



Principles for Community Paramedicine Programs

A joint position statement of the National Association of EMS Physicians and the National Rural Health Association

While not a new concept, community paramedicine programs are increasing in number across America and throughout the world. The aim of the programs are to increase access to primary and preventive care, provide wellness interventions within the medical home model, decrease emergency department utilization, save healthcare dollars and improve patient outcomes using emergency medical services (EMS) providers in an expanded role. In order to assure medical appropriateness, engaged medical directors are a key component to any successful community paramedicine model¹.

Many emergency medical services agencies have been engaged in public health programs for decades. These activities have traditionally included prevention and education, although a broader approach was envisioned. In 2001, a memorandum of understanding² was written between the American Public Health Association, the National Association of EMS Physicians and the National Association of State EMS Officials (then known as the National Association of State EMS Directors). This landmark memorandum included 12 principles supporting collaboration between EMS and public health to define EMS providers' role in symptom identification, surveillance, medication distribution, immunizations, care of casualties and providing backup and protection to hospital emergency departments; leadership from public health and EMS to develop ways to rapidly assimilate and distribute "best practices" in response to terrorism; and, creation of a communication infrastructure connecting public health agencies with EMS responders to keep updated on public health alerts or identification of clustered illnesses.

The term "community paramedicine" was first used in the United States in 2001 as a potential model of improving rural community healthcare³, but the concept predates this term reference. The idea that emergency medical services providers can be used for public health and primary care is described in both the 1996 EMS Agenda for the Future⁴ and the 2004 Rural and Frontier

¹ Millin MG, Brown LH, Schwartz B. **EMS provider determinations of necessity for transport and reimbursement for EMS response, medical care, and transport: combined resource document for the National Association of EMS Physicians position statements.** Prehosp Emerg Care. 2011;15:562-9.

² APHA, EMS establish new partnership. American Public Health Association. <http://bit.ly/K65fyO>, accessed May 21, 2012.

³ Rowley T.; *Solving the Paramedic Paradox*; Rural Health News; Volume 8, Number 3, Fall 2001.

⁴ Delbridge T; *Emergency Medical Services Agenda for the Future*; National Highway Traffic Safety Administration, US Department of Transportation, Washington, DC; 1996.

emergency medical services Agenda for the Future⁵. Many existing programs expand the role of emergency medical services personnel while staying within the skill level of their scope of practice and the personnel are usually called Community ParamedicTM or Community Health Paramedic, while some programs expand the scope of practice and the personnel are called Advanced Practice Paramedics.

Australian literature describes community paramedicine as being in three primary models; Primary Healthcare, Substitution and Community Coordination⁶. At the current time, primary healthcare community paramedicine models generally provide patient education, routine primary care services outside the clinic or hospital environment, post discharge care and chronic disease monitoring. The aim of the primary healthcare models is generally to prevent admission or readmission to hospitals or nursing homes. At the current time there are no known United States substitution community paramedicine models. In other countries current substitution models include using community paramedicine to place specifically trained emergency medical services personnel to operate clinics or emergency departments where geographic isolation leaves no other trained medical personnel such as nurses, mid-levels or physicians. The goal of these programs is to assure access in isolated areas.

Community coordination models generally use specially trained emergency medical services staff to direct patients to the appropriate place of care the first time in order to avoid transport to emergency departments when transfer to some other care is certain.

Shifts in payment are creating unique challenges to healthcare systems as well as opportunities to use emergency medical services personnel within their scope of practice but in different ways in urban, rural and remote locations. Among others, these shifts include a disincentive program for hospital readmission⁷, an incentive program for Comprehensive Primary Care programs⁸ (formerly known as the “medical home” model) and shared saving models by “accountable care organizations”⁹. Emergency medical services personnel trained in community paramedicine can be one component of each of these programs in the functions of monitoring patient compliance with care plans established by providers that are licensed to create and modify care plans.

The National Emergency Medical Services Scope of Practice Model¹⁰ describes emergency medical services personnel as not licensed for independent practice, but rather dependent on physician delegated clinical practice. The practice of emergency medical services personnel is dependent on their education, certification of competency by exam, licensed by a state to perform restricted activities and credentialed by a medical director to practice in a specific setting (e.g., ambulance). Community paramedicine fits squarely in this structure except that

⁵ McGinnis, KK; *Rural and Frontier Emergency Medical Services Agenda for the Future*; National Rural Health Association Press; Kansas City, MO; 2004

⁶ Blacker, N., Pearson, L., & Walker, T. (2009). Redesigning paramedic models of care to meet rural and remote community needs. *The 10th National Rural Health Conference*, Cairns, Australia, May 17-20, 2009. (Accessed via http://10thnrhc.ruralhealth.org.au/papers/docs/Blacker_Natalie_D4.pdf on November 30, 2011).

⁷ Public Law 111-148, Section 3025.

⁸ <http://www.innovations.cms.gov/initiatives/Comprehensive-Primary-Care-Initiative/index.html>

⁹ <http://www.innovations.cms.gov/initiatives/ACO/index.html>

¹⁰ National Highway Traffic Safety Administration. *The National EMS Scope of Practice Model*. DOT HS 810 657. National Highway Traffic Safety Administration: Washington, DC, 2007.

both the credentialed setting and credentialing provider may or may not be different than the emergency medical services agency medical director. Only Minnesota has so far established a licensing structure for Community Paramedics^{11,12}.

The organizers and delegates of the International Roundtable on Community Paramedicine¹³ have been sharing experiences in planning, developing, implementing and evaluating community paramedicine programs worldwide since 2005. The participants have identified as important attributes of a program that they are gap filling, resourceful and flexible. Further, anecdotally, they describe significant implementation and sustainability issues when the community paramedicine services are duplicative of those already provided by other more established healthcare providers.

In order to achieve the goal of being gap-filling it is necessary to complete an assessment that identifies the gaps to be filled. A Community Paramedicine Evaluation Tool¹⁴ has been recently developed by the Critical Illness and Trauma Foundation and published by the Health Resources and Services Administration. This tool is structured in the public health model of benchmarks, indicators and scoring and is completed using a multidisciplinary process. The tool provides a “snapshot in time” assessment that is useful because the community can use the scores produced in each area of evaluation to provide a roadmap of improvement by strategically planning how to achieve higher scores in future snapshots. By its nature the tool provides important information to the user about what data to collect on an ongoing basis.

The Health Resources and Services Administration tool contains a series of structure, process and outcome benchmarks in each of the following areas:

1. Assessment: Regular systematic collection, assembly, analysis, and dissemination of information on the health of the community.
2. Policy Development: Promoting the use of scientific knowledge in decision making that includes building constituencies, identifying needs and setting priorities, legislative authority and funding to develop plans and policies to address
3. Assurance: Assurance to constituents that services necessary to achieve agreed-on goals are provided by encouraging actions of others (public or private), requiring action through regulation, or providing services directly.

In a Frequently Asked Questions document the Community Healthcare and Emergency Cooperative¹⁵ describes the competencies of a Community Paramedic as competent in the knowledge and skill required in defining the boundary of the Community Paramedic position;

¹¹ Community Paramedic™ is a trademark of the North Central EMS Institute

¹² Minnesota Statutes 144E.001, subd. 5f

¹³ www.ircp.info

¹⁴ Health Resources and Services Administration. Community Paramedicine Evaluation Tool. Health Resources and Services Administration: Washington, DC, 2012. Available in the public domain at <http://www.hrsa.gov/ruralhealth>

¹⁵ The Community Healthcare and Emergency Cooperative is an international group of agencies, colleges and universities that guides the ongoing development of the North Central EMS Institute’s Community Paramedic curriculum. <http://chec.ncemsi.org>.

competent in the knowledge and skill required in defining the term “health” and the ability to recognize and teach the social determinants of health in their own community; competent in the knowledge and skill required to identify services and inform the community on those services through various teaching methods and through partnerships; competent in the knowledge and skill required to understand and perform community mapping and health assessments; competent in the knowledge and skill required to develop strategies to identify community health needs and develop strategies to meet those needs and build community capacity; competent in the knowledge and skills required to perform a variety of clinical interventions; and, competent in the knowledge and skill to share public information that relates to emergency medical services and Public Health specific prevention programs.

The Community Healthcare and Emergency Cooperative describes the role competencies of Community Paramedics as:

- A Medical Director, Nurse Practitioner or a Physician Assistant or their international counterparts will supervise Community Paramedics;
- Deliver care that is patient focused;
- Work in collaboration with the local Public Health agency to ensure the ten essential Public Health Services are established and implemented as the core foundation of the program;
- Work with current and future organizational and professionals understanding those boundaries and establishing a treat and refer system;
- Deliver the most appropriate care in the most appropriate place and/or ensure that the patient is referred to the most appropriate health and social care professional. Will not provide unnecessary transport;
- When working within an emergency medical services setting will prioritize job to ensure emergency response;
- Provide appropriate healthcare advice and preventative services to both their patients and other relevant groups and individuals;
- Encourage patients to take responsibility for managing their own care and treatment where safe and appropriate to do so;
- Treat minor illness and injury in pre-hospital, primary care and acute and in-patient settings;
- Under physician direction will refer for radiological services;
- Ensure fewer hands-offs between health care professionals and enhance inter-professional communication throughout the patient pathway;
- Assess and map the community to identify services available and gaps in service;
- Work with the local Public Health agency, where possible, to develop the community’s health assessment as it applies to the population’s needs;
- Develop a method to better serve the community’s health care needs;
- Increase in community awareness of health prevention and promotion;
- Design and delivery of a collaborative health approach to the community;

- Utilize programs by the community to promote health and wellness to improve the overall health of the residents of the community;
- Develop safe treat and refer programs through policies and protocols;
- Provide follow-up services according to established care plan developed by supervisor and consult and recommend appropriate modifications as needed;
- Serve on the community multi-discipline team and assist in pandemic preparation for the community; and,
- Aware of the limits of their competence and determined to act within those limits.

The early training programs for community paramedicine have largely been developed internally by ambulance services, and thus are limited in content. The two notable exceptions are standardized courses developed by the University of Pittsburgh in its proprietary EmedHealth¹⁶ program, and a curriculum developed by the Community Healthcare and Emergency Cooperative for the North Central EMS Institute¹⁷.

The EmedHealth courses are organized around health advocacy, prevention and disease management and are designed to better utilize emergency medical services system capacity. The program has been recognized by several journals^{18,19,20,21,22,23}. EmedHealth provides training for paramedic health advocates in the areas of prevention, influenza vaccinations, health screenings, disease management, chronic disease management, depression management, contract acquisition, data collection and analysis, and quality assurance.

The North Central EMS Institute's curriculum is provided free of charge to accredited colleges and universities. Version 3 was released in May 2012 and contains six didactic modules covering:

- Module 1 - Role of the Community Paramedic in the Health Care System: The Community Paramedic will understand and analyze their role in the health care system.
- Module 2 - Social Determinants of Health: The Community Paramedic will understand the social determinants of health model.
- Module 3 - Public Health and Primary Care Role of the Community Paramedic: The Community Paramedic will understand their role in public health and primary care.

¹⁶ <http://www.emedhealth.com/>

¹⁷ <http://www.communityparamedic.org>

¹⁸ Public Health Perspectives, a supplement to EMS Magazine, October 2008.

http://www.emedhealth.com/files/Public_Health_Perspectives.pdf

¹⁹ Emergency Medicine Makes a Housecall, School of Health and Rehabilitation Sciences, University of Pittsburgh.

http://www.emedhealth.com/files/Emergency_Medicine_Housecall.pdf

²⁰ Mosesso, V, Packer, CR, McMahon, J, Auble, T, Paris, P. Influenza Immunizations Provided by EMS Agencies: The MEDICVAX Project. PREHOSPITAL EMERGENCY CARE 2003;7:74-78

²¹ Paramedics Work to Avert Emergencies. Pittsburgh Post Gazette, September 1, 2005.

http://www.emedhealth.com/files/Paramedics_Asthma.pdf

²² Emed Health Provides Disease Management Services. Community Health Challenge, 2007; 1.

²³ Prevention and Disease Management: Future EMS Role? UPMC Trauma Rounds.

http://www.emedhealth.com/files/Prevention_Management.pdf

- Module 4 - Developing Cultural Competence: The Community Paramedic will become culturally competent.
- Module 5 - The Community Paramedic's Role Within the Community: The Community Paramedic will understand their role within the community.
- Module 6 – The Community Paramedic's Personal Safety and Wellness: The Community Paramedic will understand the importance balancing stress and wellness while ensuring their personal safety.

The seventh module is the clinical module which is tailored by each college to fit the care gaps identified in community assessment. Topics from the following list are addressed in the curriculum, the college chooses topics from within the list that are appropriate to gaps, and may supplement it with training and clinical experiences for items not on the list. It is intended that a single physician lead the clinical training experience for each EMS agency.

- Patient History/Physical Assessment
- Adult and Pediatric Weight Checks
- Well Child Checks
- Vital Signs
- Blood Pressure Screening
- Cholesterol Screening
- Routine Follow-up 12-Lead Electrocardiogram
- Blood Glucose Checks
- Pulse Oximetry Monitoring
- Setting Up Continuous Positive Airway Pressure devices
- Ultrasound
- Lab Specimen Collection
- Lab Specimen Testing (Inc. I-STAT)
- Neurological Assessment
- Post Stroke Assessment
- Ophthalmoscope Use
- Chronic Disease Management (heart disease, asthma, COPD, diabetes)
- Managing Surgical Drains
- Managing Tracheostomies
- Managing Catheters
- Managing PICC lines
- Peripheral Intravenous Lines
- IV Catheter Changes
- Antibiotic Infusions
- Suture Removal
- Treatment of Minor Injuries

- Post Partum Home Visits
- Infusion Therapies
- Wound Care
- Wound Vacuum
- Medication Monitoring/Reconciliation
- Immunizations
- Fluoride Varnish for Children
- In-Home Lifestyle/Safety Evaluation

In response to a grant announcement by the Center for Medicare and Medicaid Innovation the Community Paramedic Innovation Challenge Collaborative was established by the North Central EMS Institute. Sixteen communities in nine states signed up to participate in CPICC and 100 paramedics started pilot training of the 3rd version of North Central EMS Institute's curriculum in early 2012. Each community has agreed to use a common set of outcome measures developed by North Central EMS Institute, Eide Bailly and the Emergency Medical Services Performance Improvement Center at the University of North Carolina.

Planning for sustainability of a community paramedicine program is an essential beginning element for any start-up program. As a new profession with pockets of implementation that vary greatly, the financing of community paramedicine so far has been highly local. In the United States, existing programs are funded by grants, local taxes, public health departments, ambulance services, healthcare insurers and accountable care organizations. Minnesota's legislature has structured a process for Medicaid payment for which reimbursement will follow provided the state is successful in a Medicaid waiver application to the federal Centers for Medicare and Medicaid Services.

There have recently been both successes and failures in community funding of community paramedicine programs. The county commissioners in Wake County (Raleigh, NC) are providing ongoing funding to support the Wake County Advanced Practice Paramedic program, although the economic downturn saw funding for phases 2 and 3 of program implementation withheld (the program is currently funded at the level proposed for the first year of the program). In contrast, public health department funding of San Francisco's community paramedicine program, aimed at serving the city of San Francisco's homeless population, was withdrawn after five years due to local political issues.

While there is little published peer reviewed research on the outcome of community paramedicine programs there is a growing body of outcome data from North America. In a recent filing to Parliament, the Emergency Medical Services Chiefs of Canada reported the following results:

- Nova Scotia's island nurse practitioner/Community Paramedic run clinic: Reduction in Doctor visits by 28% and a decrease in trips to the Emergency Department visits by 40%. Direct annual health care cost diminished from \$2380 to \$1375 per person over the three years of the study.

- The Community Referrals by Emergency Medical Services program in Toronto reduced emergency medical calls by 73.8% in the target population.
- The nurse practitioner/Community Paramedic Health Bus in Saskatoon saw nearly 6,000 visits, with 43% being repeat clients over a 2 year period.
- MedStar in Fort Worth accomplished a \$13.5 million reduction in costs and charges over a 2 year period, reduced 911 call volume in a target population by 58%, and reduce emergency department bed occupancy by 14,334 hours.

The National Association of Emergency Medical Services Physicians (NAEMSP) and the National Rural Health Association (NRHA) believe in the following concepts as it relates to the ongoing evolution of community paramedicine programs.

1. Engaged and knowledgeable physician medical directors must guide the program
2. States must decide whether and how to regulate community paramedicine programs; regulation may be necessary to effect reimbursement.
3. Each program should be tailored to meet local community needs by filling local gaps in access or care.
4. Community paramedicine will evolve over the next decade. Regulations, especially early regulations, should not stifle innovation or gap filling during this evolution. Standards should not be established until there is sufficient data on performance outcome measures. Community paramedicine programs must be engaged in reporting performance based on evolving common performance indicators and definitions.
5. Duplication of existing services by other healthcare providers by a community paramedicine program should be avoided.
6. Assessments followed by data collection and analysis using standardized tools and methods are essential building blocks for community paramedicine programs.
7. Community Paramedics in programs intending to be comprehensive in approach should be trained by accredited colleges and universities using standardized curricula. In isolated areas with a dominant chronic disease prevalence may be appropriate for modularized training specific to the disease process.
8. State and federal governments should establish reimbursement systems under Medicare and Medicaid, and the National Association of EMS Physicians and the National Rural Health Association should put such reimbursement on their legislative agendas.

Bibliography

Alaska Community Health Aide Program. (2011). CHAP general program information and history. Retrieved May 21, 2012 from <http://bit.ly/K52RiB>

Asplin BR. Under-triage, over-triage or no triage? In search of the unnecessary emergency department visit. *Ann Emerg Med*2001;38:282–5.

Audit Commission. A life in the fast lane: Value for money in emergency ambulance services. London: Audit Commission, 1998.

Audit Commission. The coming of age: Improving care services for older people. London: Audit Commission, 1997.

Ball L. Setting the scene for the paramedic in primary care: a review of the literature. *Emergency Medicine Journal* 2005; 22: 896-900.

Baskett P, Chamberlain D, Clarke T, et al. The future role and education of Ambulance Service Personnel (Emerging concepts). London: Joint Royal Colleges Ambulance Service Liaison Committee and Ambulance Service Authority Publication, 5 January 2000.

Berne M. Prehospital emergency treatment of people who say “no, thank you”. *Emergency Medical Services*1986;15:62–5.

Bissell RA, Seaman KG, Bass RR. Change the scope of practice of paramedics? An EMS Public Health Policy perspective. *Prehosp Emerg Care*1999;3:140–9.

Blacker, N., Pearson, L., & Walker, T. (2009). Redesigning paramedic models of care to meet rural and remote community needs. The 10th National Rural Health Conference, Cairns, Australia, May 17-20, 2009. Retrieved May 21, 2012 from <http://bit.ly/K53aKe>

Brown LH, Devine S. EMS & health promotion: a next step in the collaboration between EMS and public health. *EMS Responder* 2008 October 2008.

Burstein JL, Henry MC, Alicandro J, et al. Outcome of patients who refused out-of-hospital medical assistance. *Am J Emerg Med*1996;14:23–6.

Chen JC, Bullard MJ, Liaw SJ. Ambulance use, misuse, and unmet needs in a developing emergency medical services system. *Eur J Emerg Med* 1996;3:73-8.

Community Paramedic. (2011). The Community Paramedic Program: a new way of thinking. Retrieved May 21, 2012 from <http://www.communityparamedic.org>

Cooke MW, Higgins J, Bridge P. Minor injury services: The present state. *EmERG: University of Warwick and Birmingham*, 2000.

Cooper S, Barrett B, Black S, et al. The emerging role of the emergency care practitioner. *Emerg Med J* 2004;21:614-8.

Cooper S, O'Carroll J, Jenkin A, Badger B. Emergency care practitioners (ECP): practice and performance in the UK West country--a case study. *Int Emerg Nurs* 2008;16:180-4.

Council of Ambulance Authorities. *Expanding roles: An Australasian overview of emerging paramedic models of care*. Adelaide, SA: Council of Ambulance Authorities, 2008.

CTV. ca news staff. (2011, January 10, 10:45 AM) Community paramedics helping those on the fringes. Retrieved May 21, 2012 from <http://bit.ly/K53VTJ>. (The video clip is available at <http://bit.ly/K5489t>)

Dale J, Higgins J, Williams S, et al. Computer assisted assessment and advice for non serious 999 ambulance service callers: the potential impact on ambulance despatch. *Emerg Med J* 2003;20:178-83.

Dale J, Crouch R, Visavadia B, et al. Provision of telephone advice from A&E departments: A national survey. *J Accid Emerg Med* 1999;16:112-13.

Department of Health. *Intermediate Care: Moving Forwards*. National service framework for older people. London: DoH, 2002.

Department of Health. *The NHS Plan*. London: Department of Health; 2001.

Department of Health. *Taking healthcare to the patient - transforming the NHS ambulance services*. In: Health Do, ed. London, UK; 2005.

Department of Health. *Statistical bulletin ambulance services, England: 2003-4; 2004*.

Dixon S, Mason S, Knowles E, et al. Is it cost effective to introduce paramedic practitioners for older people to the ambulance service? Results of a cluster randomised controlled trial. *Emerg Med J* 2009;26:446-51.

Eburn M, Bendall JC. The provision of Ambulance Services in Australia: a legal argument for the national registration of paramedics *Journal of Emergency Primary Health Care* 2010; 8(4): 99014.

Emergency Medical Services Chiefs of Canada. *The Future of EMS in Canada: Defining the New Road Ahead*. Calgary, Alberta; 2006.

Emergency Medical Services Systems Act of 1973, Public Law 93-154: <http://1.usa.gov/K551xq>; accessed May 21, 2012

Everden E, Bilby M, et al. Community paramedics. Available at: <http://bit.ly/K55xwJ>; accessed May 2012.

Express Medical System Chiefs of Canada.(2006, September 18). The future of EMS in Canada: defining the new road ahead. Retrieved May 21, 2012 from <http://bit.ly/K55FvX>

Fahey C, Walker J, Lennox G. Flexible, Focused Training Keeps Volunteer Ambulance Officers. *Journal of Emergency Primary Health Care* 2003;1(1-2): 990017 (article no).

Federal Interagency Committee on Emergency Medical Services. State EMS system pandemic preparedness: A report by FICEMS. <http://bit.ly/K55QYg>; accessed May 21, 2012.

Fitzgerald G, Bange R. Defining a Regulatory Framework for Paramedics: A Discussion Paper. *Journal of Emergency Primary Health Care* 2007;5(2): 990253.

Gladstone DJ, Rodan LH, Sahlas DJ, et al. A citywide prehospital protocol increases access to stroke thrombolysis in Toronto. *Stroke* 2009;40:3841-4.

Government of Nova Scotia. Emergency Health Services (2005, November 30). Community paramedic essential competences. Retrieved May 21, 2012 from <http://bit.ly/K55XTA>

Government of Saskatchewan, Ministry of Health. (2009, February 26). Primary health bus to continue serving Saskatoon residents. Retrieved May, 2012 from <http://bit.ly/K566qj>

Government of Saskatchewan, Ministry of Health. (2009, October). Saskatchewan EMS review. Retrieved May 21, 2012 from <http://bit.ly/K56FQR>

Government of Saskatchewan, Ministry of Health. (n. d.). “The Health Bus” A Saskatoon mobile primary health centre.... An agency fact sheet. Retrieved May 21, 2012 from <http://bit.ly/K56Lbb>

Gray JT, Walker A. AMPDS categories: are they an appropriate method to select cases for extended role ambulance practitioners? *Emerg Med J* 2008;25:601-3.

Hassan TB, Barnett DB. Delphi type methodology to develop consensus on the future design of Emergency Medical Systems in the UK. *Emerg Med J*2002;19:155–9.

Hauswald M. Can paramedics safely decide who does not need ambulance transport or emergency department care? [Abstract]. *Acad Emerg Med*1998;5:390.

Hayashi J, DeCherrie L, Ratner E, Boling PA. Workforce development in geriatric home care. *Clin Geriatr Med* 2009;25:109-20.

Holbrook SE, James III RP, Davis TE. Emergency medical service initiated transport refusal: an algorithmic approach. *Acad Emerg Med*1994;1:A58.

Howie-Willis I. The Australian ambulance system: a historical introduction. In: P O'Meara, C Gribich (Eds); Paramedics in Australia: Contemporary challenges of practice. Sydney, NSW: Pearson Education Australia, 2009; 1-27.

Humphreys J, Wakerman J, Wells R, Kuipers P, Jones J, Entwistle P. "Beyond workforce": a systematic solution for health service provision in small rural and remote communities. Medical Journal of Australia 2008; 188(8): S77-S80.

Hunt J, Gratton MC, Campbell JP. Prospective determination of medical necessity for ambulance transport by on-scene. [Abstract]. Acad Emerg Med 1999;6:447.

International Roundtable on Community Paramedicine. (2011a). IRCP vision and mission statements. Retrieved May 21, 2012 from <http://ircp.info/AboutUs.aspx>

International Roundtable on Community Paramedicine. (2011 b). PPT Report: Toronto Community Paramedicine program overview December 2010. Retrieved May 21, 2012 from <http://bit.ly/K58iOB>

International Roundtable on Community Paramedicine. (2011c). Community paramedic program programming and rural health delivery: a Nova Scotia success story. Retrieved May 21, 2012 from <http://bit.ly/K58xt1>

Joint Royal Colleges Ambulance Liaison Committee. The future role and education of paramedic ambulance service personnel (emerging concepts). (Online) 2000. Available: <http://bit.ly/K58GMR> (Accessed May 21, 2012).

Joyce G. St John Ambulance Inquiry - Implementation of Recommendations. Perth, WA: Government of Western Australia, 2010.

Joyce CM, Wainer J, Piterman L, Wyatt A, Archer F. Trends in the paramedic workforce: a profession in transition. Australian Health Review 2009; 33(4): 533-540.

Le May MR, So DY, Dionne R, et al. A citywide protocol for primary PCI in ST-segment elevation myocardial infarction. N Engl J Med 2008;358:231-40.

Lerner EB, Billittier AJ, Lance DR, Janicke DM, Teuscher JA. Can paramedics safely treat and discharge hypoglycemic patients in the field? Am J Emerg Med 2003;21:115-20.

Lindley-Jones M, Finlayson BJ. Triage Nurse requested Xrays—Are they worthwhile? J Accid Emerg Med 2000;17:103-7.

Lord B. Reconfirming the role of paramedics in pre hospital care. Australas J Emerg Care 1998;5:10-14.

Mann NC, Hedges JR. The role of prehospital care providers in the advancement of public health. Prehosp Emerg Care 2002;6:S63-7.

Marks PJ, Daniel TD, Afolabi O, et al. Emergency (999) calls to the ambulance service that do not result in the patient being transported to hospital: an epidemiological study. *Emerg Med J* 2002;19:449–52.

Martin-Misener R, Barbara Downe-Wamboldt, Ed Cain, Marilyn Girouard. Cost effectiveness and outcomes of a nurse practitioner–paramedic–family physician model of care: the Long and Brier Islands study. *Primary Health Care Research & Development* 2009;10:14-25.

Mason S, Coleman P, O’Keeffe C, Ratcliffe J, Nicholl J. The evolution of the emergency care practitioner role in England: experiences and impact. *Emerg Med J* 2006;23:435-9.

Mason S, Knowles E, Freeman J, Snooks H. Safety of paramedics with extended skills. *Acad Emerg Med* 2008;15:607-12.

Mason S, Wardrope J, Perrin J. Developing a community paramedic practitioner intermediate care support scheme for older people with minor conditions. *Emerg Med J* 2003;20:196-8.

Mason S, Knowles E, Colwell B, et al. Effectiveness of paramedic practitioners in attending 999 calls from elderly people in the community: cluster randomised controlled trial. *Bmj* 2007;335:919.

McDonnell AC. The search and development of professionalism in "Ambulance": A multidisciplinary journey. *Journal of Emergency Primary Health Care* 2009; 7(4): 990390.

McGinnis, KK; Rural and Frontier Emergency Medical Services Agenda for the Future; National Rural Health Association Press; Kansas City, MO; 2004

Medical Home Model Descriptions: <http://bit.ly/K59bqb>; accessed May 21, 2012, http://en.wikipedia.org/wiki/Medical_home; accessed May 21, 2012

Minnesota Community Paramedic Training Program Description
<http://bit.ly/K59yBf>; accessed May 21, 2012

Misner, D. (n.d.). Community paramedicine, a part of an integrated health care system. Retrieved May 21, 2012 from the website of Government of Nova Scotia, Emergency Health Service, <http://bit.ly/K59Doo>

Mulholland P, O’Meara P, Walker J, Stirling C, Tourle V. Multidisciplinary Practice in Action: The Rural Paramedic - It’s Not Only Lights and Sirens *Journal of Emergency Primary Health Care* 2009; 7(2): 990312.

Mulholland, P., Stirling, C., & Walker, J. (2009). Roles of the rural paramedic- much more than clinical expertise. The 10th National Rural Health Conference, Cairns, Australia, May 17-20, 2009. Retrieved May 21, 2012 from <http://bit.ly/K5a1mZ>

Muus KJ, Ludtke RL, Stratton TD. Perceived causes and effects of closing a rural hospital. *Health Values: The Journal of Health Behavior, Education & Promotion* 1994;18:50-5.

National Bed Enquiry. Response to a consultation exercise on the National Bed Enquiry. London: DoH, 2001.

National EMS Advisory Council. "EMS Makes a Difference: Improved Clinical Outcomes and Downstream Healthcare Savings." National Highway Traffic Safety Administration. Washington, DC, 2009. <http://bit.ly/K5ag1i>, accessed May 21, 2012.

National Highway Traffic Safety Administration. Emergency Medical Services Agenda for the Future. DOT HS 808 441. National Highway Traffic Safety Administration, Washington, DC, 1996. <http://bit.ly/K5ajKt>, accessed May 21, 2012.

National Organization of State Offices of Rural Health, NOSORH (NOSORH, 2010, November). State Perspectives Discussion Paper on Development of Community Paramedic Programs. Retrieved May 21, 2012 from <http://bit.ly/K5atBu>

Neal R. GP's reluctant to cover out of hours work [rapid response]. *BMJ*2004;328:247.

Neumayer B, Malone G. Collaboration of the delivery of rural health services between NSW Ambulance and Greater Southern Area Health Services. In: Proceedings, 10th National Rural Health Conference, 17-20 May 2009; Cairns, QLD; NRHA, 2009.

O'Cathain A, Turner J, Withers A, et al. Views of people who call 999 to request an ambulance. *Pre-hosp Immediate Care*1999;3:131-5.

Oktay C, Cete Y, Eray O, Pekdemir M, Gunerli A. Appropriateness of Emergency Department Visits in a Turkish University Hospital. *Journal*.

O'Meara P. Community paramedic program for rural and remote areas. *Health Matters*. Melbourne, VIC: Victorian Healthcare Association, 2011.

O'Meara P. So how can we frame our identity? *Journal of Paramedic Practice* 2011; 3(2): 5.

O'Meara P. The maturation of the paramedic profession through international scholarship. *International Journal of Paramedic Practice* 2011;1(2): 2-3.

O'Meara P, Walker J, Stirling C, Pedler C, Tourle D, Davis V et al. The rural and regional paramedic: moving beyond emergency response. Bathurst, NSW: Charles Sturt University, 2006.

O'Meara P. Would a prehospital practitioner model improve patient care in rural Australia? *Emerg Med J* 2003;20:199-203.

O'Meara P, Kendall D, Kendall L. Working together for a sustainable urgent care system: a Case Study from South Eastern Australia. *Rural and Remote Health* 4: 312. (Online) 2004. Available: <http://bit.ly/K5aZ2G> (Accessed May 21, 2012).

Paramedics Australasia. Consultation Response on National Health Workforce Innovation and Reform Strategic Framework for Action (Framework). Ballarat, VIC: Paramedics Australasia, 2011.

Payne F. Utilization of out-of-hours services by patients with mental health problems. *J Public Health Med* 2000;22:302-6.

Pennycook AG, Makower RM, Morrison WG. Use of the emergency ambulance service to an inner city accident and emergency department--a comparison of general practitioner and '999' calls. *J R Soc Med* 1991;84:726-7.

Productivity Commission. The Health Workforce. Research Report. Canberra, ACT: Australian Government, 2005.

Raven, S., Tippett, V., Ferguson, J. G., & Smith S. (2006). An exploration of expanded paramedic healthcare roles for Queensland (1st ed.). Queensland, Australia. ISBN:9780977569810

Reeve C, Pashen D, Mumme H, De la Rue S, Cheffins T. Expanding the role of paramedics in northern Queensland: an evaluation of population health training. *Aust J Rural Health* 2008;16:370-5.

Romanow R. Building on our values: the future of health care in Canada. In: Canada CotFoHCi, ed.; 2002.

Snooks H, Wrigley H, George S, Thomas E, Smith H, Glasper A. Appropriateness of use of emergency ambulances.[see comment]. *Journal of Accident & Emergency Medicine* 1998;15:212-5.

Ross J. The Patient Journey Through Emergency Care in Nova Scotia: A Prescription for New Medicine. Halifax, NS: Nova Scotia Government, 2010.

Rowley T.; Solving the Paramedic Paradox; *Rural Health News*; Volume 8, Number 3, Fall 2001.

Sakr M, Angus H, Perrin J, et al. Care of minor injuries by emergency nurse practitioners or junior doctors: A RCT. *Lancet* 1999;354:1321-6.

Sasser SM, Brokaw M, Blackwell TH. Paramedics vs emergency physician decisions regarding the need for emergency department evaluation. [Abstract]. *Acad Emerg Med* 1998;5:391.

Schaefer RA, Rea TD, Porde M, et al. An emergency medical services program of alternate destination of patient care. *Prehosp Emerg Care*2002;6:309–14.

Sefrin P. "Scoop and Run" or "Stay and Play". *The Internet Journal of Rescue and Disaster Medicine* 1998; 1(1). Available: <http://bit.ly/K5bHNk>. Accessed May 21, 2012

Selden BS, Schnitzer PG, Nolan FX. Medicolegal documentation of prehospital triage. *Ann Emerg Med*1990; 19:547–51.

Selden BS, Schnitzer MS, Nolan FX, et al. The “No-Patient” run: 2698 patients evaluated but not transported by paramedics. *Prehospital and Disaster Medicine*1991;6:135–42.

Sheather R. Professionalisation. In: P O'Meara, C Gribich (Eds); *Paramedics in Australia: Contemporary challenges of practice*. Sydney, NSW: Pearson Education Australia, 2009; 62-83.

Silvestri S, Rothcock SG, Kennedy E, et al. Can paramedics accurately identify patients who do not require emergency department care? *Prehosp Emerg Care*2002;6:387–90.

Short, J. (2003). Constraints and opportunities – expansion of the role of the paramedics. *Journal of Emergency Primary Health Care*, 1(3-4)

Snooks H, Kearsley N, Dale J, et al. New models of care for 999 callers with conditions that are neither life-threatening nor serious: results of a national survey. *Prehospital Immediate Care* 2000;4:180–2.

Snooks H, Williams S, Crouch R, Foster T, Hartley-Sharpe C, Dale J. NHS emergency response to 999 calls: alternatives for cases that are neither life threatening nor serious. *Bmj* 2002;325:330-3.

Snooks HA, Dale J, Hartley-Sharpe C, et al. On scene alternatives for emergency ambulance crews attending patients who do not need to travel to the accident and emergency department: a review of the Literature. *Emerg Med J*2004;21:212–15.

Snooks H, Foster T, Nicholl J. Results of an evaluation of the effectiveness of triage and direct transportation to minor injuries units by ambulance crews. *Emerg Med J*2004;21:105–11.

Snooks H, Kearsley N, Dale J, Halter M, Redhead J, Cheung WY. Towards primary care for non-serious 999 callers: results of a controlled study of "treat and refer" protocols for ambulance crews. *Quality & Safety in Health Care* 2004;13:435-43.

Snooks H, Foster T, Hartley-Sharpe C, et al. Triage and transportation to minor injury units of 999 callers: what are the benefits to patients and the ambulance service? [Abstract]. *Emerg Med J* (in press).

Snooks H, Dale J, Kearsley N, et al. Use of Treat and Refer protocols by ambulance crews during a controlled trial. *Emerg Med J*2002;19:165.

Stark G, Hedges JR, Neely K, et al. Patients who initially refuse prehospital evaluation and/or therapy. *Am J Emerg Med*1990;8:509–11.

Stirling, C. M., O’Meara, P., Pedler, D., Tourle, V., & Walker, J. (2007). Engaging rural communities in health care through a paramedic expanded scope of practice. *Rural and Remote Health*, 7 (4), 839

Sucov A, Verdile V, Garrettson D, et al. The outcome of patients refusing prehospital transportation. *Prehospital and Disaster Medicine*1992;7:365–71.

Toronto Emergency Medical Services. (2011). Community Paramedicine. Retrieved May 21, 2012 from <http://bit.ly/K5c5eM>

Trevino M, White L, Meischke H, Eisenberg M. A new sphere for EMS. *EMS Magazine* 2008 October 1, 2008.

United States General Accounting Office. Health care access-innovation programs using non-physicians. (GAO/HRD 93-128). Washington D.C., 1993.

Victor CR, Peacock JL, Chazot C, Walsh S, Holmes D. Who calls 999 and why? A survey of the emergency workload of the London Ambulance Service. *Journal of Accident & Emergency Medicine* 1999;16:174-8.

Vuori H. Health for all, primary health care and general practitioners. *Journal of the Royal College of General Practitioners* 1986; 36(290): 398-402.

Wardrope J, Driscoll P. Turbulent times: the pace of reform may exceed capacity. *Emerg Med J*2003;20:116.


Weaver, Moore, Patterson, Yealy. “Medical Necessity in Emergency Medical Services Transports.” *American Journal of Medical Quality*. December 2011.

Willis E, Williams B, Brightwell R, O’Meara P, Pointon T. Road-ready paramedics and the supporting sciences curriculum. *Focus on Health Professional Education* 2010; 11(2): 1-13.

Wingrove, G., & Laine, S. (n. d.) Community paramedic: a new expanded EMS model. Published in Domain3. Available from IRCP website. Retrieved May 21, 2012 from <http://bit.ly/K5d0eY>.

Woolard M, Ellis E. Pre-hospital care five years hence. *Pre-hosp Immediate Care*1999;3:102–7.

Woollard M. Professionalism in UK paramedic practice. *Journal of Emergency Primary Health Care* 2009; 7(4): 990391.



Woollard M. The Role of the Paramedic Practitioner in the UK. *Journal of Emergency Primary Health Care* 2006; 4(1): 990156 (article no).

Wrigley H, Snooks H, Thomas E, et al. Epidemiology and demography of 999 ambulance calls: A review. *Pre-hosp Immediate Care* 1999;3:4–98.

Zachariah BS, Bryan D, Pepe PE, et al. Follow-up and outcome of patients who decline or are denied transport by EMS. *Prehospital and Disaster Medicine* 1992;7:359–63.

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