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Vermont Hospital Sustainability

Implementing Value-based Care

12 January, 2022

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A business of Marsh McLennan

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The Problem

PROBLEM STATEMENT FOR SMALL VERMONT HOSPITALS

- Eight of 14 Vermont hospitals have Operating revenue ranging from -0.9% to – 12.8% (GMCB)
- The Proportion of Total hospital revenue (ED and Inpatient) in these facilities from potentially avoidable admissions ranges from 21.5% - 37%. (Mathematica)
- Average daily census (ADC) in Small Vermont hospitals averages 15 inpatients. (GMCB)
- Analysis of bed needs for 2026 in Vermont hospitals showed reduction of 153 beds for hospitals other than UVM (BRG)
- Model of basic support personnel costs for a 20 bed hospital with ADC of 5 inpatients and a skeletal ED staff yields total cost of $2,200,000.00 This does not include any medical support for ED, OR or inpatient care. (OW analysis)

- **How can Health Services be provided to these communities understanding these and other constraints?**

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CURRENT STRESSORS FOR HOSPITALS AND HEALTH SYSTEMS

- Nursing shortage nation wide- "Travelling Nurses" now $ 300.00 per hour – vs. $ 34.00/hr previously
- Increasing salaries for PAs, APRNs, CRNAs, Lab techs, Respiratory and other therapists (increases 30-40%)
- Shortage of workers in entry level jobs- housekeeping and dietary
- Physician Shortages in Primary Care, Intensivists, Emergency Medicine, Neurosurgery, Behavioral Health, etc.
- Hospitals forced to reduce elective surgery because of need to care for COVID patients (reduced income)
- Graduating physicians seeking employment and limited hours/week (BLM 50 hr/week for MD)
  - Most new physicians expect call schedule of 1 in 6-8 nights (4-5 nights per month) true in most specialties
- Difficulty recruiting physicians and nurses to rural areas
- In small hospitals lack of sufficient volumes in OB/ many types of surgery to maintain quality
- Rapidly increasing costs of pharmaceuticals and supplies
- Supply Chain shortages including drugs (often generic)

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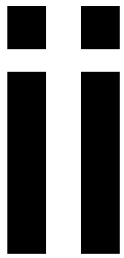

Geisinger as a model of an Integrated Health Services Organization

COMPARISON OF VERMONT TO GEISINGER HEALTH SYSTEM

State of Vermont

- Population: 624,000
- Surface area: 9,616 sq. miles
- Number of practicing MD/DO: 1,959*
- Number of hospitals: 14
- Number of CAH: 8
- Number of Hospital beds: 1468
- Number of rural counties: 13/15
- Medical School
- Level I trauma and 1 Level II
- Children's Hospital

- * excludes non-residents, telehealth $ < 4hr/wk

Geisinger Health System

- Population served: 685,105 (total 2.2 M)
- Surface Area: 25,000 sq. miles
- Number of employed MD/DO: 1,600
- Number of Hospitals: 11
- Number of CAH: 1
- Number of hospital beds: 1435
- Number of rural counties: 19/32
- Medical School
- Level I Trauma and 2 level II
- Children's Hospital
- Marworth Alcohol and Chemical Dependency Unit
- EPIC as universal EMR
- Centralized Telehealth Hub
- Centralized Scheduling
- Centralized Transfer Center and patient transport
- Centralized Lab Services

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Geisinger Health System

An Integrated Health Service Organization

- Geisinger Medical Center and its Shamokin Hospital Campus
- AtlantiCare Regional Medical Center- Mainland and City campuses
- Geisinger Wyoming Valley Medical and its South Wilkes-Barre Campus
- Geisinger Community Medical Center, Scranton, PA
- Geisinger-Bloomsburg Hospital
- Geisinger-Lewistown Hospital
- Holy Spirit Hospital
- Marworth Alcohol & Chemical Dependency Treatment Center
- 8 outpatient surgery centers
- 2 Nursing Homes
- Home health and hospice services covering 20 counties in PA and 3 counties in NJ
- >144K admissions/OBS & SORUs
- 2,720 licensed inpatient beds

- Multispecialty group
- ~1,500 physician FTEs
- ~970 advanced practitioners
- ~215 primary & specialty clinic sites (101 community practice)
- 1 outpatient surgery center
- ~3.8 million outpatient visits
- ~495 resident & fellow FTEs
- ~475 medical students

- ~560,000 members (including ~89,000 Medicare Advantage members and ~194,000 Medicaid members)
- Diversified products
- ~68,000 contracted providers/facilities
- 45 PA counties
- Offered on public & private exchanges
- Members in 4 states

Moody's Aa2/Negative
Standard & Poor's AA/Stable

GEISINGER MEDICAL CENTER
DANVILLE, PA

GEISINGER FACILITIES, PROVIDER AND HEALTH PLAN SERVICE AREAS

Geisinger
Region and service area map

West
North-Central
Northeast
Central
Southeast
South-Central
Wyoming
Luzerne

Geisinger inpatient facility
Geisinger ambulatory surgery center
Geisinger ambulatory campus
Geisinger urgent care clinic
Geisinger primary care clinic
Affiliated hospital
Affiliated ASC
Affiliated primary care clinic
CommunityCare
U.S. interstates
Primary service area
Secondary service area
Region outline
GHP service area
Other inpatient facility
Philadelphia hospitals

GEISINGER POPULATION HEALTH MANAGEMENT

Unique Population Managed

A Better Measure of Healthcare Activity

	6/30/2013	6/30/2014	6/30/2015	6/30/2016
Unique Patients	583,939	608,884	752,705	978,160
Geisinger Insurance Members	429,135	478,501	509,890	551,518
"One Geisinger" (Both Patient & Member)	(182,739)	(214,191)	(235,937)	(256,463)
Unique Population Managed	830,335	873,194	1,026,658	1,273,215

- Provider System manages 685,105 patients per year with approximately 2.5 million active patient records

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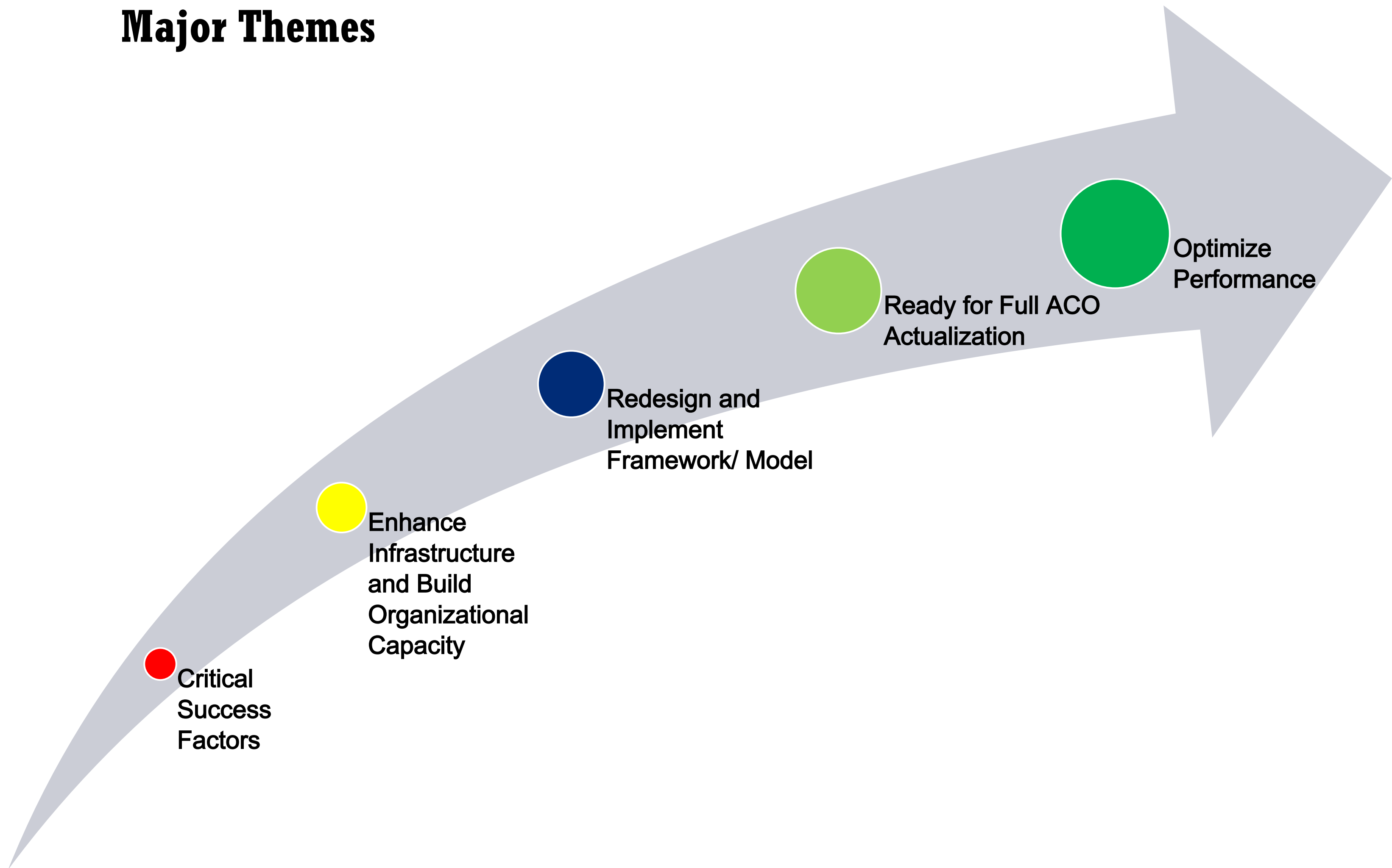
GEISINGER'S JOURNEY

Major Themes



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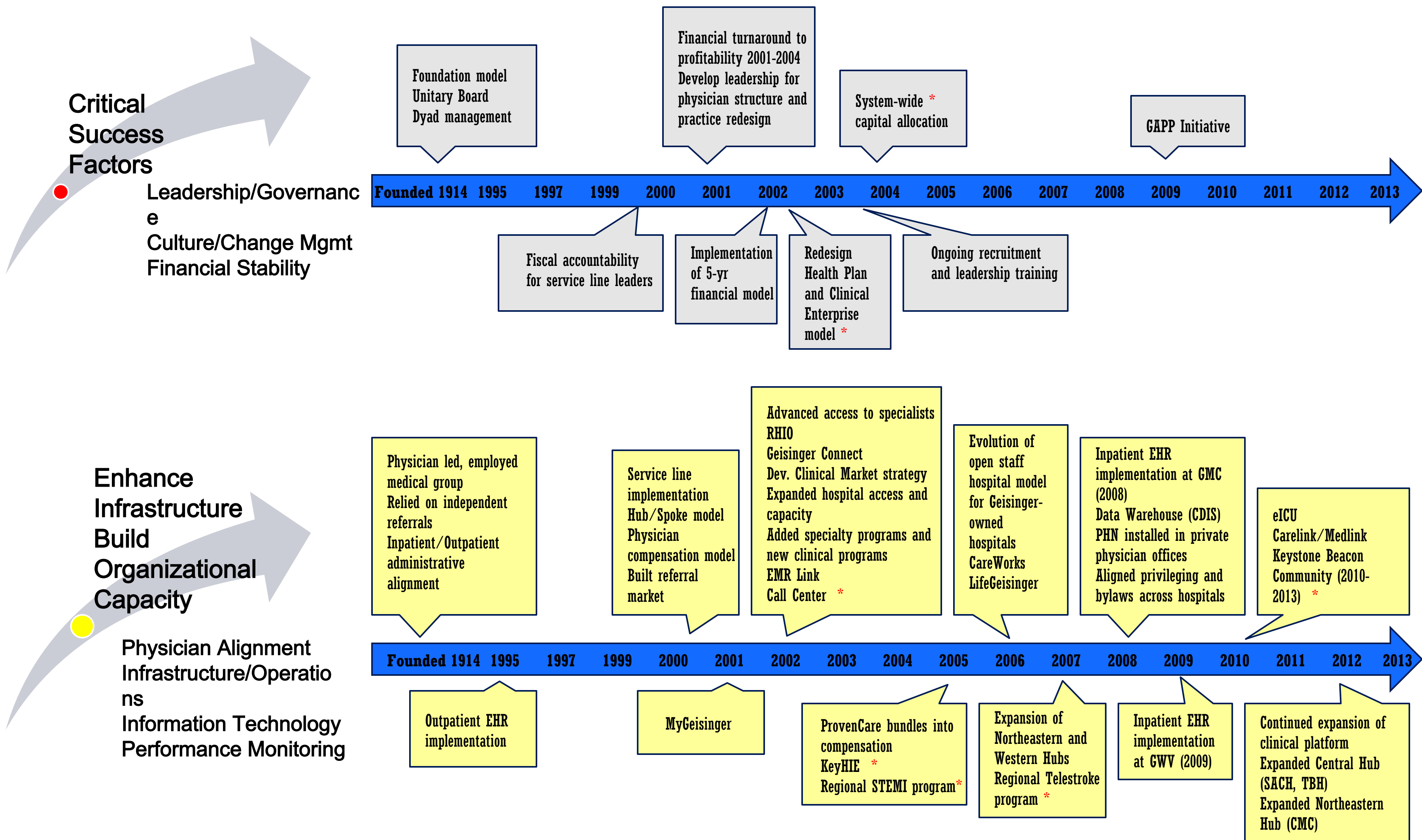
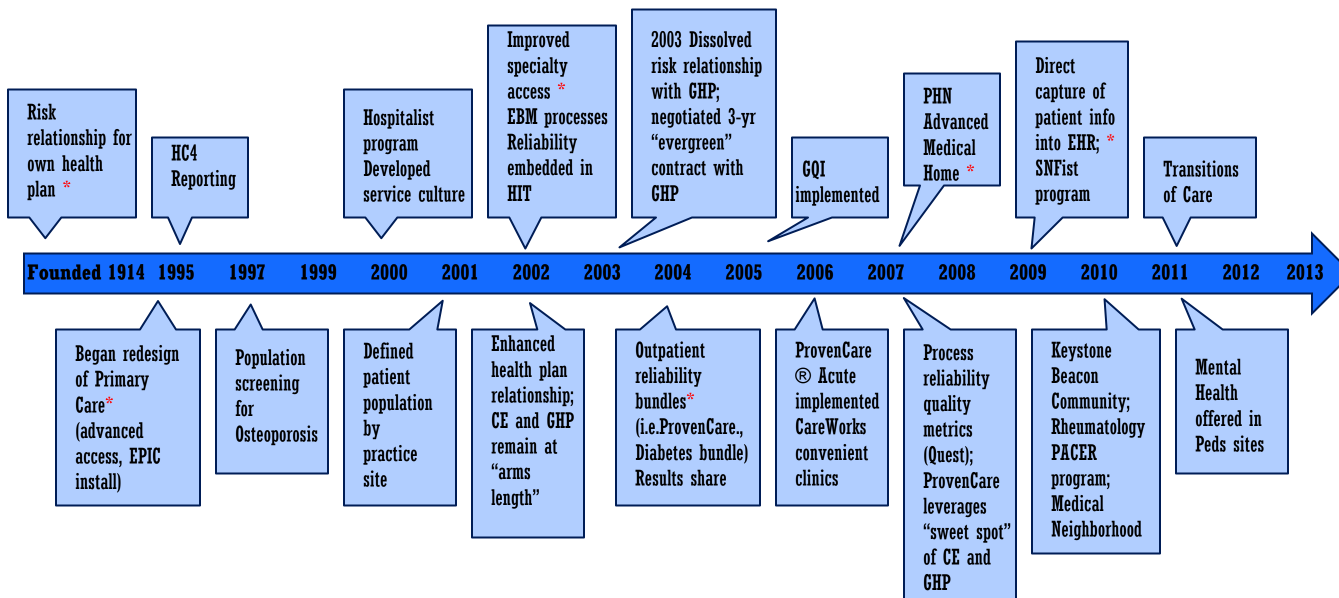


GEISINGER'S JOURNEY

Major Themes

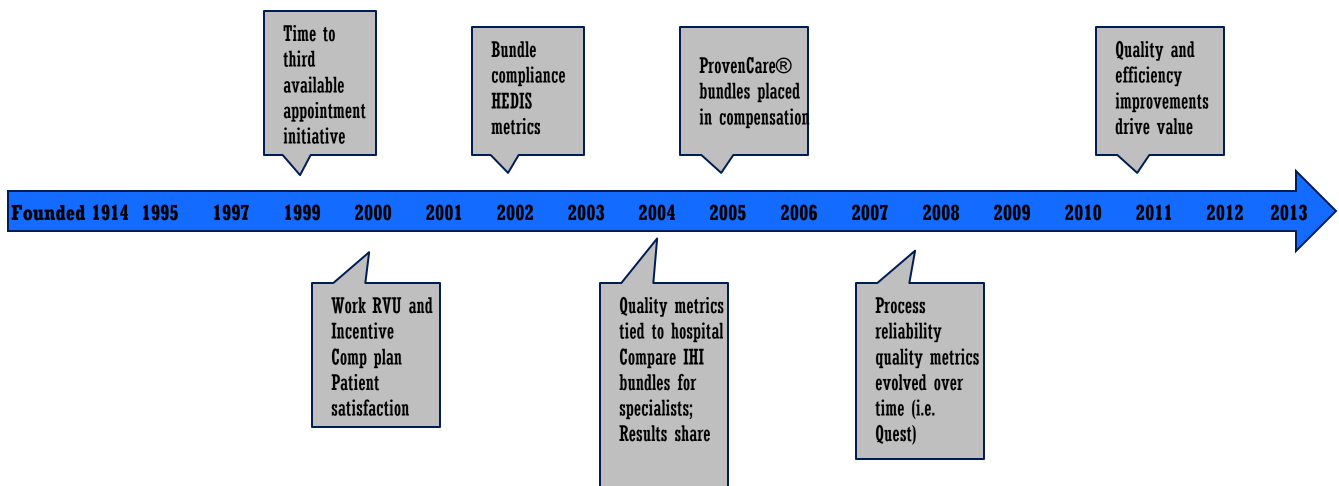
Redesign and Implement Framework/Model

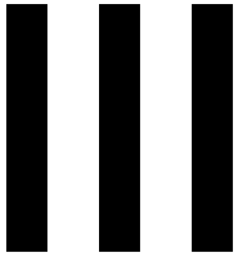
Payor Relationships
Practice Redesign
Population Management
Medical Neighborhood
Quality Improvement



Ready for Full ACO Actualization
Optimize Performance

Risk Assumption
Outcomes
Measurement





Regionalizing healthcare

AN ANSWER TO THE SUSTAINABILITY PROBLEM
REGIONALIZE HEALTHCARE DELIVERY
TIER FACILITIES AND STAFF TO COMMUNITY NEEDS

- Primary Care Center (open 10-12 hours/day x 5 days plus Sat and Sunday hours)
  - Staffing of MD/APP 1:1 to 1:3 plus MA - panel size 2,400 – 2,800 patients
  - Can add pharmacist/mental health/podiatry if 4-5 teams in practice
  - RN case manager and Social worker for Medicare and Medicaid patients
  - Provides simple radiology, ECG, lab services
  - Has infusion room for IVs and inhalation therapy for asthma and COPD
- Community-Based Specialty Care (staffed by rotating specialists and Telehealth as needed)
  - Mental Health
  - Cardiology (General)
  - Dermatology
  - ENT
  - GI (general and endoscopy)
  - General Surgery (Abdominal)
  - OB/GYN
  - Orthopaedics
  - Ophthalmology/Optometry
  - Pulmonary Medicine

  - These sites are often linked to an Ambulatory Surgical Unit and CT/MRI facilities

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TIERING FACILITIES AND STAFF

- Freestanding ER and ASU, + 2 observation beds, Radiology and lab
- Medium Size hospital- 50-80 beds with all ancillary services – OB services/ joint surgery/ ? Cardiac cath., Level 1-2 NICU
- Tertiary Hospital – usually 250+ beds- complicated chest surgery, spine surgery and more complicated vascular and cancer surgery . Has the complete range of medical services including Neurology, ID, Rheumatology, etc. (Level 2-3 NICU)
- Quaternary/University hospital- Neurosurgery, Cardiovascular Surgery, Organ transplants, Level I trauma, many Pediatric subspecialty services. Does Sophisticated Cancer Surgery.

- MAJOR CAVEAT: At any level of care, the practitioner must see enough cases to remain competent in his/her area of specialization. At very low numbers, there is also no way to monitor for complications as "statistical significance" cannot be reached

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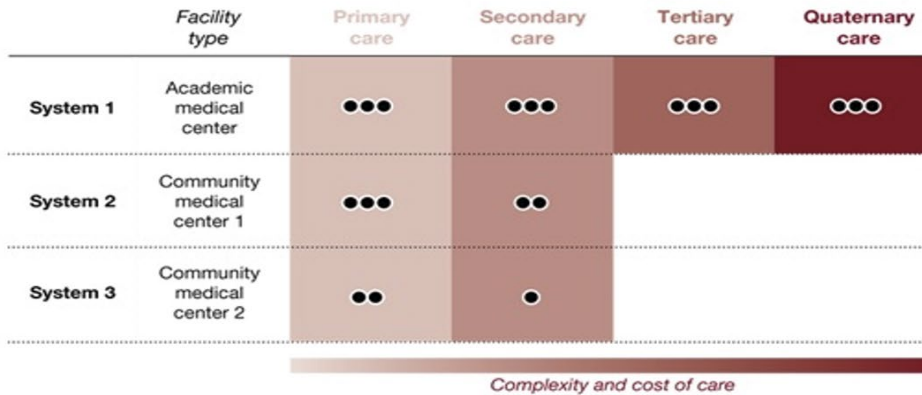
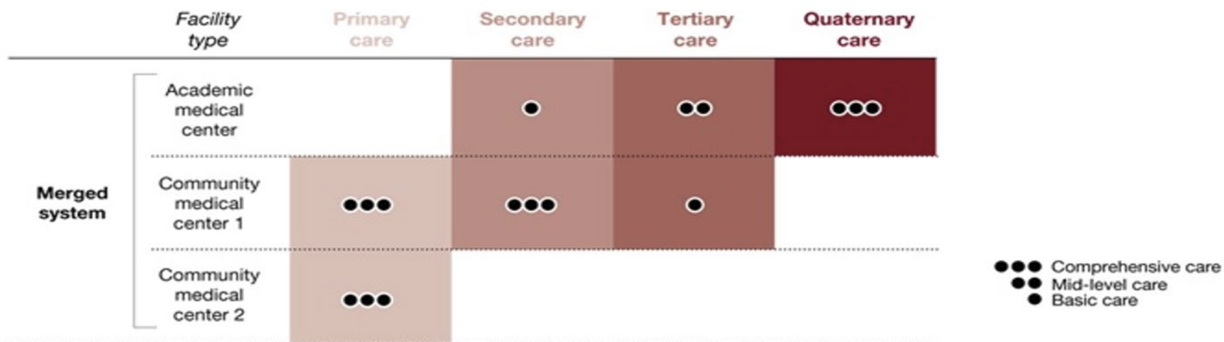
TIERING SERVICES IN A MERGED ORGANIZATION

CANCER





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HOW TO SUPPORT HEALTHCARE ACROSS A REGION

- Requirements
  - Robust Broadband Connections
  - Adequate transportation- Ambulance, Helicopter, Mobile ICU, Patient transport to services
  - Staffing for central Dispatch Center
  - Centralized way to share Health information/data
- Examples of Regionalizing Care
  - Trauma System (levels I-V)- not organized in VT - most states
  - STEMI Program (Acute MI- Balloon in Coronary artery < 90 min) – GHS, many large systems and hospitals
  - Telestroke Program ("Time is Brain")- GHS (10 hospitals about 100 beds), Partners (has 30 hospitals)
  - E-ICU – analytic program provides better results than 24x 7 Intensivist coverage, requires standardized treatment protocols. Also can support STEMI, Telestroke, monitoring ECGs and replacing sitters in hospital – GHS, Presence Health, Kansas Heart Institute, Johns Hopkins, etc.
  - Teleradiology
  - Telepathology
  - Centralized Lab services
  - Telemedicine- primary care, Dermatology, Cardiology, Behavioral Health, Surgical Followup, Internal medicine subspecialties, Physical Rehabilitation– GHS, Sanford Health, PENN, MGH-Brigham,etc
  - Pharmacy oversight of small hospitals – Sanford, Avera Health
- Other

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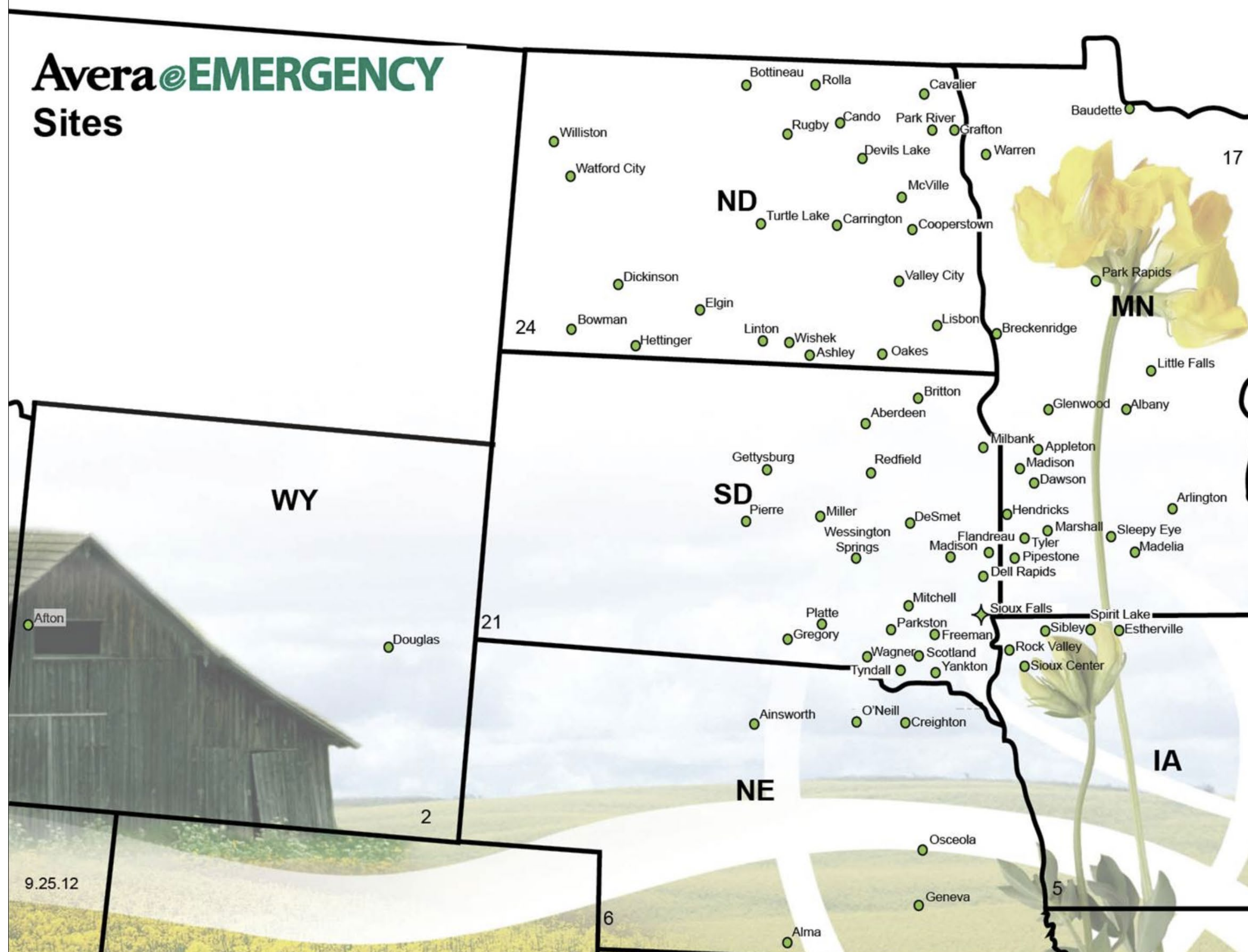
AVERA HEALTH RURAL SERVICE SITES
(E-CONSULT, E-ICU CARE, E-EMERGENCY, E-PHARM, E-LONG TERM CARE



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Newer Concepts

PACE
PROGRAM OF ALL-INCLUSIVE CARE FOR THE ELDERLY

- A capitated program with special requirements – No Program in VT.
- Requirements: over 55 y/o, need nursing home level of care (usually dual eligible for Medicare/Medicaid)
- Usually requires 60 enrollees per site to sustain. Remember that they turnover by dying off!
- Services provided:
  - Adult Day Care
  - Primary Care
  - Dentistry
  - Home Care
  - Lab/X-ray services
  - Meals
  - Hospital Care
  - Emergency Services
  - Nursing Home Care
  - Social Work Services
  - Transportation
  - Medical Specialty Services
  - Nutritional Counselling
  - Occupational Therapy
  - Physical Therapy
  - Drugs
  - Recreational Therapy

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HOSPITAL AT HOME

- Originated at Johns Hopkins
- Commercial company now offers this service ("Medically Home") with Kaiser and Mayo as investors)
- Widely used to shorten inpatient LOS, avoid "social admissions" from ED, reduce dependence on Chr. Care Facilities
- Reduces risk of Hospital associated complications- infection, medication errors, etc
- Requires careful patient selection for home environment and prediction of complications
- Requires good broadband connections, electricity and availability of clinical staff
- Examples include:
  - COVID pneumonia care
  - Antibiotics for pneumonia, skin infection
  - CHF and post AMI recovery

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HOME AS HOSPITAL

HAMORY, 2021

- All health services provided in the home except those requiring major surgery or imaging
- Requirements are: reliable broadband and electrical service, adequate water and sewerage, available urgent transportation services
- Needs Staffing, central monitoring services, home visit services etc.
- Diagnostic services available currently: Vital signs (TPR),weight, ECG,EEG, arterial oxygen levels, Telediagnostic equipment including Stethoscope, Otoscope and Ophthalmoscope, respiratory function (FEV1)
- Diagnostic services potentially available and in current use in hospitals:
  - Portable handheld Ultrasound for abdominal scans (acute appendicitis, Gallbladder disease, Kidney stones and diverticulitis) and pulmonary scans (pneumonia and CHF)
  - Beside MRI (MGH-MIT)
  - Breathalyzer for diagnosis of COVID and other respiratory infections
  - Self-diagnostic kits for COVID, TB, genital herpes and other infections, Thyroid disease
- Therapeutic Services in Current Use:
  - Pumps for IVs, Insulin, TPN
  - Respirators
  - Acute and Chronic (peritoneal) Dialysis
  - LVAD for end-stage CHF
  - Antibiotic therapy as first stage treatment for Appendicitis and Gall Bladder infection
  - Cancer Chemotherapy
  - Anti- TNF treatments for RA, Crohns’ Disease, etc

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Summary and potential Solutions

POTENTIAL SOLUTIONS

- Be Creative
- Think of maximizing the use of new healthcare delivery methods on a state-wide basis
  - This could be a way of supporting some of the smaller organizations
  - This does not imply ownership, but good coordination and ways to provide financial support
  - Will require centralization of some support structures
- Telehealth has been accelerated by COVID and has gained wide acceptance among patients and physicians
- Supporting these structures needs capitation or payment methods other than FFS
  - Remember that under capitation or population-based payments, hospitals become Cost Centers!
- Maximal support for educating new types of Healthcare professionals will be needed (more people in home health, LPN's, medical assistants, IT technicians, EMT's in new skills , etc.)
- Some changes to state law may be needed to facilitate the recruitment/retention of Mental Health professionals and potentially others.
- Consider ramp up of Hospital at Home – or Home as Hospital- to alleviate needs for both inpatient and extended care beds.

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Thank you!

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