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ATA Business and Finance Sig Webinar

Business 101: Utilizing an ROI model to evaluate telemedicine growth strategies

14 February 2011

The Future is Now:

Adopting ***Business 101*** strategies to develop distance delivery sustainability planning and projections.

Business Practices in Distance Delivery Strategies?

- Case Study for Telemedicine
- Telemedicine programs have outgrown ability to thrive utilizing existing “one off” funding models
- New Players in the emerging market, understand Business Models

Stages for Business Life-Cycle

- Emergence
- Growth
- Maturity
- Regeneration
- Decline

Business Life-Cycle Stage Characteristics

- Emergence
- Growth

Business Development Components

- Start-Up Costs
+ Timeline
+ Ongoing Expenses
+ Income Potential
= **RETURN ON INVESTMENT (ROI)**

Business Modeling:
ROI Components

What can Business Life-Cycle bring to the Telemedicine discussion?

- Revenue Modeling
- Cost Modeling
- Pricing Modeling
- Return on Investment Modeling (ROI)

Business Modeling:
ROI Components

What can Business Life-Cycle bring to the Telemedicine discussion?

- An understanding of the full cost of implementing or growing a Telemedicine delivery system
- Understanding revenue streams needed to support Telemedicine providers and programs
- A Common Language to discuss the case for telemedicine

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REACH™ | Acute Care Anywhere

Using ROI with Telemedicine Customers

Presented by REACH Health, Inc.

Nirav Desai, Senior Vice President – Physician Services

February 14, 2011

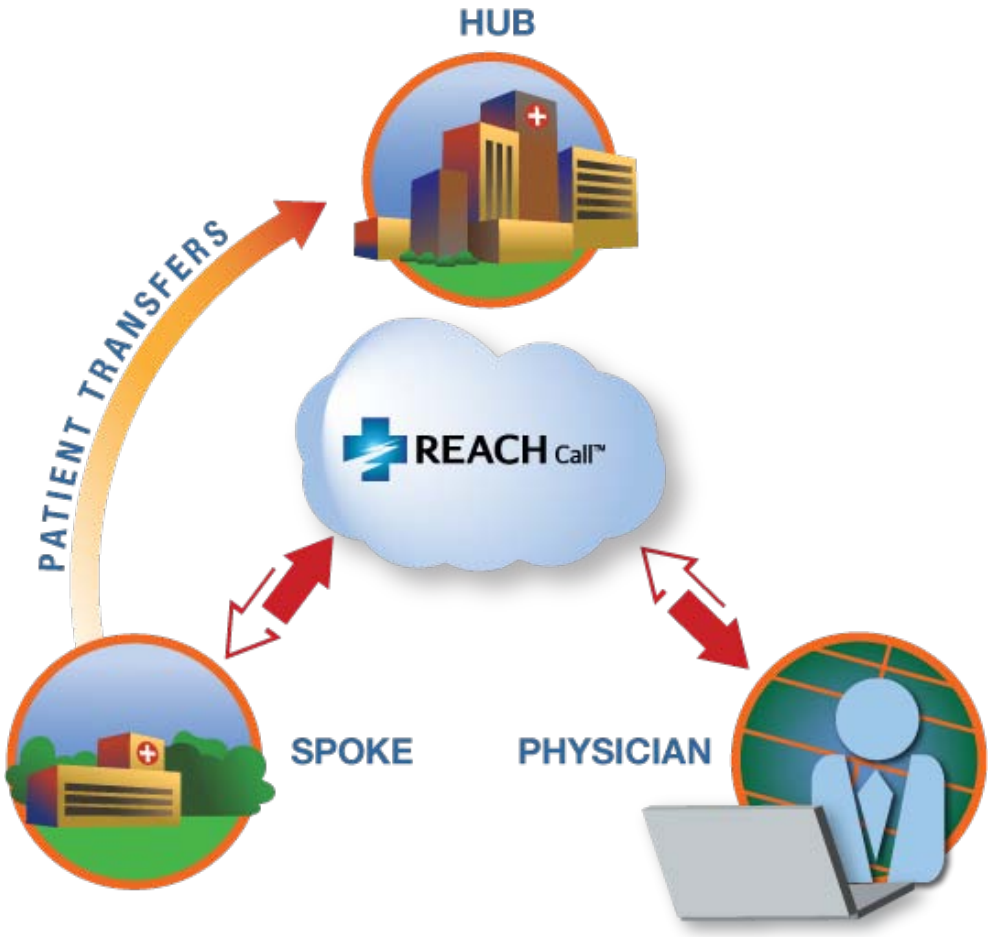
What Makes Telemedicine Complicated?

- Fundamentally, we create a virtual environment for collaborative decision-making in acute healthcare care situations such as stroke
- New technology
- New relationships
- New call coverage requirements
- New practices (coordinating virtual collaboration)
- Capital investment + ongoing expenditures
- Administrative visibility and oversight
- Concerns over liability

Sustainable Telemedicine Programs Require Administrative Buy-in

- Administrative concerns
  - Return-on-investment
  - Strategy
  - Competitiveness
  - Liability
  - Anti-referral

General Concept of a Telemedicine Network



The Structure of a Telemedicine ROI Analysis

- Build the case on incremental differences from the status quo
- What care capabilities do you have such that patients would benefit from being provided the right care, at the right place?
- Hubs and Spokes require different ROI models
- Sections of a business case
  - Assumptions
  - Volumes
  - Revenues
  - Expenses
  - Financial measures

Telemedicine ROI Models for Hubs

- Hub ROI drivers
  - New transfers from new spokes
  - Getting the “right” transfers from existing spokes
- Volume: convert transfers to a case mix
  - Possible volume drivers: # of beds, or # of annual ED visits at spoke hospitals
- # of transfers to hub
  - Transferred case mix varies by region, relationship, spoke capabilities
- Revenue: determine margins for case types

Telemedicine ROI Models for Spokes

- Spoke ROI drivers
  - New patients: minimizing unnecessary bypasses
  - Fewer transfers: keeping patients that would otherwise have been transferred without telemedicine
- Volume: convert new and kept patients to a case mix
  - Possible volume drivers: # of beds, or # of annual ED visits at spoke hospitals
- # of transfers to hub
  - Transferred case mix varies by region, relationship, spoke capabilities
- Revenue: determine margins for case types

Telemedicine ROI Model: Expenses

- Technology expenses
  - Equipment and installation
  - Ongoing licensing/subscription/support fees
- Physician call pay
- Incremental FTE's to support telemedicine program
- Credentialing
- Expense considerations
  - Does the hub subsidize the spokes or require them to contribute?

Telemedicine ROI Model: Financial Metrics

- Operating Margins
- Cash Flows
- Net Present Value (NPV)
- Return on Investment or Payback Period

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Thank You

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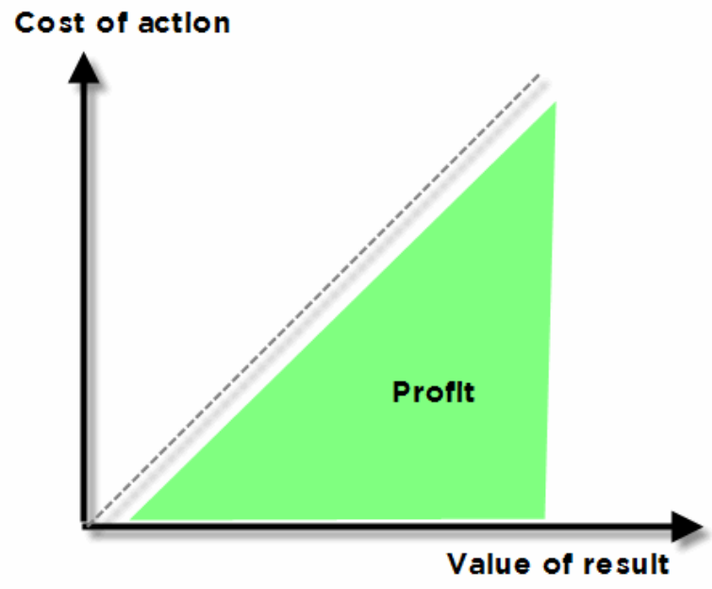
Perspective on Telemedicine/Tele-presence Return-On-Investment



Presented by:

Dave Shinnebarger
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American Telemedicine Association

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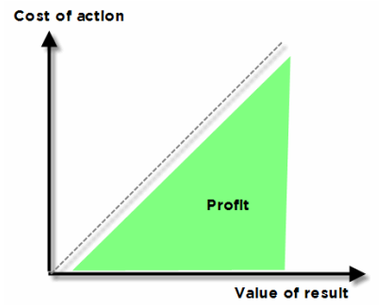
ROI Defined



$$ROI = \frac{(\text{Gain from Investment} - \text{Cost of Investment})}{\text{Cost of Investment}}$$

Keep it simple.

The benefit (return) of an investment is divided by the cost of the investment;

dividing the net income of an investment by the total value of all resources that have been employed to make and sell the product.

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Set Up the Problem

First – clearly define the problem you are trying to solve. State the problem in a business context, for example:

Problem: XYZ Health Care Systems would like to improve the quality of patient flow from outlying community hospitals. We need to better leverage our cardiac care resources and facilities, and improve our share of market for cardiac services.

Define Your Solution/Goals

Solution: Extend the capabilities of XYZ's specialists resources and acute care facilities to reach and serve patients in suburban and rural communities with little or no comparative resources.

Goals:

1. Improve the quality of patient flow/referrals
2. Better leverage our specialist capabilities and acute care facilities
3. Improve market share for cardiac services

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Economic/ROI Model

Calculating XYZ Health Care Systems Financial Benefit -

Incremental Revenue Generated/Costs Avoided

Specialists consultation revenue (employed/owned resources)

+ Referred Patients x Revenue/Contribution for ER treatment
+ Referred Patients x Revenue/Contribution for Specialist treatment/procedure(s)
+ Revenue/Contribution for facilities/services revenue
+ Costs avoided due to patients load leveling (deploying surgical team at 3:00am)
+ Costs avoided by reduced logistics for specialist resources

Incremental Costs Generated

- Equipment costs
- Data Communications costs
- Staff training costs
- Marketing costs promoting the new service into affected markets

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Management Metrics

Changes in hospital business data should be measured – both hard and soft factors:

- Patient referral patterns by facility or zip code
- ED patient mix (ratios of indigent, Medicare, Private, cash)
- Practice patient volumes (Cardiac, Neurologic, Ortho, ICU)
- Estimated value of patient load leveling at referring facilities
- ED patient flow efficiency & effectiveness
- Staff attitudes and perceptions of technology & process changes (adoption vs. rejection – makes my life easier or more complicated)
- Quality of relationships with referring facilities

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Data Collection & Model Validation

Proposed Data Elements for baseline and model development

REVENUE TREE – 3 years of data preferred

- **Case/patient volume in the top 2-3 practice areas - DRG, CPT-HCPCS level of detail**
- **Revenue history for ED**
- **Revenue/contribution margin history, by practice**
- **patient flow histories from each of the identified referring partner facilities for last 3 years (baseline)**
- **Patient diagnostic breakdown for ED**

COST TREE – 3 years of data preferred

- **Cost history, by practice area**
- **Cost history for ED**
- **Training cost estimate**
- **ED patient treatment data by payor (Private, cash, Medicare, unpaid)**
- **Number of patients treated in ER and were not high acuity (any other indicator that the patient could have been treated & released by primary care physician or first-aid)**
- **Ambulance cost data (local market)**

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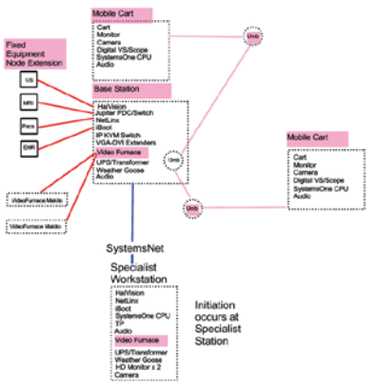
S1 Tele-Presence Hardware Configuration – Version 1.0

Master Hospital Configuration

XYZ Health Care Systems

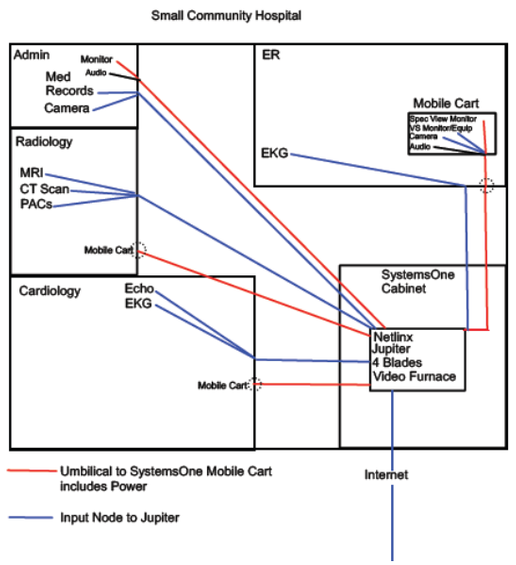


1 - Base Station
2 - ER/ED Carts
3 - Specialist Consult Stations (Cardiac, Neurology, Orthopedic)
1 – Video Furnace

Connecting facility EHR, PACs, MRI, CT Scan, Echo, EKG, and other patient modalities through one hub to umbilical outlets anywhere patient care is provided. Connecting Specialist Consult Stations to in-house ER/ED and to Community Hospitals. Specialist Consult session recording/playback enabled.

Networked Hospital and Community Hospital Configuration

XYZ Health Care Systems



1 Base Station
1 ER/ED Cart

Connecting facility EHR, PACs, MRI, CT Scan, Echo, EKG, and other patient modalities through one hub to umbilical outlets anywhere patient care is provided.

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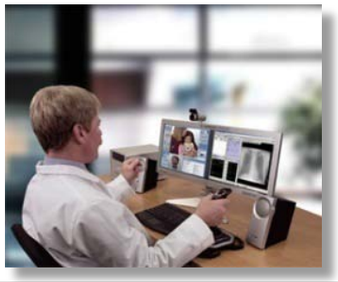
Version 1.0 XYZ Health Care Systems
New Remote Clinical Diagnostic System

Scheduled Consults

24X7 Access

ER Consults



Community Hospitals

- CMC Coulee Medical Center
- EARH
- FCPHD Ferry County Public Hospital District #1
- BCH Benewah Community Hospital
- **Et.al.**

Business Goal: Improve referral patterns and quality

XYZ Health Care Systems

Emergency Room

Business Goal: Build patient volume in key practice areas

XYZ Health Care Systems

Service Lines

- Cardiac Services
- Neuroscience
- ICU
- Orthopedic

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Decision Point

- Positive system benefits (financial and qualitative) = grow the project

- Negative system benefits = assess quality of project implementation, refine and re-measure or plow the project

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Contact Us

For more information about SystemOne solutions for ambulatory and acute care tele-presence clinical diagnostic platforms and networks, please reach out to us at:

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