONSULTING

## CONSULTANT PROFILE

DR PANKAJ GUPTA

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7/2/2018

## **DR PANKAJ GUPTA**

Dr Gupta is a qualified Dental Surgeon with an Executive MBA from IIMB. He also has a PG Diploma in Computers and a Special Diploma in Bioinformatics.

Dr Gupta is a NABH and ISO certified consultant. He has applied Healthcare Quality standards for Healthcare process optimization.

Dr. Gupta has over 2 decades of Healthcare industry experience which enabled process improvements, IT cost reduction, organization change management, and business transformation through implementation of Healthcare-IT solutions for Hospitals, Life-sciences and Pharma companies.

Dr Gupta has been on the academic advisory board of IIHMR Delhi, a leading healthcare management institute.

Dr Gupta is a member of the ICT subgroup of SIC in Health, part of the National Innovation Council under the Prime Minister's Office, GOI

Dr Gupta is a Board Member of HIMSS India Chapter.

Dr Gupta is Health Innovator in Residence @ The International Centre for Health Innovation, Richard Ivey School of Business, The University of Western Ontario.

As a founder of Taurus Glocal Consulting Dr Gupta leverages healthcare business knowledge and technology insight to provide business transformation across all healthcare stakeholders.

Has played a vital role in meta data and data standards consulting with Ministry of Health and family welfare, Govt of India.

Clinical transformation of Max Healthcare using IT as a change agent. Handled the complete ITO as the P&L leader from Perotsystems.

As part of Infosys - Healthcare-IT standards consulting for a large HIS company in US.

As part of Infosys - Provided strategy consulting to a large pharmaceutical packaging company to conceptualize and build the first ever online comprehensive chronic care management program.

Developed EHR product for Infosys as part of the Canada eHealth go to market strategy.

Setting up of captive offshore centre for CERNR, a market leader in Hospital information systems, for R&D, cost arbitrage and market outreach.

At FCG, Conceptualized and implemented business transformation services for large US hospitals e.g. by building 24/7 IT operations support.

As part of Satyam – Setup the PMO and implemented the first FDA validated offshore services centre in India for a UK based Pharma company.

As part of Applied Biosystems Inc., a sister concern of Celera Genomics - Led a project for building an intelligent configurator to support the selection of DNA molecules for the Microarray plates, involved in the Human Genome project.

Aetna: Developed a Health plan configurator for Claims. This is to develop an actuarial engine that enables the brokers & underwriters to do need analysis and configure the best health Insurance plan for members. The rule based system also had a intelligent rating engine to calculate the risks due to fraud and abuse.

## **DR PANKAJ GUPTA – KEY TRANSFORMATION PROJECTS**

**MDDS** - Has played a vital role in meta data and data standards consulting with Ministry of Health and family welfare, Govt of India.

**Max Healthcare Transformation** - Handled the complete ITO for 12 Hospitals of Max Healthcare as the P&L leader from Perotsystems.

**Infosys** - Developed HIE product for the Canada eHealth go to market strategy.

**CERNER** – Trained 150 fresh Engineering, Biotech, MedTech Grads. Setup up captive offshore Engineering centre in Bangalore.

**CPOE** Evaluation tool for The LeapFrog Group. Now adopted by ONC US Govt.

**FCG 24/7** Hospital IT management – follow the sun model

**Genes Patent** – Satyam Bioinformatics team found unique genes in the malaria vector.

**Human Genome Project** – DNA Microarray Configurator plugin between CRM and ERP. Patented by Applied Biosystems [ABI] – Thermofisher Scientific.

## DR GUPTA'S PAST HOSPITAL HEALTHTECH EXPERIENCE

HOSPITAL'S NAME	LOCATION	SCOPE OF SERVICES	PERIOD	ROLE
MAX HEALTHCARE GROUP OF HOSPITALS	8 Hospitals existing and 4 new Hospitals	Total IT Outsourcing: Planning, Implementation and Support - including Equipment Planning, Hardware, Software, System Integration, Services. Integration with Medical Devices - ICU, ECG, EEG, LIMS, Lab Analysers, CT, MRI, Modalities, RIS, PACS, Surgery, Scopes, Bar Code, Medication Administration and Nursing Devices, Computer on Wheels, Mobile CPOE Orders Devices, Retail Pharmacy, CRM, Physician Mobile, Remote Monitoring Devices	2009-2010	P&L Leader for Perotsystems, Client Executive for Max Healthcare
CERNER'S HOSPITAL CUSTOMERS	Across USA	Engineering new solutions and Support services - Bug Fixing and Call Center support for US Hospitals. Integration with Medical Devices - ICU, ECG, EEG, LIMS, Lab Analysers, CT, MRI, Modalities, RIS, PACS, Surgery, Scopes, Nursing Devices, BCMA, CPOE, CRM, Mobiles.	2005-2006	Client Executive and Engineering Manager
UHHS,	CLEVELAND OH, USA	Planning, Implementation and Support for the software application portfolio for the IT Dept. Includes planning, implementation and Integration with Hospital Equipments.	2003-2005	Project Manager with FCG
UMMHC,	BOSTON, USA	Planning, Implementation and Support for the software application portfolio for the IT Dept. Includes planning, implementation and Integration with Hospital Equipments.	2003-2005	Project Manager with FCG
NYU MEDICAL CENTRE	NY, USA	Planning, Implementation and Support for the software application portfolio for the IT Dept. Includes planning, implementation and Integration with Hospital Equipments.	2003-2005	Project Manager with FCG
NY BLOOD BANK	NY, USA	Planning, Implementation and Support for the software application portfolio for the IT Dept. Includes planning, implementation and Integration with Hospital Equipments.	2003-2005	Project Manager with FCG
ARDENT HEALTHCARE	NM, USA	Planning, Implementation and Support for the software application portfolio for the IT Dept. Includes planning, implementation and Integration with Hospital Equipments.	2003-2005	Project Manager with FCG

## DR GUPTA'S PAST MEDTECH EXPERIENCE

CLIENT'S NAME	LOCATION	SCOPE OF SERVICES	PERIOD
SEILER FOUNDATION, IROC EYE HOSPITAL	GERMANY	Worked with an German Angel fund as Digital Product Design and Strategy consultant. Social Media, Mobile Health Devices, Remote monitoring devices, LIMS, Lab Analysers, Imaging Devices, PACS, HIS, HIE, AI, Cloud, CRM, IoT, Chronic Disease Management.	2015
NORWEST VENTURE PARTNERS, ATTUNE	INDIA	Worked with a large US based PE fund, to advise on their Digital Healthcare investments in India. The India fund size was approx \$25 Million. Social Media, Mobile Health Devices, Remote monitoring devices, LIMS, Lab Analysers, Imaging Devices, PACS, HIS, HIE, AI, Cloud, CRM, IoT, Chronic Disease Management.	2011-2014
CANT DECLARE DUE TO NDA	INDIA	Strategic consulting for a \$100 Million Pharma packaging company transforming into a social media, mobile health PDA, analytics, cloud, CRM, IoT business for Chronic Disease Management in India and APAC.	2007-2009
AGILENT LIFE SCIENCES	CALIFORNIA USA	I developed a data warehouse to integrate the pharmacogenomics, data with pharmacovigilance, clinical trials data, toxicology data, gene expression and SNP data from the research lab devices and also external data from public domain sources to give an integrated view to the scientists for doing cross analysis.	2001-2003
JOHNSONS AND JOHNSONS	RARITAN NJ USA	Lifesciences Data Analytics Expert (Drug Discovery and Clinical Trials): Built-up Satyam's Lifesciences unit which included recruiting, training, project planning and business development. Data Mining, Artificial Intelligence, Machine Learning, Neural Networks, Apriori, Self Organizing Maps, Genetic Algorithm, etc. Pattern Recognition. Image Recognition. Predictive Analysis. Parallel Processing, Super Computing, Cluster Computing etc.	2001-2003
HUMAN GENOME PROJECT	FOSTER CITY CALIFORNIA USA	I developed a intelligent Configurator for the DNA Oligo factory genetics, genomics lab devices - Probe, Oligo, PCR in Applied Biosystems Inc.	1999-2001



# CASE STUDY : MAX HEALTHCARE

## Phase I: Infrastructure Upgrade completed

- Centralized Service Desk for L1 support and triage to L2 and L3 teams
- Converted the P2P network to a MPLS private cloud
- HIS and all other software applications of 7 Max hospitals are now running from the Dell data center
- HIS re-engineered and stabilized to take the load of new environment
- Integration with Medical Devices - ICU, ECG, EEG, LIMS, Lab Analysers, CT, MRI, Modalities, RIS, PACS, Surgery, Scopes etc.
- Bar Code, Medication Administration and Nursing Devices
- Computer on Wheels, Mobile CPOE Orders Devices
- Retail Pharmacy, CRM, Physician Mobile, Remote Monitoring Devices

## Phase II: Implementing Electronic Health Record System - Completed

## Phase III: Implementing mobile solutions for telemedicine and creating Health Information Exchange

## Business Benefits realized by Max Healthcare:

- Infrastructure is now ready to take the load of decision-support and clinical applications
- Cloud-based plug-n-play environment for new facilities coming up across India
- Business downtime due to infrastructure and HIS outages is history
- Hospital process re-engineering for clinical transformation done



**Extensive press coverage  
in Aug/Sep 2010 followed  
by Cover story in eHealth  
magazine Oct/2010 issue**

## DR R BALAJI

Dr Balaji has over 2 decades of experience in Clinical practice, hospital management, clinical research and Healthcare-IT.

He has worked across APAC and Europe ; representing both healthcare providers and vendors in the healthcare IT industry .

Dr Balaji is skilled in management and technical solutioning in diverse areas of healthcare and technology domains.

He has an MD in Family Medicine as well as Postgraduate academic qualifications in Technology Management

He is also currently a member of the University of Missouri's Healthcare R&D Advisory Board.

As a founder of Taurus Glocal Consulting Dr Balaji leverages healthcare business knowledge and technology insight to provide business transformation across all healthcare stakeholders.

He has led a wide variety of healthcare business transformation and innovation related consulting engagements across the globe including Clinical transformation of Parkway Hospital Group Singapore using IT as a change agent.

He has worked within all areas of healthcare technology ranging from design and development to product strategy, healthcare IT strategy and Hospital IT department management. He has been associated with leading the development and implementation of innovative and cutting edge clinical information systems and clinical decision support systems for a number of hospitals in Singapore. This included working with Health Informatics Standards such as HL7, ICD9, ICD9 CM, ICD10, SNOMED, LOINC, DICOM, Good European Health Record and others. He has also ideated a number of solutions in Infosys.

His experience spans a diverse range of technology evaluations and deployments, ranging from IT infrastructure, databases, operating systems and development platforms to HIS, EMR and Clinical Decision Support systems.

Dr Balaji has practiced paediatrics , running paediatric hospitals and Level III intensive care units as well as conducted clinical research in India. He has published articles in the Journal of Allergy and Immunology.

He has undertaken a number of courses in Knowledge Engineering from the National University of Singapore covering diverse expert system technologies, such as genetic algorithms, constraint programming, case based reasoning, rule based engines, neural networks and machine learning.

## **KRISHAN BHARDWAJ**

Krishan has 13+ years of experience in Healthcare Technology implementation, Design and Development of Healthcare solutions and more than 6 years of experience in architecture , design and solutioning the enterprise scalable web applications mostly in Healthcare domain.

Krishan has designed several large scale enterprise web applications using server side frameworks such as Spring MVC, Struts 1.x and Node.js and client side frameworks such as Bootstrap,2.x ,Angular.js etc .He has worked on several open source technologies including java/j2ee, Spring, Hibernate, Ajax, Apache Axis, Apache CXF for SOAP and REST web services and talend opensb for ESB framework , Krishan is HL7 certified and has designed several enterprise application integrations using EAI patterns. He has worked on both relational databases such as Oracle,MySQL and Post relational databases such as MUMPS and Intersystems Cache and document oriented databases e.g.MongoDB. Krishan has broad understanding of developing mobile apps on Android and iOS platforms and is currently leading a development team with extensive experience in developing Mobile apps.

Krishan is MBA from SMU and a science graduate. He has a PGDCA from CDAC and is certified from HL7 India and has vast experience of working on **MUMPS and Intersystems Cache** technologies.

He architected a cloud deployed web EMR application for a chinese mobile company,

He architected Open source VistA EHR solution for a major Indian client Hospital chain. The database was deployed on virtual server farm in a HIPAA complaint Data center on a hosted model and was accessible from all client hospitals over MPLS cloud network.

Developed HL7 and DICOM interfaces for ADT, RIS and PACS system for Max Healthcare.

At HCL ,Designed and developed web 2.0 based LOR online portal system for placing online lab order and viewing results for Quest Diagnostics. He has designed a HL7 framework for integration of Lab order and results with LIS system. Designed a data warehousing framework to develop MIS Reports for Healthcare applications.

At iSOFT provided data migration solution for migrating data from i-series applications into Lorenzo and worked on problem management project for NHS Trust Hospitals in Netherlands and UK. He worked with Lorenzo product development team as System Analyst and designed several OPD and IPD modules.

Worked on designing and developing customized solutions in all Healthcare modules (ADT,LAB, RIS, PACS, Medical Billing and Reports) for leading Indian hospitals such as Fortis, Escorts, Sir Ganga Ram Hospital ,Max Healthcare and overseas NHS Trust hospitals in UK and Netherlands.

Krishan has worked in architecture design and technical solutioning of big enterprise applications . He has been associated with leading the development and implementation of **TrakHealth** EHR and Lab systems for a number of hospitals in India. This included development of DICOM, LAB, Medical Billing and clinical record. system He has been associated with the technical management of projects in Healthcare domain for large number of indian and overseas clients.

He has worked on several leading technologies ranging from Java, J2EE , Dot Net , Intersystems Cache and MUMPS to provide innovative and cutting edge IT solutions.

## PRIYANKA YADAV

She is a BSc. BioMedical by education and has accomplished Post Graduation in Healthcare & Hospital administration from IIHMR- a leading healthcare management institute in India.

Priyanka has experience of Healthcare industry which provides the process knowledge of various healthcare/ Hospital systems, Requirement Analysis, Business Analysis, Project Management, and System planning, while structuring customized solutions .

Priyanka is skilled in planning Medical Equipments, specialising in Medical Lab Equipments for Micorbiology, Pathology and Genetics, Healthcare IT Management & consulting which includes handling onsite Implementation of clinical systems and Business process Consulting at various Multispecialty Hospitals

She has been associated with implementation of Hospital information systems and electronic medical records for hospitals in India and abroad. This included analyzing the healthcare business model, Healthcare function specific processes, and unique client requirements and has provided domain expertise for integration of optimized IT solutions.

Being a part of Dell Go Live Support Team she has handled VistA EHR implementation during which she provided on site support and simultaneous training of the Doctors at Max Healthcare, Saket

Involved in development & configuration of health care products ranging from requirement gathering & solution mapping , developing Story boards for software testing, and performing Functional & internal acceptance testing for the developed software.

She has exposure to health care IT solutions of the industry and has hands-on experience of clinical modules like CPRS & CPOE, BCMA(Bar coded Medication Administration), Materials, OPD, IPD, Diet and ancillary modules like Ayurveda, palliative , spiritual care as well as back office modules like Doctor's Payment, Material Management – Purchase & Stores Mgmt and MIS

She also has proficiency in project coordination activities viz developing Statement of Work, project plan and execution together with the project manager.

## DR. PRIYANKA CHAUHAN ARORA

Dr. Priyanka is a qualified dental surgeon with post graduation in Hospital and Health Management from IIMR- New Delhi. She also holds a Post Graduate Diploma in Medico Legal Systems in India from Symbiosis- Pune.

She is certified Business analyst from ISEB (BCS): The Chartered Institute for IT, United Kingdom. She is also certified PRINCE2: Foundation and Practitioner. She has attained Green and Bronze belt certification in Lean Six Sigma and successfully implemented it in a corporate hospital .

With more than 6.5 years in Healthcare IT industry she holds experience in Business Analysis, Healthcare IT (Provider/Payer), Practice Management System (PMS) and Electronic Medical Record (EMR/EHR/HIS) Implementations such as EPIC, MD Synergy, Bizmatics/ Prognocis with HIPAA compliance, Evidence Based Measures(EBMs)/ Clinical Decision Support System (CDSS) and Consulting.

She is a Guest Faculty at Delhi Pharmaceutical University for Hospital Management and Public Health subjects.

With Parthenon Technologies Pvt Ltd. as Senior Business Analyst/Consultant- Designed new clinical workflows for clients to comfortably adapt to new EMR/EHR. Bridging gaps by identifying them, liaison with client and technical teams and building business solutions.

With Xavient Software Solutions India Private Ltd., (Healthcare Implementation) as Senior Business Analyst- Transformed clients from legacy to newer version of MD Synergy practice management system/ electronic medical record based on cloud.

Expertise in requirement gathering, EMR configurations, analysis, testing's and training of client. Documentations such as Functional Requirement Document (FRD), wireframes, test cases, build procedures, workflows

With Milliman Consulting Pvt Ltd. As Clinical Analyst- Worked on scoping and development/authoring, updating of the evidence based measures (EBMs) based on various quality stewards such as HEDIS /NCQA etc.

Built test case scenarios, secondary research, data analytics using MS Excel and basic SQL as platform.

With Xavient Software Solutions India Private Ltd., (Healthcare Implementation) as Business Analyst- End to end implementation of MD Synergy as EMR, for various US based providers/ organization (2-10 providers) by changing there clinical workflows from paper based to IT based workflows.

Participated in the core team, building new PMS product on cloud, thus bringing innovative ideas that could benefit end users in long run.

With Accenture Technology Private Ltd., (Health and Public Services), as Business Analyst- Worked on implementation and support of EPIC as EMR for chain of hospitals based in North Carolina.

Worked across multiple modules of EPIC such as Ambulatory, Clinical Documentation and Procedure Orders (Also cross trained in Emergency, Opt. Time)



**Taurus Glocal**

**THANKS**  
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