The Beaver Island Association

Supporting Environmental andEconomic Sustainability

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Beaver Island Rural Health Center
and Emergency Services Plan

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 "It was an easy read – salient, clear and it's hard to argue with any of the recommendations. They seem solid and well thought out and I certainly hope the report will be well received. More important, one hopes it will be acted upon!" - Lyn Jenks, CEO Charlevoix Area Hospital

Acronyms
APQC - American Productivity and Quality Center: apqc.org
BIEMS – Beaver Island Emergency Medical Service
BIRHC – Beaver Island Rural Health Care
CAH – Charlevoix Area Hospital (also Critical Access Hospital)
EMT - Emergency Medical Technician
RUPRI - Rural Policy Research Institute: RUPRI.org

Overview

Quality rural health care and Emergency Medical Services are critical to welfare of all Beaver Island local and part-time residents and tourists. It is also critical to the Beaver Island's present and future economic sustainability. Potential new retiree residents will demand at the very least high quality rural health care and Advanced Life Support Emergency Medical Services as will potential new virtual employees. BIRHC and BIEMS have many of the same problems that are experienced by rural health care providers nation-wide.

According to RUPRI Health Panel report of November 2014: "….accelerating rural hospital closures in recent years have created widespread concern... Moreover, broad health system transformation aimed at achieving the Triple Aim©—improved experience of care, lower costs, and improved health of populations—is bypassing too many rural providers and health systems. Small size, low patient volumes, and limited human resource and financial capacity, …make it difficult for rural hospitals and physician practices to participate in risk-based or shared savings arrangements such as accountable care organizations and bundled payments."

Recommendations

1. Develop an operations manual that better integrates Beaver Island Rural Health Center and Beaver Island Emergency Medical Services.
2. Develop policies and procedures to align with Charlevoix Area Hospital when it aligns with Munson.
3. Initiate a Quality Assurance program to evolve to Best Practice for Beaver Island Emergency Medical Services and Beaver Island Rural Health Center.
4. Maintain Advanced Life Support EMS at all cost.
5. Expand telemedicine processes to include Munson and possibly McLaren.
6. Complete 2002 ESA TO-DO list.
7. Develop an Island wide disaster plan for Beaver Island Rural Health Center, Beaver Island Emergency Medical Services and Beaver Island Fire Department.
8. Train nurses and Emergency Medical Technicians for paramedic certification.
9. Apply for grants for ambulances, Beaver Island Emergency Medical Services and Beaver Island Rural Health Center personnel training and payroll.
10. Expand outreach, services and education programs.

Potential BIA support activities

1. Surveying BIA membership and residence to help determine community needs.
2. Test marketing proposed new healthcare services with BIA membership.
3. Coordinating traditional/digital and social media.
4. Performing promotional activities (e.g. thank you party for volunteer services personnel).
5. Coordinating affiliations with university medical and fellow programs (e.g. U of M Medical, Mayo Clinic, etc.).
6. Soliciting investor relationships.
7. Applying for grant funding (FEMA, ACA, CCCF, state, federal).
8. Supporting healthcare and emergency medical services public relations program in BIA newsletters.
9. Promoting and informing BIA membership of the Beaver Island Rural Health Center, Charlevoix Area Hospital and Munson affiliations, alignment and telemedicine opportunities.

Summary and Conclusions

BIEMS and BIRHC are struggling. BIEMS has lost paramedic personnel and has inadequate funding. BIRHC patient visits dropped from 3050 in 2009 to 1215 in 2014. With a BIRHC 2014 budget of $608,238, a patient visit cost $500 where half of that was paid by local and state taxes. Better coordination with BIRHC and BIEMS is mandatory to achieve best practice healthcare services[1]. Adopting a quality assurance program to improve existing services, adding some community paramedic capability to expand services and making exceptional use of telemedicine to leverage physician expertise at the Munson Health Center could help to resolve these problem. BIRHC has taken a step in the right direction with its expanded relationship to Charlevoix Area hospital, which is now part of the Munson Health System. Currently BIRHC has a telemedicine capability to Charlevoix Area Hospital. This needs to be expanded to the Traverse City Munson emergency room, which has a certified Stroke Center and Level II trauma center.

The doctor/patient relationship is highly intuitive, but is now supported by a spectacular amount of data and systems using highly complex analytical algorithms, which suggest valuable but inconclusive causes and medical solutions based on the symptoms presented by a patient. "Telemedicine savvy" rural medical professionals could benefit from an analytical capability of much larger medical healthcare systems over the next five years with medication-related decision support[2] and practice diagnosis, which use medical informatics[3], electronic health records[4], automated diagnostic methods[5], and clinical decision support. Beaver Island needs to be a participant.

Observations

- According to Charlevoix Area Hospital Lyn Jenks, CAH will closely align its processes and leverage the expertise of the Munson Health Center in Traverse City. Telemedicine technology will allow CAH to access wide variety of Munson specialists. BIRHC needs to take every advantage of this relationship and telemedicine.

- Marvin Helmker is the EMS Manager, EMTi P Michigan Department of Health and Human Services that oversees EMS groups within the State.

- In a meeting at BIRHC, he definitively stated that paramedics in conjunction with the medical control authority are in charge of transporting the patient; this should resolve past BIEMS / BIRHC conflicts.

- BIEMS / BIRHC conflicts center around who is charge of the patient and who determines the method of patient transport. EMS is not always but should always be involved in all patient transport decisions as soon as possible.

- There were 71 EMS runs in 2014. With such low volume, the economics of the service are difficult, given the fixed costs and 24/7 on-call qualified staff.

- Island Air is the fastest transport solution and is usually but not always the best solution. If a patient requires multiple IVs, another transport service such as North Flight or Valley Med may be required.

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[1] American Productivity and Quality Center (APQC) Healthcare Process Classification Framework is a hierarchy that groups more than 1000 healthcare business process and is used in quality assurance programs. Best practice is a technique, method, process, activity, incentive or reward that is more effective at delivering a particular outcome than any other.

[2] Clinical Decision Support) (CDS) system in healthcare organizations is the ability to integrate it with a computerized provider order entry (CPOE) system. CDS can help in preventing medication errors and improve quality and efficiency.

[3] Medical Informatics is the interdisciplinary study of the design, development, adoption and application of IT-based innovations in healthcare services delivery, management and planning.

[4] An electronic health record (EHR) is a digital version of a patient's paper chart. EHRs are real-time, patient-centered records that make information available instantly and securely to authorized users.

[5] De-identified electronic medical records can provide the data for refinement of disease models that will assist in identifying possible diseases and also include parameters that were utilized along with their relative importance. Automated analytic methods will inform the physician of the likelihood of the presence of specific diseases.

- Time to the hospital from Beaver Island:
    - Harbor Springs 15-20 minutes (12 minute ride to McLaren);
    - Traverse City 25-30 minutes (10 minute ride to Munson);
    - Charlevoix 15-18 minutes (5minute ride to Charlevoix).

- McLaren and Munson are Certified Stroke Centers and Munson is a Level II Trauma Center.

- Liability Insurance for air ambulance service is very expensive. Island Air's policy is for $2 million (reduced with waiver by the state legislature from a state requirement of $10 million).

- Unstable patients go to McLaren or Munson.

- A paramedic is required to transport a patient to the closest medical facility that can resolve the patient's problem. McLaren is a certified stroke center and it is 10 minutes closer than Munson. Munson is a certified stroke and Level II trauma center.

- BIRHC nurses work with Charlevoix emergency room medical authority doctors to stabilize unstable patients.

- Dr. Mark Smith is Director of Charlevoix County Medical Control Authority (Charlevoix and Antrim Counties) and reports to John Barnes who is the Executive Director at the Michigan Center for Rural Health at MSU.

- EMS needs new ambulances. FEMA and ACA may be a potential grant sources.

- With a BIRHC 2014 budget of $608,238, a patient visit cost $500 where half of that was paid by local and state taxes.

- EMS 2015-2016 is about $300,000 with half coming from the townships and the rest from insurance billing.

ALS EMS, Basic EMS, Paramedics, EMT
http://www.mccann.edu/what-is-the-difference-between-an-emt-and-a-paramedic
An EMT-B (basic) is the first level of certification and provides Basic EMS. The next level is an EMT-P (paramedic) who administers Advanced Life Support (ALS) services. In most states basic EMTs are not allowed to give shots or start intravenous lifelines, but can use first aid techniques, oxygen, glucose, and asthma inhalers. Paramedics are trained to perform airway management (i.e. tracheotomies), start IVs, give shots, and administer 30-40 medications. EMT certification requires120-150 hours of training. Candidates then must pass the National Registry of Emergency Medical Technicians (NREMT) exam, and a background check to become a certified EMT. An EMT may then begin paramedic training: 1,200-1,800 hours of education in an associate degree program. Paramedics must also pass a NREMT exam and a background check to become certified.

EMS Best Practice Overview (see Appendix 1)
Best practice is a technique, method, process, or activity that is the most efficient and effective way to accomplish a task. The idea is that with proper processes, checks, and testing, a desired outcome can be delivered with fewer problems and unforeseen complications.

EMS Deployment Science: Set and meet service reliability standards; measure response times ACCURATELY; use deployment methodologies that match supply and demand; deploy real-time decision support telemedicine.

EMS Operations: design ambulances conducive to long-term shifts; acknowledge that EMS is 24x7 and 24 hour shifts are not conducive to safe/quality patient care; provide BIRHC/BIEMS communications to medical control.

EMS Supply & Logistics: JIT ordering, On-line ordering, Bar Coding, eCheck in/out system.

EMS Fleet Maintenance: establish preventative maintenance (PM) programs; minimize energy usage; use onboard wireless transmission technology.

Best Practices in EMS Human Resource Management: streamline policies & procedures directly linked with standards; provide academy style orientation programs for new hire employee and internal EMS education for EMT & Paramedic certifications with scholarships; where possible provide online policies, procedures and employee admin tools, and HR Systems.

EMS Training / Education: use online systems for off-site training and real-time on-duty scenario training / testing to reduce training overhead costs

EMS Quality Improvement: use ePCR systems to improve quality, efficiency, effectiveness and portability*;* use advanced automated QI systems that enable 100% auditing; adopt Quality Improvement workflows

EMS Billing / Finance: paperless ePCR systems; granular financial statements that group each service line for decisions*;* A/R tracking by customer with monthly financial triggers*; l*ean business processes that measure productivity and performance; internal external compliance auditing; online payment and account management options

EMS Communications; "situational awareness" / "decision support"; EMD System; Live data surveillance systems; wireless phone / radio systems.

EMS System Design: comprehends EMS economics to survive*;* recognize an EMS system model directly correlates to system costs and patient care effectiveness and outcomes

EMS Pandemic Response (H1N1); EARLY screening / surveillance during the 9-1-1 call*;* based on findings, first responders "suit up" PRIOR to entry / patient contact.

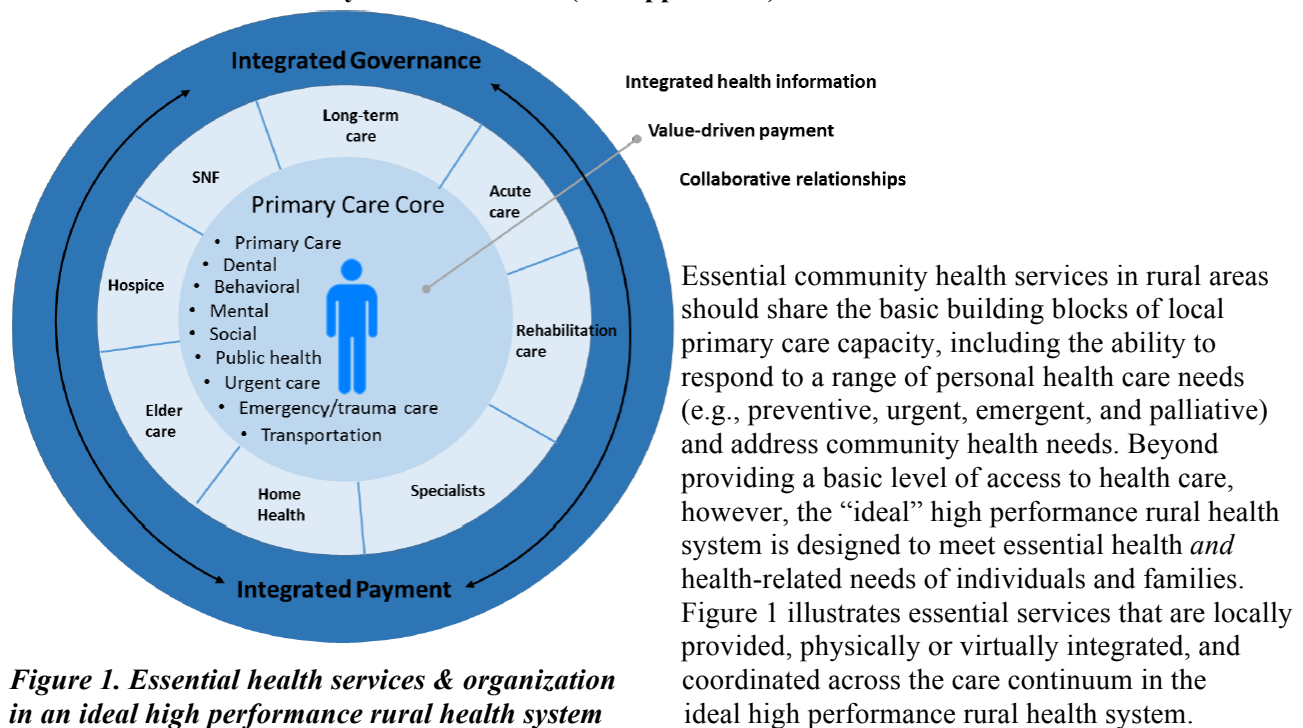**Essential Rural Community Health Services (see Appendix 5)**

Figure 1. Essential health services & organization in an ideal high performance rural health system

Essential community health services in rural areas should share the basic building blocks of local primary care capacity, including the ability to respond to a range of personal health care needs (e.g., preventive, urgent, emergent, and palliative) and address community health needs. Beyond providing a basic level of access to health care, however, the "ideal" high performance rural health system is designed to meet essential health *and* health-related needs of individuals and families. Figure 1 illustrates essential services that are locally provided, physically or virtually integrated, and coordinated across the care continuum in the ideal high performance rural health system.

In this configuration, rural persons have access to locally provided, comprehensive, and affordable primary care services that are integrated with social, behavioral, mental, and dental health services. Screenings such as oral health for infants and children, for example, may be provided at the same time as a primary care visit. Public health, emergency response, urgent care, and transportation services are a key part of the core model, as they provide various means of access to essential specialized care resources.

Access to specialists, acute care/hospitals, home health, hospice, skilled nursing, elder care, rehabilitation (e.g., physical therapy), and long-term services and supports (e.g., home and community-based services) occurs through primary care coordination in collaboration with other community or regional resources. A shared EHR enables providers to view entire health histories and health status factors. Dentists, for example, may see that a patient requires a tetanus shot; primary care providers may see that a dental visit is overdue.

Common medical, surgical, and pharmaceutical supplies are available locally. Emergency response services are mobile rather than fixed, and electronic links via telemedicine to higher level trauma centers, specialists, and/or pharmacists tap into expert resources located remotely in real time. Use of virtual technologies facilitates access to care, transfer planning and coordination, and communication between providers, patients, and families while saving costs associated with patient travel and local provision of specialized services. Acute care services are provided locally or more distant, but referral relationships between providers should be collaborative and seamless to patients. Shifting a portion of the care away from "primacy of the rescue" to disease prevention and health promotion relieves the rural health system of significant back-end costs associated with expensive care. Governance structures and corresponding mechanisms and protocols for service coordination and/or integration across service sectors are needed to achieve the common objective of sustainable, healthy communities.

WHO ICD-10 Medical Classification Codes (see Appendix 2 and 3)

ICD-10 is the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD), a medical classification list by the World Health Organization (WHO). It contains codes for diseases, signs and symptoms, abnormal findings, complaints, social circumstances, and external causes of injury or diseases.

The code set allows more than 144,000 different codes and permits the tracking of many new diagnoses. The codes can be expanded to over 160,000 codes by using optional sub-classifications. The detail reported by ICD can be further increased, with a simplified multi-axial approach, by using codes meant to be reported in a separate data files.

Community Paramedicine (see Appendix 4)
Community paramedicine fills in local healthcare gaps by using existing providers in different roles. Community paramedics generally focus on:
• Providing primary care
• Post-discharge follow-up care
• Integration with local public health
• Providing education and health promotion programs

Paramedics already have and use skills like giving shots and mixing and administering medication IV drips. While in their traditional role, a paramedic might give a patient a shot of Valium; the Community Paramedic would use that same skill in a different role, such as giving a "shot" of immunization. This model can also benefit rural EMS agencies by:
• Reducing requests for service that are inappropriate and not reimbursed
• Decreasing the amount of "down time" between calls, while better serving resident's needs
• Increasing revenue by billing patients or third party payers for services provided, when able.

The role of both EMT- and paramedic-level Community Paramedics is to fill local healthcare gaps as a full participating member of a patient's medical home care team. In their emergency roles, EMTs and paramedics are excellent problem solvers, but their initial training is focused on managing a patient's emergency condition over 30 to 60 minutes. To prepare them to participate in the medical home care team, additional education focuses on understanding long term care. A standard curriculum is available free of charge to colleges and universities: 114 hours of didactic education (in the social determinants of health, public heath, and tailored learning about chronic diseases) and approximately 200 hours of lab and clinical experience.

APQC Healthcare Process Framework (see Appendix 6)

Quality Assurance and audit is usually mentioned when discussing Best Practice Healthcare. The top rated hospital employ systems engineers who use APQC's Process Framework to guide Best Practice.

APQC's Process Classification Framework (PCF) is a taxonomy of cross-functional business processes intended to allow the objective comparison of organizational performance within and among organizations. The PCF was developed by APQC and its member companies as an open standard to facilitate improvement through process management and benchmarking, regardless of industry, size, or location.

The PCF organizes operating and management processes into 12 enterprise-level categories, including process groups and more than 1,000 processes and associated activities. A high level view is presented here

1.0	Develop Vision and Strategy	6.0	Develop and Manage Human Capital
1.1	Define the long-term vision and values	6.1	Develop and manage human HR plans, policies, and strategies
1.2	Develop business strategy		
1.3	Manage strategic initiatives	6.2	Recruit, source, and select employees
2.0	Develop and Manage Healthcare Services	6.3	Develop and counsel employees
2.1	Manage service portfolio	6.4	Manage healthcare provider workforce
2.2	Develop services	6.5	Manage employee relations
3.0	Market Healthcare Services	6.6	Reward and retain employees
3.1	Understand patients, markets, and capabilities	6.7	Redeploy and retire employees
3.2	Develop marketing strategy	6.8	Manage employee information and analytics
3.3	Develop and manage marketing plans	6.9	Manage employee communication
3.4	Develop and manage business development plans	7.0	Manage Information Technology
4.0	Deliver Healthcare Services	8.0	Manage Financial Resources
4.1	Manage non-medical services	9.0	Acquire, Construct, and Manage Assets
4.2	Plan for and align supply chain resources	10.0	Manage Enterprise Risk & Compliance
4.3	Procure materials	11.0	Manage External Relationships
4.4	Manage logistics and warehousing	12.0	Develop and Manage Healthcare Capabilities
4.5	Manage medical documentation	12.1	Manage business processes
4.6	Receive the patient for care	12.2	Manage portfolio, program, and project
4.7	Deliver care to patient	12.3	Manage enterprise quality
4.8	Discharge patient from care	12.4	Capture and analyze data analytic program
4.9	Initiate follow-up communication with patient	12.5	Manage change
5.0	Manage Customer Service (patients, employers, payors and other)	12.6	Develop knowledge management capability
		12.7	Measure and benchmark
5.1	Develop customer service strategy		
5.2	Manage patient care outreach programs		
5.3	Plan and manage customer service operations		
5.4	Measure & evaluate customer service operations		

Appendix 1: Best Practices in Emergency Medical Services
Presented By: Jonathan D. Washko, NREMT-P, BS-EMSA
Executive Director for Operations Services – REMSA
President – Washko & Associates, LLC
OAMTA Annual Conference - June 12, 2009
Sponsored by Community Care Ambulance Network – Ashtabula, OH

Best Practice
A Best practice is the belief that there is a technique, method, process, activity, incentive or reward that is more effective at delivering a particular outcome than any other technique, method, process, etc. The idea is that with proper processes, checks, and testing, a desired outcome can be delivered with fewer problems and unforeseen complications. Best practices can also be defined as the most efficient (least amount of effort) and effective (best results) way of accomplishing a task, based on repeatable procedures that have proven themselves over time for large numbers of people.

Best Practices in EMS Deployment Science
- Setting service reliability standards and then meeting them for emergency and non-emergency service
    - e.g. Life threatening emergencies responded to within 8 minutes 90% of the time
- Measure response times ACCURATELY (no smoke and mirrors)
    - Fractile measurement approach not average
    - Call received in 9-1-1 center to on scene
- Using deployment methodologies that match supply and demand both temporally and geospatially
    - Production Model EMS / SSM / Peak Load Staffing
    - Station move-ups based on demand not geography
    - Realize that deployment methodology and response time service reliability are just as important (if not more) as the medicine we provide
    - Life-saving treatment is worthless if it is not provided in time
- Deployment methodology drives labor costs up or down which has a direct effect on the quality of medicine we can afford to provide given the current reimbursement mechanisms
- Technological edge
    - Live decision support tools for making resource deployment decisions in real-time
        - MARVLIS
        - SIREN
        - DECCAN
        - CAD vendor specific features
    - Balanced matching of service demand needs with human needs
        - Zoll Resource Planner
    - In-vehicle smart routing systems that use live or historical road network data to adjust routes and candidate rankings

Best Practices in EMS Operations
- Vehicle design conducive to long-term, in ambulance shifts
    - DVD / entertainment systems
    - Larger front cabs to allow for reclining in front of unit
- Field supervisors capable of on-site / on demand lost unit hour mitigation
    - Solve a variety of issues that would take an ambulance out of service or cause service inefficiency
    - Resupply of medical supplies, fixing of vehicle problems, availability of backup equipment, bariatric stretcher delivery
- Managerial Front
    - Recognition of "generational differences" and how to overcome them
   - Moving away from performance based compensation programs

- o Recognition that physical separation of employees from management leads to unions and/or poor employee / employer communications
  - o Recognition that the best clinicians don't necessarily make the best organizational leaders
  - o Recognition that our leaders and managers need training in leading and managing
- Recognition that 24 hour shifts in busy urban EMS systems are not conducive for safety or quality patient care
- Recognition that EMS is a 24x7 business and should be managed as such
  - o Lessons from other public safety disciplines
    - ▪ FD / PD management systems
- Integration of ICS into daily routines to improve EMS familiarity
- Technological Edge
  - o Online scheduling systems
    - ▪ Allow for online management of schedule, shift trades, PTO, OT pickup, etc.
    - ▪ Integration into CAD or other decision support tools
  - o Employee communications
    - ▪ Twitter / Facebook VERY effective tool if managed and administrated properly
    - ▪ Many ePCR / eScheduling / time and attendance systems allow for broadcast and individual messaging
    - ▪ Email systems may or may not be effective
    - ▪ Reader boards with "Flash & Pizzazz"
    - ▪ Office Live – Sharepoint Server

Best Practices in EMS Supply & Logistics
- Centralized deployment facilities / hubs
- EMS providers not responsible for checking supply levels, wash vehicles or maintaining vehicles
- Fleet-wide standardization of ambulance design
- Assembly line style resupply systems "speed loaders"
  - o Streamlined restocking processes
  - o Improves supply reliability
  - o Improves resupply efficiency
- Technological Edge
  - o Just in time ordering systems that minimize the need for warehousing of supplies
  - o Online inventory and ordering systems provided by vendors
  - o Bar coding / RF ID systems
  - o Electronic check-in/out equipment accountability systems
- Service Points Workflow

Best Practices in EMS Fleet Maintenance
- Preventative maintenance (PM) programs that mimic the airline industry
- "Green" initiatives including solar charging systems, bio-fuels, lighter vehicles, etc.
- Bridging the Ford 6.0 liter issues
  - o Refurbishing 7.3 liter chassis
  - o Class action law suit
  - o Gas / diesel
- Technological Edge
  - o Onboard "black box" driving computers that provide G-force feedback and record/transmit everything wirelessly (Road-Safety)
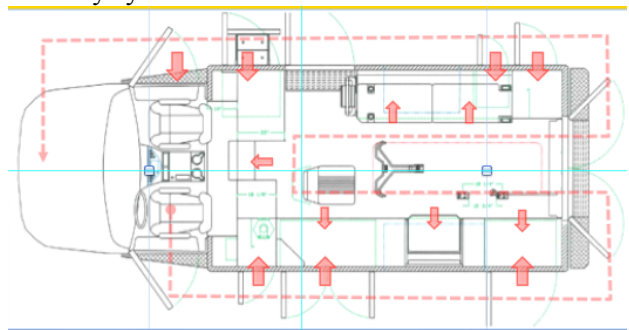
- o Cameras that capture significant events (DriveCam)
- o Wireless in-vehicle routers that provide internet access via the cellular data networks (InMotion)
- o Fleet maintenance tracking software that allows for part failure analysis that is integrated into the PM system

Best Practices in EMS Human Resource Management
- Proactive headcount management practices
- Streamlined policies & procedures directly linked with accreditation standards (C.A.A.S. / C.A.M.T.S. / A.C.E.)
- Academy style orientation programs for new hire employees
- Internal EMS education for EMT & Paramedic certifications with working scholarships
- Paid PD/FD style educational academy
- Policies on social networking impacts on the workplace
- Technological Edge
  - o Online employee tools for benefit management and administration
  - o Online policies and procedures access
  - o Paperless employee files with secure access available to management 24x7
  - o Streamlined business systems that talk to each other
  - o HR Systems <-> eScheduling <-> Pay Roll <-> CAD <-> ePCR <-> eCertification Systems

Best Practices in EMS Training / Education
- Online systems for off-site training
  - o Web based meetings / presentation systems
    - ▪ WebEx, GoToMeeting, NEFSIS, etc.
  - o On demand content provision (proprietary or purchased)
  - o Online testing / certification systems
- Simulation Labs
  - o Sophisticated simulators / manikins
  - o Lab designed just for simulation training scenarios
- Real-time on-duty scenario training / testing
- Using training and education programs to supplement your system's revenue and offset training overhead costs
  - o AHA training
  - o Private industry training
  - o Ancillary healthcare services training
  - o Government / military
- Portable training programs with portable simulation labs
  - o Increase training reach to remote markets
  - o Open up new opportunities
  - o Rural services

Best Practices In EMS Quality Improvement
  - o Using ePCR systems to improve QI efficiency, effectiveness and portability
  - o Using advanced automated QI systems that enable 100% auditing of charts against clinical documentation and protocol standards
  - o Adopting QI workflows that improve employee communication, feedback loops and remediation for improved behavior modification

Best Practices in EMS Billing / Finance
- Paperless ePCR systems making A/R a much more efficient and effective process

- Granular financial statements that group each service line and operational individually for improved decision making abilities
- A/R tracking by customer with monthly financial trigger processes to identify payer problems
- Lean business processes that measure productivity and performance
- Internal Federal Compliance auditing by an independent agency
- Quality based reimbursement initiatives at the Federal level
- Online payment and account management options

Best Practices in EMS Communications
- "Situational awareness" / "decision support"
- EMD System
  - Call classification for resource triage (priority based dispatching processes)
  - Pre-arrival instructions
  - Pandemic / CBRN screening system
- Live data surveillance systems
  - Syndromic / bio-terrorism
  - Operational
  - Sentinel event
- CAD systems
  - AVL / GPS integrated
  - Dynamic road network speed algorithms for routing and candidate ranking
  - Real-time demand surveillance
  - Real-time deployment decision support systems
  - Live off-site redundancy & backup systems
- Phone / Radio systems
  - Phase II wireless compliance
  - IP based communications systems

Best Practices in EMS System Designs
- System designs must comprehend EMS economics to survive
  - Not effected by typical elasticity of supply & demand
    - Population size, age, socio-economics & other demographics
  - Pricing / quantity does not drive increases or decreases in overall service demands (volume)
  - Free market competition drives up costs / drives down quality
  - System fragmentation decreases economies of scale, significantly increases costs of operations and typically provides for poor patient care (response times)
- No EMS system design is perfect
- "Successful" ones include the following features:
  - Limited or zero local tax subsidy
  - Service accountability through performance guarantees and standards
  - Ability to replace the provider for performance failures
  - Closed market with sole source provider performing emergency and non-emergency services (most economically efficient model)
  - Rates and performance controlled through publically accountable entities
  - Balance patient care, employee wellbeing and financial responsibility
- Recognition that the deployment model used within an EMS system has a direct correlation on system costs and patient care effectiveness and outcomes
  - Demand driven systems provide considerably better service reliability to a much larger patient population
  - Fixed geographic based systems provide good service to the first patient, but not necessarily the second, third and so on
  - Economics and politics are typical determiners of EMS system design type until the EMS system kills the wrong person or costs too much money

Best Practices in EMS Pandemic Response (H1N1)
- WHO declared a worldwide pandemic level 6 this week (actually well over due)
- While H1N1 (Swine Flu) has been very mild, there is heightened concern by health officials that it could become more virulent this fall (mortality <1% currently)
- H5N1 (Avian Flu) is happening in the middle east but no human to human transmission YET (40% – 50% mortality when it is contracted)
- EARLY screening / surveillance during the 9-1-1 call
  - NAED SRI Screening / Card 36 Pandemic Flu
- Based on findings, first responders (FD/PD) and EMS personnel "suit up" PRIOR to entry / patient contact
  - Protect your assets (lessons learned from SARS)
  - Reverse isolation of patient
- Protocols / processes for system overload, denial of service or altered response configurations
  - 6-1-1 Information lines / 9-1-1 call center demand shifting
  - Public & public safety information systems imperative
- Consider supply needs PRIOR to the incident
  - Isolation supply caches
  - Cleaning / decontamination supply caches
  - Enough for everyone (FD/PD/EMS/Family)?
- ICS system / Command & Control may rest with the Health Department
  - Poor experience with ICS / EMS / Public Safety
  - Public health focus on the epidemiology / medicine / treatments
  - Communication channels may be limited or non-existent
- Consider personnel needs (different then disaster)
  - Shelter in place requirements / isolation impact
  - Logistical needs of your personnel
- Consider other infrastructure support needs
  - All items needed to provide service
  - AMFYOYO – remember this will be large scale, wide spread and concurrent events nation / world wide
- Communicate / Communicate / Communicate
  - The public
  - Employees & their families
  - Public safety agencies
  - Health Department / CDC / WHO

Appendix 2: WHO Medical Classification Codes ICD-10 from Wikipedia

ICD-10 is the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD), a medical classification list by the World Health Organization (WHO). It contains codes for diseases, signs and symptoms, abnormal findings, complaints, social circumstances, and external causes of injury or diseases.

The code set allows more than 144,000 different codes and permits the tracking of many new diagnoses. The codes can be expanded to over 160,000 codes by using optional sub-classifications. The detail reported by ICD can be further increased, with a simplified multi-axial approach, by using codes meant to be reported in a separate data files.

The WHO provides detailed information about ICD online, and makes available a set of materials online, such as an ICD-10 online browser, ICD-10 Training, ICD-10 online training, ICD-10 online training support, and study guide materials for download.

The International version of ICD should not be confused with national Clinical Modifications (CM) of ICD that frequently include much more detail, and sometimes have separate sections for procedures. The US ICD-10 Clinical Modification (ICD-10-CM), for instance, has some 68,000 codes. The US also has the ICD-10 Procedure Coding System (ICD-10 PCS), a coding system that contains 76,000 codes not used by other countries.

Chapter	Blocks	Title
I	A00–B99	Certain infectious and parasitic diseases
II	C00–D48	Neoplasms
III	D50–D89	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
IV	E00–E90	Endocrine, nutritional and metabolic diseases
V	F00–F99	Mental and behavioural disorders
VI	G00–G99	Diseases of the nervous system
VII	H00–H59	Diseases of the eye and adnexa
VIII	H60–H95	Diseases of the ear and mastoid process
IX	I00–I99	Diseases of the circulatory system
X	J00–J99	Diseases of the respiratory system
XI	K00–K93	Diseases of the digestive system
XII	L00–L99	Diseases of the skin and subcutaneous tissue
XIII	M00–M99	Diseases of the musculoskeletal system and connective tissue
XIV	N00–N99	Diseases of the genitourinary system
XV	O00–O99	Pregnancy, childbirth and the puerperium
XVI	P00–P96	Certain conditions originating in the perinatal period
XVII	Q00–Q99	Congenital malformations, deformations and chromosomal abnormalities
XVIII	R00–R99	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified
XIX	S00–T98	Injury, poisoning and certain other consequences of external causes
XX	V01–Y98	External causes of morbidity and mortality
XXI	Z00–Z99	Factors influencing health status and contact with health services
XXII	U00–U99	Codes for special purposes

Appendix 3: Medical Billing, Practice & Revenue Cycle Management Software Features
http://www.practicesuite.com/billing-software-enterprise-edition   **Example Software Components**

A. State-of-the-art, HIPAA Secure, ICD-10 Software
One Comprehensive System, One Database, From a Single Trusted Source
Complete Cloud Based Medical Billing Software
Anywhere, Anytime HIPAA Secure Access.
Works on Windows, Tablets, Mac, iPad - Any Browser, Any Device
No Intrusive Ads. No Potential Patient Privacy Violations.
No Usage Tracking. No Pharma Alliance
You Maintain Complete Control of Your Data. Export to Excel/CSV
ICD10 Operational, 5010 Compliant, HIPAA, HITECH & OMNIBUS Compliant
Powerful, Flexible Appointment Scheduler

B. Clearing House Services
Unlimited Claims, ERAs, Claim Inquiries and Claim Status for both
Commercial and Non Commercial Payers such as CMS, Medicaid,
BCBS, Tri-care, RR, etc. Unlimited Eligibility Verification (Available with Unlimited Claims)
Submit Unlimited Electronic Commercial Claims
Print Unlimited Paper Claims
Process Patient Statements
Unlimited Commercial ERAs & Auto Payment Posting
Complex Billing Scenarios (Multiple Offices , Multiple Tax IDs, or Multiple NPIs /Group NPIs)
EDI Clearinghouse Enrollment Setup is required for Medicare, Medicaid,
BCBS, Tri-Care, and Railroad.

C. ICD10 Features
ICD9, ICD10 Dual Mode Billing Software
Print New ICD10 Dual Mode CMS 1500 Claim Form
ICD10: Code up to 12 Diagnoses
Instant ICD10 lookup for ICD9 codes (GEM Crossover)
ICD10 Claim ValidatorICD10 Super-Bill Convertor

D. Unmatched Customer Service
Platinum Support: Email, and Instant Chat
Unlimited Phone Support
Customer Request Tracking Portal - Real-Time Access for requests
Instant Customer Satisfaction Survey
Claims issues open over 48 hours directly escalated to CEO
Frequently Asked Questions Diary
Comprehensive Step-by-Step Online Video Training
Strong Online Documentation
Quarterly release of new features recommended by customers

E. Access, Security, Backup and Storage
Secure Data Storage Using Enterprise Class Systems - ORACLE / LINUX
Secure Data Backup: Incremental (Every 5 Minutes), Full (Daily).
Works on Windows, Android, Mac and Linux -Any OS
Works on IE, Chrome, Safari, Firefox -Any Browser
Works on Tablet, iPad, Desktop and Laptop -Any Device

F. Front Office - Appointment Scheduler - Key Features
Double, Triple Book. User Definable Time Slots
First Available / Resource Scheduling
Instantly View Patient Balance, Primary, Secondary, Tertiary Balance

Enter Copays and Payments from Appointment Calendar. Print Receipts
Set Recurring and Follow-up Appointments
Customize Appointment Color by Type and Length
View Scheduler by Day, Week, Month
Comprehensive Patient Ledger and Demographics
Print Superbills. View & Print Schedule Remotely
Scan and Upload Documents: Insurance Cards, Driver's license
Instant View of Patient's Future Appointments
Upload Patient Picture
Instant Appointment Hx

G. Claim Management & Financial Reporting
Pre-Billing Charges Report (Review Charges Before Transmitting)
Encounter Activities Report (All Charges in Detail)
Deposit Report - End of the Day Reconciliation
Payment & Adjustment Activity Report
Summary A/R by Payer
Detailed A/R by Payer
Summary A/R by Patient/Guarantor
Practice Financial Summary (Charges, Payments, Adjustments)
Patient Financial Summary by Referring Physician
Self-Pay/Cash Patient Reporting

H. Billing Office: Key Features
Manage Multiple Cases: Self-Pay, PI, WC, and MVA
Connectivity to National Payer Base of Over 1500 Payers
Instant Repeat Billing
Print Secondary Paper Claims
Multiple Contract / Fee Schedule to track Reimbursements
Charges on Hold (Charges Queued But That Require Attention)
Aging Claims Sorted by Insurance
Aging Receivables by Patient
Payment & Adjustment Posting

I. Premium Front Office Features
Inter Office Communication - Unifies Entire Practice
Generate Custom Mail-Merge Letters & Forms
Employee Time-card and Payroll Report
Resources and Equipment Scheduling
Scan and Upload Assignment Forms, Intake Forms, Registration Form
Missing Copay Report
Text Message / Email Notification for Missed, Cancelled Appts.
Scheduling Alerts. Patient Balance Alerts. Authorization Alerts
Track Visits Used and Visits Remaining
Track Patient Referral Source
Auto Generate Recall Letters
Create and Print Custom Labels
ERA & Auto Payment Posting
File Electronic Secondary Claims
Unlimited Insurance Contracts / Fee Schedules
Powerful Collections and Denials Workbench
Low Reimbursement Alerts and Reporting
Unbilled Visits Report (Reconcile Visits to Superbills = Unbilled Charges)

Drill Down Revenue and Financial Dashboard
Cash Flow Blocker Indicators
View Financial Health of Entire Practice At-a-Glance

J. Enterprise Features
Single Sign-on for Multiple Practices
Cross Practice Reporting / Dashboard
Cross Practice User Security
RCM Reports Package & Custom Report Writer
Facility Billing - UB04 Billing Rehab Centers and Long Term Care**
Annual Therapy Cap Manager - For PT, OT, SLP and Rehab Centers
Month-End Close and Reconciliation
GL Interface to QuickBooks, Peachtree and Other Accounting Systems
Daily, Weekly, Monthly, Quarterly & Yearly Close
Cross Practice User Productivity Monitoring
Cross Practice Reimbursement Analysis
Medicare Part B Therapy Cap Manager(G Codes)
Pre-Collection Manager
Installment Plan Manager
Mass Write Off
HL7 Interface to Other EHR
Excel Report Package
Cross Practice ERAs
Cross Practice Statement Manager
Cross Practice Denial Manager
Cross Practice Claims Manager
Document Manager: Practice Super-bill and EOB documents workflow based Tracking System

ICD-10-CM TOC of DISEASES and INJURIES
Certain infectious and parasitic diseases (A00-B99)
Neoplasms (C00-D49)
Diseases of the blood and blood-forming organs and certain disorders
involving the immune mechanism (D50-D89)
Endocrine, nutritional and metabolic diseases (E00-E89)
Mental, Behavioral and Neurodevelopmental disorders (F01-F99)
Diseases of the nervous system (G00-G99)
Diseases of the eye and adnexa (H00-H59)
Diseases of the ear and mastoid process (H60-H95)
Diseases of the circulatory system (I00-I99)
Diseases of the respiratory system (J00-J99)
Diseases of the digestive system (K00-K95)
Diseases of the skin and subcutaneous tissue (L00-L99)
Diseases of the musculoskeletal system & connective tissue (M00-M99)
Diseases of the genitourinary system (N00-N99)
Pregnancy, childbirth and the puerperium (O00-O9A)
Certain conditions originating in the perinatal period (P00-P96)
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)
Symptoms, signs & abnormal clinical & laboratory findings, notelsewhere classified (R00-R99)
Injury, poisoning and certain other consequences of external causes (S00-T88)
External causes of morbidity (V00-Y99)
Factors influencing health status and contact with health services (Z00-Z)

Appendix 4: Community Paramedicine (CP)
CP is an emerging healthcare profession. It allows paramedics and EMTs to operate in expanded roles to provide healthcare services to underserved populations. It is a way to improve rural emergency medical services (EMS) as well as address the healthcare needs of the community.
Some rural patients lack access to primary care, and misuse 911 services in an attempt to access emergency departments for routine healthcare causing strain on EMS personnel. Working in a primary care role, community paramedics can meet the needs of such individuals, as well as others in the community, in a more efficient and proactive way. This topic guide:
• Defines community paramedicine as well as community paramedics
• Outlines issues and challenges that rural community paramedics face
• Provides examples of community paramedicine models and existing programs
• Provides resources related to starting a rural community paramedicine program
• Outlines education and curriculum requirements for community paramedics
• Discusses how community paramedic programs are funded

What is community paramedicine and how can this benefit rural communities?
Community paramedicine is about filling local healthcare gaps by using existing providers in different roles. Community paramedics generally focus on:
• Providing primary care
• Post-discharge follow-up care
• Integration with local public health
• Providing education and health promotion programs
Paramedics and Emergency Medical Technicians (EMTs) are respected in their communities, and in rural communities are often consulted for healthcare advice by their friends and neighbors. The public welcomes these healthcare professionals into the private space – their home – without hesitation. Paramedics already have and use skills like giving shots and mixing and administering medication IV drips. While in their traditional role, a paramedic might give a patient a shot of Valium; the Community Paramedic would use that same skill in a different role, such as giving a "shot" of immunization. This model can also benefit rural EMS agencies by:
• Reducing requests for service that are inappropriate and not reimbursed
• Decreasing the amount of "down time" between calls, while better serving resident's needs
• Increasing revenue by billing patients or third party payers for services provided, when able.

What is the role of a community paramedic; what type of education is required?
The role of both EMT- and paramedic-level Community Paramedics is to fill local healthcare gaps as a full participating member of a patient's medical home care team. In their emergency roles, EMTs and paramedics are excellent problem solvers, but their initial training is focused on managing a patient's emergency condition over 30 to 60 minutes. To prepare them to participate in the medical home care team, additional education focuses on understanding long term care.   A standard curriculum is available free of charge to colleges and universities: 114 hours of didactic education (in the social determinants of health, public heath, and tailored learning about chronic diseases) and approximately 200 hours of lab and clinical experience.

How are rural community paramedicine programs funded?
Funding to start and sustain rural community paramedic programs is a significant issue. As of July 2014, most community paramedicine programs are funded either by the ambulance service itself, or through grants. There are currently three CMS Healthcare Innovation Grant awardees.
Some hospitals and hospital-owned ambulance units support community paramedicine programs because they believe there will be a reduction in emergency medical services (EMS) and emergency department misuse and reduced readmissions. In urban areas, Accountable Care Organizations (ACOs) are starting to

either contract with ambulance companies for the use of Community Paramedics, or are employing them directly within the ACO. As rural ACOs develop, there will be more opportunities. Local EMS agencies can work directly with ACOs and insurance companies in their area to determine if reimbursement for community paramedicine is an option.

In a hospital or clinic setting, patient care provided by community paramedics credentialed at that facility is reimbursable, just as it is for other allied health professionals.

For more information on how rural community paramedicine programs are funded, please see the Flex Monitoring Team policy brief, Community Paramedicine in Rural Areas: State and Local Findings and the Role of the State Flex Program.

How does an organization start a rural community paramedicine program?

There are many free online resources that organizations can use to inform their community paramedicine programs:

- Community Paramedicine Program Handbook – Includes information about program planning and feasibility, state regulations, and more.
- International Roundtable on Community Paramedicine – Website includes articles, presentations, and other resources on community paramedics.
- Community Paramedicine Insights Forum – Archive of past webinars monthly webinar and discussion forum related to experiences in implementing community paramedicine.

If choosing to hire a consultant, organizations should have a clear understanding of a consultant's capabilities and experience in actually bringing programs to reality.

Are there barriers to starting a rural community paramedic program?

Commitment and time are two barriers to starting a successful program. One of the first steps for any program is to complete an assessment of the community's healthcare gaps. To be successful, the program must not duplicate services, but focus on filling gaps and working alongside other healthcare providers. A concerted and continual communication effort is essential as partnerships are formed. Local champions, including a physician and nurse champion are also necessary.

Are there examples and models of rural community paramedic programs?

Rural Community Paramedic program functions are quite similar to urban programs, so most community paramedicine programs can serve as models to rural communities. The Paramedic Foundation is currently working on a registry of programs. Two examples are:

- Eagle County Paramedic Services in Colorado - this has been featured innews outlets, including the Rural Monitor article, Community Paramedics Widen Medical Services in Rural Areas
- Humboldt General Hospital EMS Rescue: Hospital-based EMS unit located in Winnemucca, NV. Director Pat Songer is featured in this MedicCast: What considerations are there related to licensure and regulation when starting a community paramedicine (CP) program?

Licensure and regulations for community paramedicine programs vary by state. CP programs do not expand the scope of practice, which has resulted in some states adopting laws or changing current regulations to accommodate this new model. As reported in Beyond 911: State and Community Strategies for Expanding the Primary Care Role of First Responders, Minnesota, Maine, and Colorado have taken steps to address regulatory barriers in community paramedic initiatives.

For further information, or if you are unsure of your state's laws, contact your state's EMS agency.

Appendix 5: Advancing the Transition to a High Performance Rural Health System Excerpts
http://www.rupri.org/wp-content/uploads/2014/09/The-High-Performance-Rural-Health-Care-System-of-the-Future.pdf
Prepared by the RUPRI Health Panel **November 2014**

Contents

Purpose

Despite decades of policy efforts to stabilize rural health systems through the   (CAH) and other payment, loan, and grant programs, accelerating rural hospital closures in recent years have created widespread concern that these efforts are inadequate for addressing current rural health system challenges. Moreover, broad health system transformation aimed at achieving the Triple Aim©—improved experience of care, lower costs, and improved health of populations—is bypassing too many rural providers and health systems. Small size, low patient volumes, and limited human resource and financial capacity, particularly in frontier communities, make it difficult for rural hospitals and physician practices to participate in risk-based or shared savings arrangements such as accountable care organizations (ACOs) and bundled payments. Some rural health care providers are also often ill-equipped to respond to public and private quality reporting and improvement imperatives and requirements. Too many small rural hospitals and physician practices still lack the necessary electronic health record (EHR) systems, staff, and other capacity needed to mount robust quality improvement programs. And finally, rural health systems typically lack the capacity to pursue population health strategies such as clinical care management and community health improvement.

While small scale—smaller economies, fewer people—is an inherent reality in rural health, the fragmented and "siloed" nature of the health system in many rural communities further undermines the ability of individual providers and the collective system to effectively pursue the goals of the Triple Aim©. Hospital care, primary care, specialty care, post-acute care, home health care, and public health providers and services are organized, governed, managed, and delivered largely independently of each other. Categorical public and private payment and funding arrangements, as well as regulatory requirements, have contributed to health system fragmentation and represent significant barriers to service integration. The rural health system of today, including providers and other health and public health services, is the product of legacy policies and programs that often do not "fit" current local needs and often have misaligned incentives that undermine high-value and efficient care delivery. Policies such as cost-based reimbursement, for example, have sustained some hospitals, thereby ensuring access to medical procedures, imaging, and diagnostics/testing services. But those policies have not created incentives for value-based models that invest less in technology-intensive medical services and more in health promotion, improved clinical care quality, enhanced patient safety and experience, and better population health at lower per capita costs… In this paper, …..we hope to inform rural health system transformation efforts by:
• Describing the essential elements of a high performing rural health system;
• Highlighting the elements and principles of high performance systems and strategies for achieving them;
• Discussing the system governance challenges and options needed to implement key strategies and options;
• Presenting the Panel's assessment of policy and other options for advancing the transition to a high performance system.

Background: The Current Rural Health Landscape
A transformation is underway in the U.S. health care system, driven by pressures from private and public payers and expectations for new approaches to achieve health objectives. This transformation includes a focus on population health and individual well-being, using new technologies such as telehealth, and employing new workers such as community health workers. How that transformation unfolds in rural areas will be influenced by how long-standing rural circumstances are addressed, and how rural providers and communities seize opportunities to redesign service delivery. Historically, service delivery challenges have been related to access to health care services—local access to primary care providers and specialists; access to emergency care, acute care, and long-term care services; and access to important social services that impact the health of rural community members. But barriers to access are much more complex than these factors imply. Economic barriers to access are more prevalent in rural places due to poor economic opportunity, higher uninsured rates, and lower incomes, which lead to a higher number of rural persons relying on public insurance. There are relatively higher percentages of rural people in fair or poor health compared to urban populations, and a higher prevalence of chronic conditions related to an older populace in rural places. Growing population diversity in rural communities introduces complex cultural, personal, and health belief factors. Rural providers, in turn, are disproportionately affected by the reimbursement policies of public payers because of the poorer and older patient mix. Payers, through their reimbursement policies, have enormous influence over who practices in rural areas and how those services are organized. These factors compel a different "fit" between health and social resources in rural communities than in urban centers, and force more vulnerable rural health systems to consider how to deliver health with greater sensitivity, competency, coordination, and efficiency than in the past...

Background: New Public and Private Payment Strategies
Government payers, commercial insurers, and self-insured organizations increasingly demand health care of *value*. Health care value is defined and measured as better health care (improved clinical quality, patient safety, and patient experience) and lower per capita costs. The demand for value has compelled many insurers and some health care providers to look "upstream" for opportunities to prevent disease and disability in order to eventually reduce per capita costs. Health care payers are increasingly holding health care providers accountable (i.e., at financial risk) for improved value through payment alternatives to fee-for-service (FFS) and cost-based reimbursement. These new payment strategies include financial bonuses and penalties based on clinical quality, per capita payments for care management, and shared savings for improved efficiencies. There is also increasing support for the type of care likely to improve health care value and outcomes, such as care coordination services and robust primary care. Thus, the health care environment is in the midst of a transition from FFS payments to value-driven and population-based (capitated) payments for better outcomes supported by increasingly sophisticated performance metrics.

Unfortunately, many rural health care providers may be unable to meet these demands for value within the rural health system described above. The infrastructure to improve quality and value, including quality improvement expertise, common EHR and connectivity platforms, data analytics, patient experience focus, clinical care standardization, care coordination, common performance metric implementation, and financial resources necessary for innovation, often requires the resources of larger, organized health systems than are present in most rural places. To obtain access to these resources, health care providers are increasingly merging or affiliating, creating opportunities for developing a clinically integrated network to better manage the care of people along the continuum—avoiding duplication, seamlessly transitioning care between providers, ensuring consistent quality, and eventually lowering per capita costs.

Expanded Insurance Coverage under the ACA
Access to affordable health insurance has expanded with the implementation of the ACA, but the full impact of the ACA on rural health systems is as yet unknown. There is early evidence that increased access to health insurance through the insurance marketplaces and Medicaid expansions are reducing the uninsured rate. How expanded insurance coverage translates into access to and use of services (and the corollary impact on the financial stability of the delivery system) is still to be determined. Insurance coverage expansion …allows health care providers to remain financially stable in areas with smaller populations—a critically

important factor in rural places, because these communities represent smaller markets with historically higher numbers of residents uninsured...

Delivery System and Finance Reform under the ACA
The ACA includes many provisions that aim to improve quality and cost efficiency through changes in health care delivery and payment. These changes, including the move to patient-centered medical home (PCMH) and ACO financing models may facilitate changes in rural delivery as providers and systems respond to incentives to change how rural providers configure and deliver services to better align with quality and payment incentives. The Medicare Shared Savings Program (Medicare ACOs) and the Bundled Payments for Care Improvement Initiative are among the provisions in the ACA that have already been implemented. Other payment policy changes under the ACA create incentives to improve and sustain quality of care (e.g., payment based on provider performance on clinical care processes, outcomes, and costs), including value-based purchasing in physician payment beginning in 2015, refinement to the quality metrics used in payment systems, and use of quality metrics in the ACO program. Additional payment changes affecting rural health care providers include Medicaid/Medicare payment parity and Primary Care Incentive Payment, which increase payment to rural primary care providers through December 2014 and December 2015, respectively; reducing PPS payment through an increased productivity adjustment; and reducing disproportionate share payments to hospitals.

The ACA also created and funded the Center for Medicare and Medicaid Innovation to support new demonstration projects. After an evaluation, the Centers for Medicare and Medicaid Services (CMS) has the authority to change Medicare policy based on demonstration results. Specific projects have included the Community-based Care Transitions Program and the Federally Qualified Health Center (FQHC) Advanced Primary Care Practice Demonstration. These and other federal and state policy actions should improve macro-level measures of affordability and access in rural areas (e.g., uninsurance rates, provider supply, improved health outcomes), though it will likely take several years for the full effects of the ACA to be seen. It is also important to note that analyses of the net impact of all ACA provisions may miss significant variation across rural areas, different states, health system sectors, and rural people. Future high performance rural health systems will require innovative health care approaches that respond to and move beyond these drivers of change. In the following sections we review the foundations of a high performance rural health system and discuss essential services in rural health.

The RUPRI Health Panel envisions rural health care that is affordable and accessible for rural residents through a sustainable health system that delivers high quality, high value services. A high performance rural health care system informed by the needs of each unique rural community will lead to greater community health and well-being.

Foundations of a High Performance Rural Health System
High performance rural health systems are predicated on a robust primary care base that integrates medical, dental, and behavioral health care; human services; community health; and other services affecting rural quality of life. Ideally, these services are integrated and aligned beyond the clinical setting, supported by financial arrangements designed to achieve and sustain the five pillars of a high performance system: affordability, accessibility, community health, high quality care, and patient-centeredness. High performance rural health systems are flexible and responsive to a community's unique needs, yet they share a common set of characteristics that rely upon accessible health information to manage and coordinate care, respond to value-driven payment policies, offer collaborative provider relationships across the vertical and horizontal care continua, and pay attention to the health of individuals in the community and the underlying social conditions affecting community well-being.

Essential Rural Community Health Services
Essential community health services in rural areas should share the basic building blocks of local primary care capacity, including the ability to respond to a range of personal health care needs (e.g., preventive, urgent, emergent, and palliative) and address community health needs. Beyond providing a basic level of access to health care, however, the "ideal" high performance rural health system is designed to meet essential health *and* health-related (e.g., social services, transportation) needs of individuals and families. In future

rural health systems, co-locating resources in a proximate location such as a health mall or health hub can facilitate access to a broad range of community-appropriate services. Figure 1 illustrates essential services that are locally provided, physically or virtually integrated, and coordinated across the care continuum in the ideal high performance rural health system.
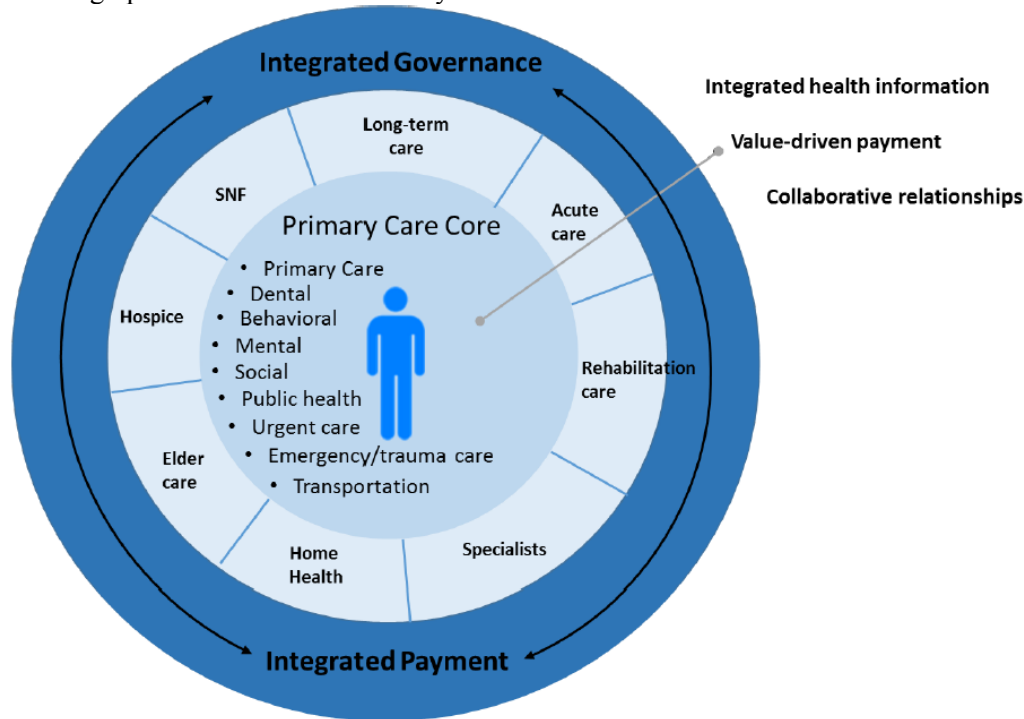

Figure 1. Essential health services & organization in the ideal high performance rural health system

In this configuration, rural persons have access to locally provided, comprehensive, and affordable primary care services that are integrated with social, behavioral, mental, and dental health services. Screenings such as oral health for infants and children, for example, may be provided at the same time as a primary care visit. Public health, emergency response, urgent care, and transportation services are a key part of the core model, as they provide various means of access to essential specialized care resources. Access to specialists, acute care/hospitals, home health, hospice, skilled nursing, elder care, rehabilitation (e.g., physical therapy), and long-term services and supports (e.g., home and community-based services) occurs through primary care coordination in collaboration with other community or regional resources. A shared EHR enables providers to view entire health histories and health status factors. Dentists, for example, may see that a patient requires a tetanus shot; primary care providers may see that a dental visit is overdue.

Common medical, surgical, and pharmaceutical supplies are available locally. Emergency response services are mobile rather than fixed, and electronic links via telemedicine to higher level trauma centers, specialists, and/or pharmacists tap into expert resources located remotely in real time. Use of virtual technologies facilitates access to care, transfer planning and coordination, and communication between providers, patients, and families while saving costs associated with patient travel and local provision of specialized services. Acute care services are provided locally or more distant, but referral relationships between providers should be collaborative and seamless to patients. Shifting a portion of the care away from "primacy of the rescue" to disease prevention and health promotion relieves the rural health system of significant back-end costs associated with expensive care. These savings may be reinvested into performance improvement efforts, understanding gaps in community capacity, or community-based workforce training in order to fine-tune the system to local needs.

In this model, workforce design relies upon a team-based approach, with health professionals trained in community settings who effectively collaborate across services and sectors to provide the full continuum of care. Team members should include "comprehensivists," primary care providers who evaluate and treat persons undifferentiated by age, gender, or health condition. Team members should involve a broad range of

primary care provider disciplines that may include, but need not be limited to, physicians, nurse practitioners, physician assistants, and prescriptive psychologists. The team should also include nonclinical primary care extenders who perform a variety of care management, coordination, and outreach activities. Many areas of the United States increasingly rely on primary care extenders, such as promoters/community health workers, peer support specialists, care managers/coordinators, and health/wellness coaches, to provide a critical link between the local health care system and the community.

To achieve this ideal, new approaches are needed to change the fundamentals of how community health and health-related services are organized and financed. Governance structures and corresponding mechanisms and protocols for service coordination and/or integration across service sectors (e.g., health, human services, and community development) are needed to achieve the common objective of sustainable, healthy communities. The following section highlights examples of efforts by rural communities to fine-tune their health care delivery models to the unique needs and priorities of their communities.

Rural System Development Approaches to the Changing Health Care Landscape
The health care delivery approaches briefly described here illustrate U.S. and international efforts to respond to changing health care landscapes and local needs. We categorize these approaches in four ways:
1. Community-appropriate health system development and workforce design
2. Governance and integration approaches
3. Flexibility in facility or program designation to care for patients in new ways
4. Financing models that promote investment in delivery system reform

1. Community-appropriate health system development and workforce design
The following [one of] examples share an approach to health care delivery that is community-determined and driven. The term "community" is defined in geographical terms (e.g., state, region, town/village), and the form of delivery organization is informed by an identification of local community health needs and priorities.
• _*Transforming Rural Urgent Care Systems* (TrUCS) is a pilot project in a remote, southeastern Australia town considered too small for a stand-alone acute care facility. Funded by the State Ministry of Health (Victoria) and staffed through a nearby university's School of Rural Health, the urgent care clinic provides a range of services, from urgent response (ambulance, medical care) to social services (addressing underlying social determinants of health) through the inclusion of social workers on the care team. The facility is also partially staffed through community volunteers, which facilitates community buy-in and involvement. A steering committee coordinates stakeholder efforts and engagement, and includes members of the community, health professionals, health institutions, local and state government representation, and project officers from the State Ministry of Health to coordinate agendas and activities.

2. Governance and integration approaches
The following one of 3] examples illustrate how entities manage and deliver integrated health services within either a global budget or a constrained reimbursement environment.
• _*Primary Care Trusts (PCTs)* in England under the National Health Service (NHS) were administrative bodies that contracted with providers to deliver primary care and public health services in a particular geographic region.13 PCTs acted independently and set their own budgets with funds from the NHS. They were given wide latitude to perform community needs assessments and tailor service delivery to local needs and resources. Specific services covered through all PCTs were primary care, prescriptions, and behavioral health. Other services were contracted if the trust determined it was an area of need. PCTs management was by a board of directors, who dealt with day-to-day operations, and a professional executive committee.14 The board of directors was composed of administrators and headed by a CEO. The professional executive committee was composed of providers from the PCT's region and served as an advisory body to the board of directors. Notably, hospitals were excluded from this management structure. In 2013, the British government restructured primary care and public health services, eliminating PCTs and placing responsibility for operations and financial management in the hands of primary care physicians….

3. Flexibility in facility or program designation to care for patients in new ways

The [one of 5] following examples highlight approaches that meet specific programmatic objectives. The objectives may be met by adhering to designation or certification standards set by policy makers or accreditation organizations, or by incorporating business model approaches that designate facility use and purposes.

• _Frontier Community Health Integration Project_ (F-CHIP)18 is intended to assist rural hospitals in increasing financial sustainability, improving care coordination, and addressing regulatory challenges.19 F-CHIP allows integration of home health, hospice, acute care, and extended care services under the cost-based reimbursement rules allowed CAHs. The CAHs in this model are responsible for the entire continuum of care in a rural community, and cost-based reimbursement allows them to utilize less expensive services to treat patients with chronic conditions while de-emphasizing inpatient care….

4. Financing models that promote investment in delivery system reform

The following [one of 3] examples illustrate how financial mechanisms are used to promote investment via incentives to reconfigure health care services, including shared savings arrangements, Medicaid waivers to experiment with new modes of care delivery, and capitated payments.

• _ACOs_ are a new health care financing model in which a group of providers (generally physicians and hospitals) agree to provide high-quality care at lower per capita cost. If costs are lower than predicted, the payer shares the savings with providers. Approximately 660 ACOs operate nationally, and greater than half of them are Medicare ACOs. The National Rural Accountable Care Organization is a group of eight noncontiguous health care organizations with over 10,000 attributed beneficiaries that operates as an ACO under the Medicare Shared Savings Program.

These approaches are examples of the many different responses an entity, a group of entities, or a community can make to address changes underway in their health care environment. Not all models will fit all conditions (e.g., FESCs are for frontier designated areas, and freestanding EDs without primary care capacity may not be a viable option in some areas), and careful consideration must be given to the local context and unique circumstances that could enable or hinder the application in a rural setting.

The Importance of Integrated Governance

Delivery of health care has moved from a focus on individual patients to a community or population. Caring for a population requires focusing on overall health rather than simply providing health *care*. A high performance rural health system integrates a continuum of health services in a community, including clinical care, public health, and social services that address the upstream determinants that drive a community's level of health. These services are supplied through public health organizations, medical/clinical providers, insurers, social service providers, schools, and community-based NGOs such as faith-based organizations. However, to improve population health, population health services must be funded. They must also be decoupled from the medical visit, and provided by the most appropriate community entity. Public health, social and community health groups, and health care delivery systems (e.g., hospitals and physicians) should align under community health system boards that oversee and ensure that services are provided in the most effective, appropriate, and efficient way...

The ideal model of governance depends on local context; a rural community of 1,000 needs a different system structure and set of services than a rural community of 10,000. One option for rural communities is to use community health system boards that bring stakeholders together under one umbrella. The structure results in a single, common board for multiple organizations or a system-level board with representatives from multiple community organizations. Integrated governance has the following functions and purpose:

• Create regional "megaboards" that oversee a wide continuum of health care and social services that address both clinical care and underlying social determinants of health;
• Develop core, shared infrastructure and services needed to coordinate and integrate services across the continuum (e.g., development and implementation of EHRs, telehealth, home health, other systems);
• Aggregate and create flexible funding streams to support integrated care, and develop new funding and payment arrangements that focus on population health;

• Assess common community and regional health needs to identify gaps and improvement strategies;
• Develop and implement health system innovations and pursue grant-funded initiatives; and
• Support workforce development priorities.

….With increased emphasis on integrated governance, rural communities may be challenged by the tension between the desire for local control and the trend toward hospital and clinic affiliations with larger health systems whose system "home" is not in the local community. Increasingly, this trend means that priority setting and resource allocation occurs centrally by the health system, with the expectation that the local member facilities align and participate in the system-determined goals and activities, which may not be congruent with local goals and priorities…

Public Policy Considerations: Challenges in Transitioning from Status Quo to High Performance
Public policies will help shape the pathway to a transformed, high performing rural health system. Although a great deal of attention is now focused on the effects of the ACA, the rural health delivery system is more broadly impacted by not only the ACA but also payment policies, regulations, administrative actions across state and federal programs, and grants for projects and demonstrations. Some of these policies became law several years before the ACA and are still in the implementation phase. In this section of the paper, we describe policies, general and specific, that are relevant to the four system development approaches leading to a high performance rural health system.

1. Community-appropriate health system development and workforce design
The creative design of delivery systems should include roles for local rural health care providers, encourage flexible use of public dollars, pay for services developed in new system configurations, and make optimal use of health care professionals.
• The Medicare Shared Savings Program should be continuously improved…
• Payment should support development of redesigned rural primary care systems…
• Policies should facilitate adoption of telehealth where appropriate...
• Reviews of potential antitrust violations should consider the benefits to rural communities from integrated systems that can achieve a population and economic scale necessary to support care coordination..
• Federal support for training a new health care workforce in HRSA programs supported by Titles VII and VIII of the Public Health Service Act, including ACA provisions focused on primary care workforce…
• Federal research and planning related to workforce should incorporate all participants in the workforce…
• Several federal grant programs can support system development: The Federal Office of Rural Health Policy's Network and Outreach Grants,29,30 the State Innovation Models (SIM) Initiative funded by Center for Medicare and Medicaid Innovation,31 and Community Transformation Grants supported by the CDC.

2. Governance and integration approaches
Resources, guidance, and rules are needed to support innovative organizational design and investments for health care entities. Investments might start with modest grant funding through programs listed in approach 1, above. However, the capital requirements for structural (physical and organizational) redesign will likely exceed support available through grant programs.
• Capital available through programs such as the U.S. Department of Agriculture's Community Facilities Program should be targeted to rural providers and places engaged in service integration and redesign...
• Support should continue through renewable grant funding to specific entities and should be directed to collaborations among local provider and service organizations…
• A federal task force should review the governing requirements for all types of health care and human service entities receiving federal support through grants and specific payment policies…
• The White House Rural Council should discuss new approaches to designing programs across agencies such that funding streams are easily merged to support innovative system design.
• Additional means of aggregating capital for local investment should be explored.

3. Flexibility in facility or program designation to care for patients in new ways

Current designations of provider entities will inhibit a transition to a high performance health system. The following policies will facilitate sustainable approaches to delivering high-quality, coordinated care...

• Two options described earlier in this paper, FESC and F-CHIP, should evolve into a federally supported designation of a facility type(s) that provides essential clinical services in frontier settings.

• As alternatives are understood and facilitated by state and federal action, some rural facilities currently configured to provide inpatient hospital services should be reconfigured as medical hubs in their communities to provide essential local services that do not include inpatient hospitalization...

• The recent growth in PCMHs provides opportunities for new means of delivering care in rural areas. Two sections of the ACA should be implemented in ways to encourage rural innovation in medical homes— Section 2703, "State Option to Provide Health Homes for (Medicaid) Enrollees with Chronic Conditions," and Section 3502, "Establishing Community Health Teams to Support the Patient-Centered Medical Home."

4. Financing models that promote investment in delivery system reform

Transforming the rural health system requires modification of payment policies, including public and private sources. Medicare payment policy continues to be a major consideration for many rural providers, and Medicaid— already important —is becoming an even more important payment source because of Medicaid expansion in some states. Transitions from current FFS, volume-driven payment systems to new, value-driven payment methods, focused on outcomes such as patient and population health, are necessary. For rural providers, operating on thin financial margins, payment transitions will be challenging and policy implementation should reflect that reality. Payment policies should align with system redesign and improvement.

• Value-based purchasing methods have been implemented for prospective payment hospitals as well as for other health care providers (e.g., FQHCs, home health agencies)...

• Cost-based reimbursement remains in place for certain rural providers (e.g., CAHs). This methodology helped small rural hospitals remain viable sources of essential services in their communities, and continues to be important to financial viability…

• …Policies regarding use of public investment programs and revenues generated by incentives to manage patient care more cost effectively (e.g., shared savings, global payment, payment for care management) should allow new investment strategies.

Next Steps: Demonstrations to Trial Transition Strategies for Rural Health Systems

Rural providers need large-scale rural health care delivery and finance demonstrations that, if shown to improve rural health care value, can be quickly brought to national scale. Demonstrations should incorporate financing changes that effectively optimize and combine funding from previously disparate sources (for example, HRSA, CMS, CDC, private insurers, and charitable funders). To reach national scale, demonstrations should incorporate two or more of the four system development approaches described in this paper. For ease of understanding what might be most helpful, however, we offer the following descriptions...

1. Community-appropriate health system development and workforce design : Local primary care redesign

General Description: Projects would be solicited that include local primary care and health care providers (including the local hospital) in an organizational configuration that expands and sustains access to comprehensive primary care through primary care providers focused on individual and community health improvement, including PCMH (or person-centered health home) principles.

Key Elements:

• Involve all health care providers in the service area...

• Use the principles of an enhanced PCMH model...

• Integrate with community-based service providers involved in patient care: ..Telehealth capacity will be integral to these demonstration projects.

• Align financial incentives: …The payment could be made to the practice, not the individual physician, thus creating the payment for the most appropriate service delivered by the appropriate health team member...

• Fund infrastructure needed to support new models of integrated community-based, patient-centered primary care services and facilities:...

2. Governance and integration approaches: Integrated governance
General Description: Projects would align various organizations in a region in a new model of governance. The models may include structures that use affiliation agreements and memoranda of understanding, or may require a new governing entity such as a community foundation or new designs that are responsible for merging funding streams and directing new programs.
Key Elements:
• Establish a governing board:...
• Mandate board training...
• Assess community health needs:...
• Include local government:…
• Share leadership: ...

3. Flexibility in facility or program designation to care for patients in new ways: Frontier clinics
General Description: While the term "frontier" may be defined by formulae incorporating population concentration and distance criteria, it also characterizes places lacking arrays of health care services that may include acute inpatient capacity and other services found in larger population centers. Innovative models should secure sustainable essential health care services (comprehensive primary care, emergency care, public health and social services) integrated with services across the horizontal and vertical care continua. Models should be tailored to unique community circumstances (including health needs, available resources, linkages to distant health care delivery systems), but key elements can be replicated across locations.
Key Elements:
• Primary care: …Linkages, such as telehealth to health care providers elsewhere for consultation and indirect supervision, may be necessary.
• Emergency services: ...
• Public health services: …
• Payment approaches: ...

4. Financing models that promote investment in delivery system reform: Finance tools to repurpose existing local health care delivery assets
General Description: Existing local assets, which may include inpatient hospital facilities, will serve as health hubs in many rural places. Reconfiguring physical plants and using financing capacity of a central organization(s) (e.g., the community hospital, clinic, and SNF) will help transform the local delivery system.
Key Elements:
• Repurpose hospital facilities: Medicare Conditions of Participation should be modified as small rural hospitals redesign service mix and reconfigure physical space to meet community needs…
• Reconfigure service mix:...
• Create new capital financing options: ...
• Implement new payment policies: ...

Conclusion
Transformation underway in health care delivery, organization, and finance creates unprecedented opportunities to develop sustainable rural health care systems designed to meet the health needs of local populations. A high performance rural health care delivery system is achievable. Rural hospitals continue to close, and remaining hospitals (including CAHs) and other rural service providers are under increasing pressure to compete in larger, more sophisticated payment systems. If rapid change occurs without preserving access to essential health care services during the transition, rural communities may suffer.

Appendix 6: American Productivity and Quality Center
APQC Healthcare Process Classification Framework
https://www.apqc.org/knowledge-base/documents/apqc-process-classification-framework-pcf-healthcare-payer-pcf-pdf-version-

OPERATING PROCESSES

1.0 Develop Vision & Strategy	2.0 Develop & Manage Healthcare Services	3.0 Market & Sell Healthcare Services	4.0 Deliver Healthcare Services	5.0 Manage Customer Service

MANAGEMENT & SUPPORT SERVICES

6.0 Develop and Manage Human Capital

7.0 Manage Information Technology

8.0 Manage Financial Resources

9.0 Acquire, Construct and Manage Property

10.0 Manage Environmental Health and Safety

11.0 Manage External Relationships

12.0 Manage Knowledge, Improvement and Change

APQC's Process Classification FrameworkSM (PCF) is a taxonomy of cross-functional business processes intended to allow the objective comparison of organizational performance within and among organizations. The PCF was developed by APQC and its member companies as an open standard to facilitate improvement through process management and benchmarking, regardless of industry, size, or location. The PCF organizes operating and management processes into 12 enterprise-level categories, including process groups and more than 1,000 processes and associated activities.

1.0	**Develop Vision and Strategy**
1.1	Define the long-term vision and values
1.1.1	Assess the external environment
1.1.2	Survey market and determine community's needs, wants and perceptions of provider
1.1.3	Perform internal analysis
1.1.4	Establish strategic vision
1.1.5	Conduct organization restructuring opportunities
1.2	Develop business strategy
1.2.1	Develop overall mission statement
1.2.2	Establish organizational values
1.2.3	Evaluate strategic options to achieve the objectives
1.2.4	Select long-term business strategy
1.2.5	Coordinate and align functional and process strategies
1.2.6	Create organizational design (structure, governance, reporting, etc.)
1.2.7	Develop and set organizational goals
1.2.8	Formulate business unit strategies
1.3	Manage strategic initiatives
1.3.1	Develop strategic initiatives
1.3.2	Evaluate strategic initiatives
1.3.3	Select strategic initiatives
1.3.4	Establish high-level measures metrics for success
2.0	**Develop and Manage Healthcare Services**
2.1	Manage service portfolio
2.1.1	Evaluate performance of existing services against market opportunities and evidence-based medicine

2.1.2	Define service development requirements
2.1.3	Confirm alignment of service concepts with strategy
2.1.4	Manage service life cycle
2.1.5	Manage service cost and quality
2.2	Develop services
2.2.1	Perform medical research
2.2.2	Design, build business case, and evaluate services
2.2.3	Test market for new or revised services
3.0	**Market Healthcare Services**
3.1	Understand patients, markets, and capabilities
3.1.1	Perform patient and market intelligence analysis
3.1.2	Evaluate and prioritize market opportunities
3.2	Develop marketing strategy
3.2.1	Define offering, patient and referral value proposition
3.2.2	Define and manage channel strategy
3.3	Develop and manage marketing plans
3.3.1	Establish goals, objectives, and metrics for services by channels/segments
3.3.2	Establish marketing budgets
3.3.3	Develop and manage traditional/digital/ social media
3.3.4	Develop and manage promotional activities/ sponsorships
3.3.5	Track patient management measures
3.4	Develop and manage business development plans
3.4.1	Generate leads
3.4.2	Manage referrals and accounts
3.4.3	Manage referral marketing
3.4.4	Establish referral goals and measures
3.4.5	Establish referral management measures

4.0	**Deliver Healthcare Services**
4.1	Manage non-medical services
4.2	Plan for and align supply chain resources
4.2.1	Develop supply chain strategies
4.2.2	Manage demand for materials
4.2.3	Create materials plan
4.2.4	Plan distribution requirements
4.2.5	Establish distribution planning constraints
4.2.6	Review distribution planning policies
4.2.7	Assess distribution planning performance
4.2.8	Develop quality standards and procedures
4.3	Procure materials
4.3.1	Develop sourcing/contracting strategies
4.3.2	Select suppliers and develop/maintain contracts
4.3.3	Order materials and services
4.3.4	Manage suppliers
4.4	Manage logistics and warehousing
4.4.1	Define logistics strategy
4.4.2	Plan and manage inbound material flow
4.4.3	Operate warehousing and PAR inventories
4.4.4	Operate outbound transportation
4.4.5	Manage returns; manage reverse logistics
4.5	Manage medical documentation
4.5.1	Update medical records
4.5.2	Review completeness of medical records
4.5.3	Submit and respond to information queries
4.6	Receive the patient for care
4.6.1	Schedule the patient
4.6.2	Verify insurance
4.6.3	Register the patient
4.7	Deliver care to patient
4.7.1	Perform the initial intake
4.7.2	Manage throughput and schedule resources
4.7.3	Perform testing
4.7.4	Determine care plan
4.7.5	Execute care plan
4.7.6	Perform ordered procedures
4.7.7	Engage care coordinators
4.8	Discharge patient from care
4.8.1	Provide patient with discharge instructions, care education, and orders
4.8.2	Solicit discharge paper signature from patient
4.8.3	Coordinate post-discharge services
4.8.4	Release patient
4.9	Initiate follow-up communication with patient
5.0	**Manage Customer Service (patients, employers, payors and other)**
5.1	Develop customer service strategy
5.1.1	Develop customer service segmentation/ prioritization (e.g., tiers)
5.1.2	Define customer service policies and procedures
5.1.3	Establish service levels for customers
5.2	Manage patient care outreach programs
5.2.1	Develop and implement patient care outreach programs
5.2.2	Monitor and evaluate outcomes of patient care outreach programs
5.2.3	Cycle outcome results into design of patient care outreach programs
5.2.4	Monitor participation and compliance with patient care outreach programs
5.3	Plan and manage customer service operations
5.3.1	Plan and manage customer service work force

10.2.2	Determine anticipated compliance to materials policies
10.2.3	Manage regulatory compliance
10.3	Manage remediation efforts
10.3.1	Monitor medical staff compliance
10.3.2	Create remediation plans
10.3.3	Contact and confer with experts
10.3.4	Identify/dedicate resources
10.3.5	Investigate legal aspects
10.3.6	Investigate damage cause
10.3.7	Amend or create policy
10.4	Manage business resiliency
10.4.1	Develop the business resilience strategy
10.4.2	Perform continuous business operations planning
10.4.3	Test continuous business operations
10.4.4	Maintain continuous business operations
10.4.5	Share knowledge of specific risks across other parts of the organization
10.5	Manage environmental health and safety (EHS)
10.5.1	Determine environmental health & safety impacts
10.5.2	Develop and execute functional EHS program
10.5.3	Train and educate functional employees
10.5.4	Monitor and manage functional EHS program
11.0	**Manage External Relationships**
11.1	Manage affiliation with university medical and fellow programs
11.2	Build investor relationships
11.2.1	Plan, build, and manage lender relations
11.2.2	Plan, build, and manage analyst relations
11.2.3	Communicate with shareholders
11.3	Manage government and industry relationships
11.3.1	Manage government relations
11.3.2	Manage relations with quasi-government bodies
11.3.3	Manage relations with trade or industry groups
11.3.4	Manage lobby activities
11.3.5	Validate eligibility for grant funding and manage application process
11.4	Manage Relationship with Providers (Community and Independent)
11.5	Manage relations with board of directors
11.5.1	Report results
11.5.2	Report audit findings
11.6	Manage legal and ethical issues
11.6.1	Create ethics policies
11.6.2	Manage corporate governance policies
11.6.3	Develop & perform preventive law programs
11.6.4	Ensure compliance
11.6.5	Manage outside counsel
11.6.6	Protect intellectual property
11.6.7	Resolve disputes and litigations
11.6.8	Provide legal advice/counseling
11.6.9	Negotiate & document agreements/contracts
11.7	Manage public relations program
11.7.1	Manage community relations
11.7.2	Manage media relations
11.7.3	Promote political stability
11.7.4	Create press releases
11.7.5	Issue press releases
11.7.6	Monitor vendor's service level performance
11.8	Manage service vendors
11.8.1	Resolve discrepancies between SLA
11.8.2	Manage vendor payments according to services delivered

10.2.3	Manage regulatory compliance
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10.3.1	Monitor medical staff compliance
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