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Diffusion of POLST Education in Maine: Successes, Challenges, and opportunities

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Diffusion of POLST Education in Maine:
Successes, Challenges, and Opportunities

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Introduction

Project context

POLST is the acronym for Physician Orders for Life Sustaining Treatment. The POLST form originated in Oregon in the early 1990's and it is a vehicle for recording patient health care choices near end-of-life (EOL) as actionable physician orders so that those choices are honored with greater clarity and frequency at the point of care.

As originally conceived, this capstone project was to be on the limited subject of the status of education in Maine surrounding the POLST form. However, after preliminary research and several conversations with clinicians and other professionals, I realized that the fundamental issue is less about the POLST form itself – although there are important POLST education efforts underway in Maine by many talented and dedicated persons – but about educating and encouraging clinicians and the public to engage in conversations surrounding the POLST form choices. Planning for one's health care in advance of illness – now referred to in the industry as advance care planning (ACP) - involves the expression of one's deepest and most intimate feelings about end-of-life to one's family and health care providers. The consistent, compelling, and overarching theme is that we must work together to do the hard work of effectuating culture change around end-of-life conversations; we must take time to reflect, discuss, and document our values and our wishes and encourage others to do the same. How could we get that message out a little faster? What is getting in the way of brisker spread of this poignant and urgent issue? How can we better educate providers and the public about ACP and POLST?

Discussion about POLST is an integral part of this “have-the-end-of-life-conversation” message, but not the main event. All POLST advocates emphasize that physicians, nurses, social workers, as well as the patients and their family members and other stakeholders - attorneys, clergy, policy advocates, and politicians - must commit to focusing on the importance of meaningful conversations about values and choice *before* any POLST form should be executed or amended. Educating about the POLST form is made more complex because the curriculum must include some form of EOL conversation training for most stakeholder groups. The form is, somewhat paradoxically, a mechanical check- off list in which are embedded our deepest and most profound fears as human beings as well as our final, dying requests. It is a checklist with spiritual consequences, if you will, the use of which must be surrounded with dignity and

reverence. This paradox is, perhaps, at the heart of the challenges around POLST education. “For patients and families facing advanced illness, the medical interventions and quality of life that lie ahead are largely determined through a series of conversations they have with their physicians and other health care providers” (Larson and Tobin, 2000, p. 1573).¹ More recently, authors of a study on the unintended consequences of advance directive laws acknowledge the clinical helpfulness of advance care planning that is moving away from a legal-transaction model “toward a flexible, relationship-and-communication-based model” (Castillo, et al., 2011).² This takes time and practice and self-reflection.

I am writing nearly to the day of the third anniversary of the passage of the Affordable Care Act (ACA). The furor over “death panels”³ during the polarizing public debate of the ACA shed light on an underlying anxiety of the general public: “that they will receive too little” care as they near the end of their lives (Fried, Drickamer 2010).⁴ Clinicians, social workers, attorneys, members of the clergy, and other patient advocates involved in encouraging conversation around health care choice must tread lightly in this uneasy environment where a faction of the audience is suspicious of societal intent. The cultural conversation is not yet about meaningful choice; it is still be about “too little care” or “too much care” instead of care that is directly and expressly requested or refused by the patients or family members, with clear and respectful input from physicians. The recent unfortunate event in a California independent residential care facility in March of this year generated widespread negative media attention, thereby providing us with a national barometer on the public’s continuing EOL concerns about receiving inadequate care.⁵ An 87 year old resident collapsed on the facility’s dining room floor and later died without receiving resuscitation aid. The facility’s failure to have a ‘Do Not Resuscitate Order’ (DNR) on record and the national outrage at the failure to provide CPR - an invasive, potentially harmful intervention for someone at advanced age - evidences that we have made little progress elevating the national discussion and providing reassurance to a skittish public in the intervening three years since ACA passage.

Each of the many individuals with whom I spoke agrees that the culture change necessary to speak fully and freely about EOL health care choices has yet to arrive. Most of us working in EOL care look forward to that day and are honored to be part of the ongoing and immensely passionate and dedicated effort to pave the way for its eventual and inevitable arrival. Maine has had some definite successes in its recent efforts to develop awareness of ACP and, in particular,

the POLST program. There are vibrant education programs underway in several areas of the state and in several industry sectors as well as executory plans which will unfold over the upcoming year or two.

As I began to piece together information from stakeholder individuals and groups and reflect on progress made with the POLST initiative, I envisioned the awareness and education programs – and their intended audiences - along the classic diffusion S-curve (Rogers, 2003) and wondered what the *Diffusion of Innovations*⁶ framework might reveal when overlaid on a snapshot of Maine’s present initiatives. There are many professional, early-adopter sectors that are involved in the initiation or support of EOL conversations and their documentation or who are impacted by the presence or absence of such a record and I have attempted to check in with representatives from many of those sectors. I have interviewed clinicians, both physicians and nurses; attorneys; emergency medical staff; long term care advocates; medical and nursing educators; and hospice and palliative care providers, social workers and advocates (Appendix 1).

The POLST form

The POLST document (Appendix 2) sets forth health care options for those patients who are nearing but not *at* end-of-life. In Maine the POLST form is printed on one double-sided sheet of #24, lime green paper. As a general rule, palliative care physicians gauge the appropriateness of using POLST by asking what is now referred to in medicine as “the surprise question”⁷: *Would I be surprised if this patient died within the next year?* If the answer is “no”, POLST is appropriate. This status differs from hospice eligibility which requires physician certification that a patient “is terminally ill and has six months or less to live if the illness runs its normal course”.⁸ The health services options outlined in the POLST form differ from a typical advance directive or living will in important ways. First, the POLST form must be signed by a physician making it a valid, actionable medical order which, ideally, will be recognized when the patient arrives at the point of care. Also, the POLST document sets forth several additional and more specific treatment options than an advance directive and also includes instructions to the health care provider on how to complete and use the form. These instructions are embedded in the form as a way to ensure not only that it accurately reflects the patient’s wishes but also to support recognition and adherence to those preferences by the medical staff.

The structure and use of the POLST form represents a change in the paradigm for eliciting, documenting, and honoring EOL health care choice. Indeed, the national POLST

campaign project, an extension of the original Oregon POLST initiative, has named itself the National POLST *Paradigm* in recognition of this shift in approach (emphasis supplied) and the corresponding realignment of patient goals of care with actual care delivered. This fundamental shift in approach resulted from a perceived need to facilitate recognition and implementation of patient EOL care choice. The POLST form has been described as “a major advance in end-of-life care” (Abrahm, 2011, p. 187).⁹ Use of the form precipitates significant change in EOL care delivery and thus qualifies POLST as an “innovation” (Rogers, 2003, p. 137).

Overview of POLST in Maine

The POLST form has been in use for decades in some areas, but its appearance in Maine is relatively recent. In 2009, the Maine Medical Association endorsed its use in Maine and individuals from several disciplines (physicians, attorneys, policy makers) spearheaded efforts to form a formal coalition for implementation of a standardized POLST form throughout the state. In 2010 the administrative home of the POLST implementation effort was moved to the Maine Hospice Council (MHC). Thereafter, under the supervision and direction of Kandyce Powell, RN, Executive Director of MHC and Lynne Ponto-Rodriguez, POLST Program Coordinator, a grant from the Retirement Research Foundation was obtained to fund continuing efforts.¹⁰ The MHC and the well-represented POLST Coalition is midway through the three-year grant and has made significant progress in raising awareness of the POLST form in Maine’s medical, long term care, emergency medical, and, to a lesser extent, legal communities.

While there is considerable work yet to be accomplished, Ms. Powell and Ms. Ponto-Rodriguez have recently received word that Maine will be recognized by the National POLST Paradigm Task Force as an “endorsed” state; one that has officially recognized POLST and made significant strides toward widespread adoption. The first POLST symposium will be held at Bowdoin College on May 2nd and 3rd of this year. This 2-day conference will include a day-long collaboration of POLST Coalition members and other health professionals interested in advance care planning (ACP) and EOL care as well as a day of presentations by nationally recognized leaders in the POLST and ACP initiatives. One of the goals of the conference is to work on a five-year plan for POLST use and ACP promotion around the state. This POLST capstone research project will provide an overview of education efforts and the information-diffusion process and may serve as a guide to the Coalition members for future work.

Methods

Initial interest

The organization in which I am employed as administrator is an assisted living facility which offers age-in-place services and accommodates the residential care needs of residents until the end-of-life. We have always encouraged conversations with residents and family members about their expectations for care needs as the aging process progresses but we have been challenged by how best to document the details of those discussions and the choices that result from them. In 2011 the Maine Health Care Association (MHCA), Maine's long term care advocacy organization, sponsored a seminar on the POLST form and its use in long term care settings. This seminar was our facility's first exposure to the POLST form and since that time we have slowly introduced use of the form to our residents and family members. We have, however, been hampered in our efforts to more fully implement POLST use as a result of a general lack of information on the many logistical issues that arise in use and transfer of the form between care settings. Our questions directly led to my interest in the POLST education issue.

Literature Review

A literature review was conducted using Google Scholar and the URSUS Libraries Catalog databases using the search terms: *POLST*; *end of life*; *advance care planning*; *diffusion of innovations*; and *diffusion of innovations in health care*.

For real-time updates on POLST and ACP progress, I set up a Google Alert for "POLST" appearing in any Google News report and I established a Twitter account following Twitter feeds from the Center to Advance Palliative Care; Harvard Medical School Palliative Care; Maine Hospice Council; 6th Annual National Healthcare Decisions Day; Maine POLST; National POLST; Lachlan Forrow, MD; Patricia Bomba, MD; the Conversation Project; and American Geriatrics.

Study Design and Participants

This project is a qualitative study of a mid-grant implementation snapshot of the POLST program in the State of Maine, specifically to look at the type and location of education efforts and the diffusion of POLST information among various stakeholder groups. The project was deemed exempt from IRB review. I interviewed representatives from several of Maine's major

health systems as well as various other health providers, educators, and advocates who are involved with championing Maine's POLST initiative.

Data Collection

My conversations with representatives were informal with open-ended questions that were geared to the efforts, or lack of effort, of POLST education in his/her community. Several of the interviews were in-person; some were recorded and some were hand-written or typed when recording was not desired or not available. When in-person interviews were not possible, phone call or email inquiries were made. I also attended ACP and POLST training sessions, both those that were provided to professionals and those for the general public. I gathered ACP awareness and training materials from my interviewees, from the training sessions, and from the POLSTMaine.org website. I reviewed the comprehensive training materials from California and Massachusetts. Where possible I obtained copies of POLST policies as developed for health systems, provider organizations, or long term care facilities.

Data Analysis

I created a table of all of the interviewees and summarized the major points made by each, looking for specific information on diffusion of POLST information and general impressions of barriers to implementation. I then created an outline of the components of the diffusion of innovation framework and populated it with information from the interviews and relevant journal articles.

Limitations

This project was intended to be an informal assessment of the POLST initiative. The study was limited by my inability to gather POLST education and adoption information from every health system in Maine and from the unavailability and unresponsiveness of several professionals. It is further limited by a lack of available quantitative data on POLST adoption around the state and education seminars in all settings. I was unable to obtain any reliable information about the number of POLST forms currently in circulation in Maine.

A History of POLST

Oregon

The POLST form originated in Oregon in the early 1990's when clinical ethics leaders within the state convened a task force to discuss ways in which a patient's end-of-life choices could be documented as treatment orders, actionable at the point of care and across treatment settings. The aim was to support autonomous patient decisions and facilitate the honoring of choice for the patient at or nearing end-of-life when that patient arrived at a care setting. In the intervening two decades, POLST use has spread throughout the country and has been tailored to the specific needs and philosophies of the various states. Oregon's POLST initiative developed into the National POLST Paradigm Task Force, but the Oregon program continues to evolve with improvements to the form and the recent passage of a new law approving the creation of a formal electronic Registry of persons in Oregon with executed POLST orders. Oregon has recently launched a new POLST website which comprehensively describes this history of POLST use within the state.¹¹ It is interesting to note that over the twenty years that Oregon has been using the POLST form, it has continued to improve processes (eight form updates), expand POLST use by additional patient groups (now covers minors and persons with disabilities), and develop ways in which patient information can be made immediately accessible at the point of care (creation of the POLST electronic registry).

Other literature comprehensively covers the growth of the POLST movement both in Oregon and in other states.¹² According to the National POLST Paradigm Task Force, at the current time there are mature POLST statutes and/or policies in 15 states and developing POLST initiatives in 22 additional states.¹³ Endorsement is the process by which the National POLST Paradigm recognizes a state's meaningful efforts to implement POLST use. Oregon has been the trailblazer not only for use of the POLST form but also for early research demonstrating its effectiveness in matching patient wishes to the actual health services rendered.¹⁴ This research likely was the foundation upon which other states were persuaded to join the POLST movement and it is widely cited in the POLST literature. Although states surely look to Oregon for guidance - as Maine currently does - each state decides for itself how it will proceed with its own initiative, including education programs.

State POLST initiatives generally proceed in one of three ways: a statutory process, a regulatory process, or a grassroots effort. There are pros and cons to each approach centered around a balancing of flexibility and enforcement. A statutory approach – and its corresponding compulsory nature - offers more immediate awareness and acceptance but the trade-off is much less flexibility in changing the form (K. Powell, personal communication, 2013). A grassroots effort, on the other hand, allows for more tailored approaches to information dissemination, form creation and revision, and policy formation; however, there is a much slower adoption rate as a result of the lack of political attention.

Maine – initial steps

Maine’s POLST initiative had similar beginnings: collaboration among a small group of dedicated professionals. Tammy Rolfe, RN, MS, was working for the Maine Veterans Homes in 2006 when a physician intern showed her a POLST form from another state. She immediately recognized its value and telephoned the Oregon POLST Task Force for more information (T. Rolfe, personal communication, 2013). When Ms. Rolfe later took a position at the Maine Health Care Association (MHCA) she promoted POLST through outreach to Maine’s long term care community, though this generated little interest or response.

In 2008, MHCA was contacted by the family of a nursing home resident who had experienced traumatic circumstances surrounding her death in a hospital. When the resident’s health suddenly declined, she and her family resisted going to the hospital but the facility transferred her anyway. In the emergency department the patient was fitted with an oxygen mask that was reminiscent of the time she had spent in a concentration camp during WWII. Despite oxygen use and other more invasive medical interventions, the patient died in the hospital. The entire experience so unnerved the family that they complained to Rick Erb, MHCA’s Executive Director. Mr. Erb, in turn, contacted Ms. Powell at the Maine Hospice Council to join him and Ms. Rolfe at a meeting with the family. As they discussed ways to avoid such unwanted hospital interventions, there was consensus that use of the POLST form may be part of the solution for future patients and families. This small group eventually reached out to several other professionals in the community – most of whom are still active in POLST promotion - and formed an informal task force which met regularly, sought guidance from the Maine Attorney General’s Office and eventually decided which version of the POLST form to incorporate into Maine practice.

Contemporaneously, MaineHealth's palliative care staff were developing ACP programs and investigating POLST use in Maine and eventually, the two groups merged around 2009 and formed the POLST Coalition. Soon thereafter, the Coalition members agreed that Maine Hospice Council would be the administrative home for POLST and an effort would be made to secure funding for a wider initiative. Thereafter, Maine was one of the 5 states to be awarded grant funds from the Retirement Research Foundation to experiment with POLST use and program implementation. Both Ms. Rolfe and Ms. Powell recall that there was resistance from the Attorney General's Office and from some at the Maine Hospital Association on the basis that recognition of medical orders from a physician who was not credentialed in the admitting hospital posed a significant potential liability (T. Rolfe, K. Powell, personal communication, 2013). Dr. Elizabeth Hart agrees that this issue remains one of the biggest barriers to wider use of POLST in Maine (E. Hart, personal communication, 2013).

The Maine POLST Coalition is a statewide group of some 30 or more professionals from across the stakeholder spectrum (Appendix 3). The Coalition meets quarterly – twice by telephone conference and twice in person - and has formed subcommittees to work on possible changes to the POLST form; policy templates for use of POLST in various healthcare settings; and education of clinicians and members of the public. Maine receives guidance from mentors in Oregon and based on that advice has opted to move forward with a grassroots effort to get the word out in a way that would meet with the least resistance and backlash in light of the sensitive and sometimes incendiary nature of end-of-life planning.

Many of the Coalition members are working on POLST projects in their respective health settings independent of their work on the Coalition. For instance, Dr. Ira Mandel, the Medical Director of Pen Bay Healthcare's Hospice and Palliative Care program, travelled to LaCrosse, Wisconsin to attend Gundersen Lutheran's POLST facilitation training program. Upon his return he established an education program that trained approximately 100 clinician staff, some from Pen Bay and some from other areas in Maine (I. Mandel, personal communication, 2013). Dr. David Giansiracusa and Eileen MacDonald of the MaineHealth Palliative Care team conduct regular training sessions for both clinicians and the public through MaineHealth's Learning Resource Centers. Additionally, Deborah Alpern, LCSW, the palliative care social worker for Mid Coast Hospital, along with other physician and nurses in Maine's larger health systems, is also active in community POLST training, conducting clinician "lunch bite" educational

programs at the hospital and in-service trainings at area long term care facilities. Dr. Elizabeth Hart and the staff at MaineGeneral's HealthReach Network provide regular training for hospice and home health clinical and therapy staff. As a result of the efforts of all of these individuals and organizations, POLST is steadily gaining recognition in Maine and is used effectively in many care settings.

POLST Education – Diffusing an Innovation

The Diffusion framework

The passage of the Affordable Care Act, and its survival of the subsequent legal challenge, has precipitated sudden, consequential, and far-reaching technological and process change and innovation in health care research, delivery, systems design, reimbursement, quality improvement, accountability, and patient experience. An environment of rapid change coupled with the enormity of our U.S. health care system, has produced formidable, somewhat unpredictable, forces and the industry is now rife with both challenge and opportunity. Understanding the circumstances in which technological or process improvements and innovations can spread most effectively is essential to making progress toward total system improvement.

Diffusion of innovation theory has been evolving for several decades since Everett Rogers first studied why some farmers in the 1920's Midwest adopted the farming innovations of pesticide use and modified seed corn long before others. His influential work, *Diffusion of Innovations*, originally published in 1963 (5th Ed. 2003), has been updated for each of the past five decades in order to reflect our changing culture and evolving methods of the transfer and exchange of information and adoption of new technologies and behaviors.¹⁵ Rogers defined the diffusion process as one “by which an innovation is communicated through certain channels over time among the members of a social system”, (p. 5) and identified four domains of the diffusion construct: the innovation, the communication channels, the social system through which the innovation must move, and the time frame until decision adoption or rejection. Rogers also identified attributes of the adopters based on the time it generally takes for individuals or organizations to move through the adoption decision process. After many years of discussion and some confusion about what to name these adopter categories, the research community eventually

settled on the now oft-referred to five groups: innovators, early adopters, early majority, late majority, and laggards.

There is very little discussion of diffusion theory in health care. Indeed, as recently as 2004, Fleuren, Wierfferink, and Paulessen found a dearth of health care innovation studies and reported that “implementation research in health care is still in its infancy” (p. 120).¹⁶ A year earlier, in 2003, Dr. Donald Berwick wrote a short piece in the *Journal of the American Medical Association* entitled *Disseminating Innovations in Health Care*¹⁷ bemoaning the slow uptake of health care innovations and observing that “[e]ven when an evidence-based innovation is implemented successfully in one part of a hospital or clinic, it may spread slowly or not at all to other parts of the organization” (Berwick, 2002, p. 1970). Berwick noted that this slow spread applies not only to technological improvements but also to the many process improvements being generated in the health care sector and he goes on to cite specific, frustrating examples from his work as the visionary founder and leader of the Institute for Healthcare Improvement.

At around this same time, the California HealthCare Foundation issued the report, *Diffusion of Innovation in Health Care*.¹⁸ Authors Mary Cain and Robert Mittman (2002) cite Rogers’ seminal work on diffusion theory and outline its elements in ten “critical dynamics”: (1) relative advantage; (2) trialability; (3) observability; (4) compatibility; (5) communication channels; (6) infrastructure; (7) pace of innovation/reinvention; (8) homophilious groups; (9) opinion leaders; and (10) norms/roles/social networks. The authors helpfully provide “lessons” and examples in each category in order to anchor the diffusion concepts in actual industry scenarios.

No current discussion of the diffusion of anything would quite be complete without reference to Malcolm Gladwell’s *The Tipping Point*, (2000), over 2.5 million copies of which have been sold in the U.S. since its first printing. Indeed, Rogers’ latest edition of *The Diffusion of Innovations* (2003) now references Gladwell’s tipping point phenomenon (Rogers, 2003, p. 65, 352). While not scientific research, Gladwell’s book cites the scientific evidence behind his ideas and credibly describes some of the underlying factors contributing to the epidemic spread of an idea, a trend, an innovation, an illness. He studies the people, the messages, and the environmental context, and their respective attributes, and provides insightful, helpful, and entertaining information on how and why “little things can make a big difference” – the subtitle of the book.

I explore the implementation of the POLST program in Maine – and specifically, POLST education - within the context of the four pillars of Rogers’ original diffusion construct and the adopter categories. Gladwell’s more detailed descriptions of certain aspects of those pillars provide an instructive overlay. I further highlight some of the successes and challenges of disseminating POLST awareness and use in Maine through education efforts and provide some recommendations for further consideration as the POLST initiative moves forward.

A. The Innovation – Five Attributes

Use of the POLST form is an innovation in how a patient’s EOL choices are documented and carried out. “The POLST program is built upon a coordinated system of care across treatment settings...which makes [it] unique” (Hickman, et al., 2010, p. 1246). As mentioned, use of POLST in other states has shifted the locus of EOL decisions and their documentation, away from attorney’s offices into the clinical arena. Clinicians and other professionals “at the bedside” are now tasked with learning to initiate and engage in EOL conversations in addition to figuring out how to insure that the POLST form accompanies the patient to the point of care in the most recent, properly executed, actionable version. In light of the fragmented nature of the American health care system and its corresponding care coordination difficulties, coupled with the cultural constraints against EOL conversations, these are difficult tasks.

For years, since the enactment of living will and advance directive legislation in many states, most of it in the wake of the federal Patient Self Determination Act of 1990¹⁹, the conversations around EOL health care choice occurred in attorney offices, usually as part of the package of estate planning services. These conversations were generally between the attorney and healthy-adult clients who wanted to insure that, in the event of a catastrophic accident that might result in, for instance, sudden incapacitation or comatose status, their wishes would be known to their families and physicians. The formal setting and a lack of clinical and spiritual expertise precluded more intimate conversation. In addition, the advance directive form provided limited health care choices and there was no mechanism for recording patient information and wishes in greater detail. Over the past twenty years of the drafting and execution of living wills and advance directives in Maine, little has changed (M. Nale, Esq., personal communication, 2013). Because the advance directive documents often did not accompany the patient to the hospital, physician and nurse care providers were not always informed of the actual choices patients had taken pains to make in advance - and about which they were often

ultimately unable to communicate. The need for a mechanism that would “translate patients’ preferences into physicians’ orders” was apparent to many health care providers (Tolle & Tilden, 2002, p. 311).²⁰ POLST use and the more detailed and intimate care conversations that must accompany its acknowledgement represent a marked change in how our society approaches EOL life decision-making and care delivery.

Rogers explains that as diffusion theory evolved it became necessary to create a “standard classification scheme” so that the attributes of various innovations could be studied and their rates of adoption meaningfully compared (Rogers, p. 223). Currently, the five attribute categories that have proven useful for diffusion research and its practical application are as follows: relative advantage; trialability; observability; compatibility; and complexity. These attributes are subjective to the potential adopter and not measured by any objective standard; thus, part of understanding or encouraging (or discouraging) diffusion is related to the innovation and part is the result of the adopter’s own idiosyncratic traits relating to how information is received and processed. While the five attributes are interconnected, each is explored independently and applied to the POLST document and its use.

1. Relative advantage

The adoption of an innovation is in part driven by whether a person or organization views it as providing some benefit or advantage (Rogers, 2003, p. 229). “The more benefit people anticipate from adopting the innovation relative to what they now do, the more rapidly it will diffuse” (Cain & Mittman, 2002, p. 7). “Benefit” is a broad construct and it can be viewed and interpreted from several different individual, organizational, or cultural perspectives. Overall, however, the analysis is a risk-benefit one and the adopter must weigh whether the benefits of adoption outweigh its accompanying potential risks and uncertainties. Accordingly, how each adopter works through that analysis will depend on characteristics of the innovation as well as the adopter’s attitude toward risk.

For most clinicians, “benefit” is primarily viewed from the perspective of patient care and what is in the best interests of this particular patient at the present, or some future, time. These usually involve basic patient clinical, ethical, humanitarian, and sometimes social considerations. Palliative care clinicians and others directly involved in ACP in Maine, refer to the benefits of POLST in terms of patient autonomy and reduced suffering for all -- not only the patient, but family members and clinician caregivers as well (D. Giansiracusa, personal communication,

2013). The physicians with whom I spoke emphasize the importance of POLST conversations in clarifying for patients the trajectories of their diseases and the treatment options that accompany them (E. Hart, POLST powerpoint and personal communication, 2013). For these doctors, this in-depth prognosis information is the *sine qua non* of meaningful EOL health care choice.

When word of the Oregon POLST initiative and the ACP work being done at Gundersen Lutheran Health System (now Gundersen Health System) in LaCrosse, Wisconsin, spread to Maine, a few forward-thinking clinicians independently saw the wisdom, compassion, and clinical benefit of engaging in deeper, more thorough treatment conversations with patients and having EOL choice expressed as actionable medical orders that could be carried out without delay or confusion. They found one another through professional contact since they were at the vanguard of EOL policy and practice in Maine. For these professionals, ACP conversations and corresponding use of the POLST form seemed a humane, charitable, as well as practical vehicle for fully informing patients about their health conditions and options for care, and for helping them “appreciate and understand the benefits and burdens of [those] options for care”.²¹

For palliative care physicians in several health systems, ACP and adoption of the POLST program are perceived to be so advantageous that they have become organizational imperatives, now the subject of major initiatives at MaineHealth and some of its hospital affiliates. Dr. Lauren Michalakes and Frank Chessa, PhD, and others at Maine Medical Center (MMC) are involved in ACP programs aimed at significantly growing the number of patients who have executed some form of advance care planning document. They are investigating the most effective and streamlined process for electronic recording of the ACP conversation and the existence of an ACP document. The MMC program goal is to train at least one-third of its physicians and advance practice nurses in EOL conversations and POLST use (Palliative Care Workgroup meeting, 2013).

According to Emanuel and Scandrett (2010), “adherence to the patient’s goals of care should define and be the gold standard measure of quality near the end of life”.²² As we move into a health care system model that places greater value on patient and family autonomy and experience, achieving that gold standard will take on greater importance. In a recent frank and hard-hitting article in the *Journal Nursing Economics*, Lisa Giovanni reminds us of the many unmet needs of dying patients and that “[h]ealth care professionals have an ethical responsibility to assist patients to achieve the care and life they want for their last days” (Giovanni, 2012, p.

132).²³ The POLST form, and the EOL conversations surrounding it, is now also part of the current toolkit recommended by the National Quality Forum²⁴, the Maine Medical Association,²⁵ and other professional associations, in order to better serve patients nearing EOL. For the physicians and health systems that have already embraced POLST, these are laudable and compelling goals that outweigh the risks and uncertainties of integrating its use into regular practice and policy.

Some physicians and health systems, however, have not seen an advantage in POLST adoption. In particular, Catholic health systems have struggled with the possibility that refusal of treatment under a POLST order could be considered assisted suicide or euthanasia. The Catholic Bishops of New York State, for instance, urge “great care” in the execution of a MOLST form (NY’s version of POLST). The bishops believe that in some circumstances “MOLST orders can easily and implicitly allow patients to mandate non-treatment in a way that constitutes euthanasia” which is always “morally unacceptable”.²⁶ Mercy Hospital in Portland has only recently begun a POLST program and the delay stemmed in part from a branch of the Catholic hierarchy that viewed POLST EOL choices as against church teachings. Mercy Hospital, now in the process of merging with Eastern Maine Healthcare Systems, has recently resolved this spiritual dilemma and begun implementation of an ACP program that includes the use of POLST, but other Catholic health care providers in Maine may still be struggling with this issue (Maine POLST Coalition member, personal communication, 2013). A recent POLST survey distributed by the Maine Health Care Association suggests that at least one other Maine organization is still weighing the pros and cons of POLST use for these reasons.

And for many doctors and hospitals, use of the POLST form creates weighty logistical and legal issues as well. How an original POLST form moves between points of care; what is done with a partially filled out form; how POLST forms that are inconsistent with other directives or information should be interpreted; and how to prevent inappropriate use, are all very real barriers to the quick adoption of POLST. In addition, many of the states that have worked to implement POLST, including Maine, have had to address the issue of how a hospital can legally recognize medical orders from a physician who does not hold privileges at the admitting hospital. Some states have enacted legislation or regulations to protect hospitals but Maine is working through how best to address this issue. This topic was raised again at the most recent POLST Coalition meeting in January, 2013 confirming that legal counsel for several of

Maine's hospitals and health systems continue to express genuine concern and reservation over this issue. The current view is that POLST orders from a non-privileged provider will be considered only as guidance about the patient's and family's wishes and may serve as the basis for new orders signed by a physician with privileges in that health system. This extra step, however, undermines some of the efficacy of using POLST. In any event, the logistical burdens and the risks and potential liabilities are very real and for some health systems these risks are not yet worth undertaking without greater certainty.

Finally, in this atmosphere of heightened focus on cost savings, it must be noted that there are definite savings when patients and family members opt not to have expensive, hospital-provided EOL interventions, even though providers are understandably loathe to admit a financial benefit arising from more widespread POLST use. In a blistering 2011 article in the *New Republic*, physician-author Sherwin Nuland and medical ethicist Daniel Callahan write that we must scale back our research on extending life and instead "plac[e] a heavier emphasis on caring for the sick".²⁷ They implore us to recreate a "culture of care" instead of the current "open-ended...war against death".

Similarly, William Petasnich (2011) writes that between 20 and 30% of Medicare expenditures at EOL "have had no meaningful impact" on the patient's health status. He implores us to consider that "we have a responsibility to ensure that we are not spending scarce resources on care that is unproductive or unwanted" and that we can improve care by "honoring patient preferences and encouraging physicians and patients to make informed choices together".²⁸ As stated in the introduction, a climate of suspicion about hastened deaths makes cost savings a highly sensitive topic, but one which can be made safer by reframing the issue of EOL conversations and documentation as one of patient autonomy, choice, death with dignity, and freedom from suffering. Despite the fact that the "death panels" distortion had a temporary chilling effect on discussions about the importance of EOL conversation and choice, as we struggle societally with controlling the costs of care at EOL,²⁹ there is greater exposure of advance care planning in the mainstream press. A November 24, 2012 editorial in the *New York Times* is noteworthy for its specific mention of the POLST form and the benefit to patient autonomy as well as its potential for reducing cost.³⁰ Maine POLST advocates echo this concern and search for ways to publicize the benefits of EOL conversations without generating societal pushback (K. Powell, personal communication, 2013).

2. Trialability

The concept of *trialability* as used by Rogers (p. 258) refers to the extent to which the innovation can be tried “without having to commit fully to it, to discard an existing way of operating, or to invest heavily in technology or training” (Cain & Mittman, 2002, p. 9). The concept here is that an easily implemented trial period will reduce or eliminate uncertainty and the potential costs associated with changes that are difficult to reverse once implemented. The greater the trialability of any particular innovation, the more likely it will be adopted without undue delay.

With respect to POLST, the one-page, straightforward nature of the form is deceptive in its brevity and simplicity. As noted, the form itself cannot be used as intended without an accompanying EOL conversation. Indeed, one of the challenges already experienced in Maine’s program implementation has been that POLST forms that are not complete or fully executed (e.g. not signed by a clinician), or that are ambiguously executed (e.g. inconsistent choices), have appeared in patient records. The many clinicians with whom I spoke indicated that comprehensive education about POLST must include education about EOL conversations in order to avoid actual harm or the unintended consequence of being unable to honor a patient’s wishes. While most clinicians intuitively know that a conversation is necessary, there are others in various care settings that may not fully grasp this need. For instance, in one nursing home a directive was given to create a POLST form for every resident even though many were younger, more vibrant residents who had been admitted only for short-stay rehabilitation services and were inappropriate candidates for POLST.

Educating clinicians to have effective EOL conversations is perceived by some to be a considerable undertaking that requires not only initial training, but continuing practice and mentorship. Dr. Ira Mandel, of Pen Bay Healthcare, trained 15 nurses in EOL conversations three years ago and not one of them has “conducted a single POLST discussion since” (I. Mandel, personal communication, 2013). As a result, it is likely that word is out that a comprehensive EOL conversation training program may be unmanageable and unsuccessful and, thus, POLST use not worth the accompanying significant investment of time and resources – at least not yet. In other words, a comprehensive program may not be practically “trialable” without considerable resource commitment. Those acute and long term care providers that are risk-averse

or have scarce or tightly managed resources will tend to adopt further along on the adoption-decision continuum.

On the whole, it can perhaps be said that POLST education and use is undergoing a trial period in Maine through its current use by several health systems. It may be that publicizing in professional circles the more successful trial implementation methods, along with the program's objective achievements, may pave the way for further trials and the ultimate adoption by others. Raising awareness and promoting ease of trial use would surely enhance wider adoption.

3. Observability

Related to trialability is the concept of observability: the extent to which use of an innovation is observable by others who might be likely to take a wait-and-see approach. These individuals or organizations will opt to watch how early adoption is accomplished by others and the consequences of innovation use. Like trialability, the greater that an innovation's successful use can be observed by others, the more likely it will soon be adopted by those others (Rogers, 2003, p. 16). Observability is a challenge in the American health care system generally. Timely information exchange can be difficult for several reasons, the most obvious of which is that health care providers are so busy with patient care they do not have frequent opportunities to discuss their experiences in a way that reaches their colleagues in other health systems or, as Don Berwick noted, even in their own organization (Berwick, p. 1970). The successes of POLST use will best be spread by word-of-mouth in professional associations or by the formal or informal writings of front line health care workers.

MaineHealth has been quite active in promoting professional discussion of ACP generally and of POLST use. Its Palliative Care Workgroup comprises a wide array of stakeholders who meet periodically to update one another on current activities and brainstorm process challenges. These meetings provide an opportunity to share direct experiences in POLST education and implementation. Despite this opportunity, however, I observed at the group's most recent meeting that with the many pressing logistical issues (e.g. electronic record of ACP discussions), there is little time for personal success stories. While the POLST Coalition and its subcommittees could serve as a forum for this type of exchange, it too is occupied with making implementation progress and does not currently serve in that capacity. The Coalition members do share information about initiatives in their respective health systems and their progress toward implementation goals and perhaps further discussion of specific anecdotal successes and

challenges would serve to make adoption more “observable” to others. Anecdotal information, coupled with more formal written reports with very specific instructions for, or experiences about, trial use might go far in persuading reluctant others that there is value in joining the ranks.

The Maine POLST Coalition worked together with its Oregon mentors to create a DVD that could be distributed to clinicians and members of the public for basic information about POLST. The 11-minute video is entitled *POLST in Action* and was designed to provide a snapshot of what POLST is and an overview of how it is used. I was provided a copy by Dr. Giansiracusa and I understand that the videos are freely made available to various stakeholder groups, though I am uncertain of the exact distribution channel. The DVD is one way in which the concept of POLST and the benefits of its use have been made more observable in Maine and in other states; it does not, however, provide any detailed information about how to integrate use of POLST into an organization and, thus, it does not serve the function of making the implementation process observable. To the extent that this video achieves wider distribution and is made available to stakeholder groups such as attorneys, clergy, and some types of therapists who need only basic information about POLST and its arrival on the health care scene, it will absolutely serve a diffusion purpose. It is critical that any information about POLST that goes out into the community contain specific direction on how to easily obtain more information and that patients or family members interested in POLST should contact their physician or other health care provider.

Some in the health care community have suggested that ACP should be promoted by more widespread media efforts, such as public service announcements in order to make it more observable to the public who will, in turn, ask their physicians about it.³¹ There is little doubt that media exposure would increase POLST awareness;³² however, concern has been expressed that the infrastructure to use POLST is not yet in place to meet the demand for education about the form and the policies for its integration into existing care processes (E. Hart, personal communication, 2013). Dr. Hart expressed that in the professional community, enthusiasm for POLST use outpaced the availability of educational resources. Accordingly, there are circumstances in which an innovation can initially be too observable, leading to frustration when more detailed information cannot be accessed.

4. Compatibility

If an innovation is perceived to be compatible with a potential adopter's values, current infrastructure, and the "social patterns already in place", then the more likely the innovation will be adopted (Cain and Mittman, 2002, p. 22). As with trialability, if adoption requires a significant outlay of resources in order to achieve compatibility with existing structures or processes or if the innovation is not closely aligned with individual or organizational values, or those of the clientele served, adoption will be less readily initiated or accomplished.

The fundamental POLST values are those of informed patient choice, freedom from invasive and uncomfortable procedures or treatments, clear direction for family members and care providers, relief from caregiving stress (e.g. the stress of treatment withdrawal decisions), and dignity during the dying process. With the exception of religious values around the intentional withdrawal or refusal of life-sustaining treatments as noted above, patient autonomy and self-determination have been ideals of modern health care – important enough to be legislated in order to insure adherence to it.³³ These values are part of the physician Code of Ethics; physicians are required to obtain and honor patient requests. It would seem that use of the POLST form would be compatible with the values of every health care delivery system. But while patient autonomy is a medical imperative, considerable concern was expressed early on by lawyers and some health systems that the potential for liability was too great for the adoption of POLST (K. Powell, personal communication, 2013). In other words, use of the form would generate claims over its inappropriate use or misinterpretation resulting in patient harm, avoidance of which is an equally compelling provider value and ethic.

The other aspect of POLST compatibility is whether it can easily fit within existing organizational processes and protocols. As noted below, integrating POLST into a long term care or acute care facility is a surprisingly complex problem which is addressed more fully in the following section.

5. Complexity

Rogers confirms that every innovation will fall somewhere on the continuum from simple to complex and, as might be expected, the more complex an innovation is perceived to be by the intended adopters, the less likely it will be adopted (Rogers, 2003, p. 257). It is worth noting that, while Rogers does not mention the difference between complicated and complex, in the decade since his last edition there has been considerable discussion of that difference, at least in the

business world. In a 2011 *Harvard Business Review* article, authors Gökçe Sargut and Rita Gunther McGrath remind us that a system that is merely complicated operates in predictable patterns even though there may be myriad moving parts. By contrast, a complex system has many interacting parts that are constantly changing and, as a result, the system outcomes are unpredictable. The complexity factor increases as number, interdependence, and diversity of those interacting parts increases (p. 70).³⁴ Innovations that are complex and unpredictable are surely more challenging to diffuse than those that are merely complicated yet predictable.

While health care conversations surely have some predictable components: shock, grief, fear at the news of poor health or death of a loved one, for instance, most health care decision-making is quite complex and involves much technical information discussed in many interactions with diverse individuals and this is most certainly the case with EOL decisions. The early POLST planners in Oregon took this into account when they insisted that the original POLST form be constructed as simply as possible on one, double-sided sheet of paper. Even though the conversation content and decision-making surrounding the form is complex and technically and emotionally weighty, the form is not. Complexity in form *and* in substance may have resulted in early paralysis of the entire POLST initiative.

The subject matter of the POLST form is complex, as are the logistics of moving the form through one or more episodes of care. In addition, it is complex process to educate all of the individuals across the health care spectrum. Health systems are put to the task of drafting POLST policies that will cover how the form is reviewed, executed, handled and passed along through various departments and care settings (acute care, long term care, home health). When some of these care settings are not owned or affiliated by the same health system the logistics are more complex and the policy-drafting more challenging. In a recent POLST Coalition Education Committee conference call, Dr. James Van Kirk of Eastern Maine Medical Center (EMMC) offered the good news that POLST was being adopted along with the sobering report that he was tasked with developing integrated POLST policies for all of the EMMC care settings (J. VanKirk, personal communication, 2013).

One minor, yet critical, example of these challenging logistics is, in the absence of access to electronic records (e.g. home settings, small physician practices, rural locations) how does one fax a POLST and keep it green and one-sided? Or is physical transport of the form necessary involving expense time and travel, especially in Maine's most rural settings, obviating the true

portability and accessibility of the form? For instance, at Mid Coast Hospital, if the original POLST form does not leave the hospital with the patient, staff will actually return it with a courier, generating considerable expense (D. Alpern, personal communication, 2013). Oregon and other states have worked through some of these issues and therefore provided, as Maine's form does that "[p]hotocopies and faxes are legal and valid". However, a white, faxed copy is harder to see and find and, thus, provisions must be made for the availability of lime green paper nearby to all the various settings in which a POLST might be used so that faxes can be photocopied back onto the more visible green.

Dissemination of POLST education and use has proven to be, perhaps, more complex than originally perceived. In my conversation with her, Dr. Hart noted several barriers to widespread use of POLST in Maine, one of which was the difficulty in gaining recognition and adoption of POLST across systems and settings. POLST is a complex innovation that also has a complex adoption process, both of which present distinct challenges which have undoubtedly slowed down diffusion and adoption in Maine. An indication of the formidability of these tasks is the recent news that California has issued a "\$10,000 Design Challenge to Improve the Communication of End-of-Life Preferences".³⁵ The design challenge specifically references getting the word out about POLST as well as other ACP documentation tools.

B. The Communication Channels

The second pillar of Rogers' diffusion theory involves the channels along which communication about innovations travel. The persons and organizations *by* whom and *to* whom that information is provided are significant factors bearing on the success, failure, or speed with which diffusion occurs (Rogers, 2003, p. 305). The similarity or diversity of the persons giving and receiving information can affect how information is interpreted. Rogers reminds us that "the exchange of ideas occurs most frequently between individuals who are alike, or *homophilous*" and that "communication between dissimilar individuals [*heterophilous*] may cause cognitive dissonance" (emphasis supplied). Despite this, however, homophily can sometimes be a barrier to effective diffusion because it can limit the extent to which innovation is transferred to diverse individuals or groups, or to individuals at a different level of function but who may need or want to adopt the innovation. Further, if heterophilous groups need information, the messages must be tailored to, or translated for, the "technical competence, socioeconomic status, beliefs, and language" of that target audience. (Rogers, 2003, p. 306).

Homophily and heterophily

As mentioned, because the POLST form must travel across care settings and because there are non-clinical persons such as emergency medical services staff, attorneys, clergy members, and therapists and counselors, who might begin a conversation about POLST, attention must be paid to how these various groups or individuals within each group receive information about POLST and what information must be provided. Further, even among clinicians there is diversity of services, clinical functions, and values such that care must be taken to craft messages that are likely to be meaningfully received.

The MaineHealth Palliative Care Work Group is an example of a homophilous gathering of dedicated persons, most or all of whom share a common language in the care of those with serious illness who need comfort and pain relieving services. The palliative and hospice care clinicians, administrative staff, therapists, social workers, and medical ethicists present at the workgroup session in January had little need to debate the value of ACP or use of POLST; they had, for the most, moved on to the next level of concern: how best to adapt the current technology to the introduction of ACP in health care settings. One of the main topics for the February meeting was “Use of Electronic Medical Records to Prompt Assessment of Patients’ Palliative Care Needs” and this included a discussion about how to enter into the EPIC software program data about the existence of an ACP document and whether and to what extent a conversation had been conducted with the patient or family. This is critical information for health systems, particularly while POLST use is diffusing because many patients have advance directives or older living wills that reflect their wishes but which have not travelled with them to the point of care and are not present or even noted in the medical record.

And while there is little doubt that the exchange of ideas and the opportunity for like minds to brainstorm is essential to sustain the momentum behind ACP and POLST, other steps must be taken to link to other stakeholders. “A little networking effort can have a significant effect if it yields ties between previously disconnected subgroups” (Gibbons, 2007).³⁶ Early POLST discussions in the state were specifically designed to reach out to a broad group in order to achieve consensus on several aspects of POLST implementation such as content of the form, potential funding sources for the initiative, independent administrative home for the program, and establishment of subcommittees to work on implementation projects (K. Powell, personal

communication, 2013). Indeed, the POLST Coalition lists individuals across many stakeholder groups (see Appendix 3, POLST Coalition list).

Heterophily among the lay public should also be a factor in strategizing diffusion of POLST in Maine. While the Maine initiative is still working on laying the groundwork for informing the community about POLST use, a lesson can be taken from the work already done in California. When California began its POLST initiative in the mid-2000s, it immediately recognized the challenge of rolling out a program in a large state with an ethnically diverse population, unlike Oregon and LaCrosse, Wisconsin which were “relatively delimited, socially homogenous areas”.³⁷ California adopted a “novel dissemination mechanism” that included the formation of “community coalitions to perform grassroots education and training”. Ultimately, research on the uptake of POLST in California revealed that this approach was “responsible for the rapid uptake of POLST within the state” (N. Wenger, et al., 2012). When the message about POLST can be finely tailored to the listeners, the optimal outcome is likely to be obtained.

Wenger’s research does not specifically address whether the community coalition leaders providing the training tended to be homophilous with the groups they were addressing, but it is likely that they were at least aware of, and sensitive to, the needs of that audience. In my conversations with clinicians in Maine working on POLST there were several references to the lack of clinicians available to train groups of doctors such as emergency department physicians. Physicians will only make themselves available for training by another physician and a social worker or nurse trainer would be unlikely to attract sufficient physician attention (D. Alpern, personal communication, 2013). Research indicates that physician peer training may be more effective,³⁸ suggesting that for some target audiences, a homophilous individual should provide the training. This fact may present logistical challenges for Maine’s geographically distant, rural communities, but since it reflects the research in peer training and carries the anecdotal weight of actual experiences in Maine, it should be considered when crafting more specific education programs on ACP and POLST in the state.

It is noteworthy that attorneys know very little about POLST despite some effort on the part of the POLST Coalition to reach out at least to the elder law bar. Dr. Elizabeth Hart presented to the Elder Law Section of the Maine State Bar Association in 2011 on the issue of ACP and POLST and yet of the four elder law attorneys with whom I spoke, there was very little knowledge of the form and its proper place in the ACP process – even though all of the lawyers

confirmed that they are still very active in producing advance directives and speaking with clients about EOL choices. One wonders whether a peer attorney-presenter on POLST might have more of an impact; someone who can speak the same language of the attorney-client relationship and reflect the experience of the attorney-initiated estate plan/end-of-life conversation.

MaineGeneral Health's HealthReach Network organization provides home care, hospice, mental health and outreach services to many central Maine citizens. HealthReach staff span out across a wide geographic swath (E. Hart, personal communication 2013) and, like a small-scale California, it must manage health education for a diverse population. Currently, the HomeCare and Hospice educators are outlining plans for tailoring the education materials – both the content and the length of the program – so that they can be appropriately and successfully presented to disparate groups that have varying degrees and levels of involvement with patients. This approach evidences a sensitivity to both homophily and heterophily and how sameness and diversity can present diffusion challenges and opportunities. It takes collaboration and effort to establish networks among functionally dissimilar groups; however, the payoff appears to be more effective diffusion of information and more likely innovation adoption.

Infrastructure

The health care industry has long acknowledged the difficulty of moving health information among those who need and should have access. Patient clinical information as well as current research and policy information can be frustratingly difficult to exchange between and among providers in different care settings. Communication failures, and the potential cost and outcomes benefits of remediating those failures, were the primary motivation behind the concepts of comprehensive electronic health records and central repositories, accountable care organizations (ACOs), and patient-centered medical homes (PCMH). The idea that up-to-date, accurate health information would be readily available to any of the myriad providers for one patient, no matter where the patient or provider is located, is the ultimate goal for efficient and effective health care delivery. This includes EOL care which is most often provided across several settings which can include the patient's own home; a long term care facility such as a nursing home, assisted living facility, or other residential care setting; the office of a primary care provider or specialist; emergency medical services; and an acute care facility. In addition, there are other service providers with whom patients nearing EOL interact that could assist in

developing or processing EOL health care choices such as attorneys, clergy, and comfort-care therapist such as massage therapists, music therapists, etc.

In recognition of the need to create effective communication pathways, there were early efforts to coordinate with professional stakeholder groups to help champion POLST implementation efforts within the state even before the broadly-represented Maine POLST Coalition was formed. There were early meetings with representatives from the MaineHealth; the Maine Department of Human Services, Office of Elder Services; long term care advocates at Maine Health Care Association; emergency medical service representatives at the Maine Department of Safety; members of the Elder Law Section of the Maine State Bar Association; and members of the clergy who were working with the gravely ill and dying. Many of these individuals eventually made their way onto the Coalition and began to shape how POLST might be adopted in Maine and in what manner.

Network analysis and understanding the structure and relevance of personal, professional and organizational links and degrees of separation is socially and mathematically complex (Rogers, p. 337) and perhaps of limited practical utility for the POLST program beyond recognizing the importance of diffuse links among heterophilous groups as discussed above. As health care continues to focus on patient-centered service delivery with reimbursement mechanisms that force connections among providers, information dissemination channels will increase and become denser making innovation diffusion more expeditious.

C. The Social System

Social Networks

“Diffusion occurs within a social system” (Rogers, 2003, p. 24) and in the health care industry, social systems can be viewed on several levels: provider affiliations (e.g. MaineHealth); large health systems (e.g. Eastern Maine Healthcare System); smaller health systems (e.g. Mid Coast Health Services); subsets of the industry (e.g. long term care, hospice services, therapies); individual practitioners (e.g. geriatricians); policy groups (e.g. Maine Health Care Association); professional associations (e.g. Maine Hospital Association); and provider subgroups (e.g. palliative care clinicians). Each of these networks may be similar or diverse in how they approach innovation generally and POLST adoption specifically.

In his paper on innovation dissemination in health care, Don Berwick sagaciously notes that “[i]n health care, invention is hard, but dissemination is harder” (Berwick, 2003, p. 1970). The reasons for such difficulty are complex and, by admission, beyond the scope of his essay, though he notes that physician resistance to standardization efforts may play a role. Physician autonomy has a long history in health care. In his popular New York Times article *Making Health Care Better*,³⁹ economist David Leonhardt discusses efforts made by Dr. Brent James at Intermountain Health Care to incorporate practice standards at that facility: “Doctors have a degree of professional autonomy that is probably unmatched outside academia. And that is how we like it.” Rogers confirms that in social systems, innovation generally enters at the more elite levels and if the social group is homophilous, the innovation may not “trickle down to non-elites” as quickly as it might otherwise. Correspondingly, if the social system is heterophilous, the diffusion process will generally require information flow from “opinion leaders of higher socioeconomic status, with more formal education...[and] who are more cosmopolite” to develop a followership. Some scholars note that as a result of pressures to improve and rely on, for instance, evidence based practices, health care is moving from individual autonomy to collective autonomy through the establishment of more engaged and proactive professional associations (Armstrong, 2002).⁴⁰ How these cultural changes impact physician behavior and the diffusion of health care innovations over the longer term remains to be seen; however, the current successes and challenges facing diffusion of POLST use in Maine may reflect these changes. On the one hand, the reason POLST has made such progress thus far may be the result of the professional collaboration and camaraderie among the relatively homophilous groups such as the Palliative Care Work Group. On the other, the insular character of that and similar groups may also be a factor in preventing the observation and trialability of POLST use from getting out beyond the group.

It is interesting to note here that a paucity of information about POLST has spread to medical and nursing education in Maine. For as long as POLST has been a topic of conversation in Maine, it is still given short shrift in academic settings. The osteopathic students at the University of New England are exposed to “POLST in [the] geriatrics course for about 15 min[utes] but really zero on it in the MS Geriatrics Practicum in the nursing homes” (M. Gugliucci, personal communication, 2013) since so many of the nursing homes are not utilizing POLST as of yet. In addition, an email sent by Professor Judith Spross to the educators in the

University of Southern Maine nursing programs inquiring about POLST discussion in the nursing curricula netted only two responses.⁴¹

One of the oft-used descriptors of the American health care system is the term “fragmented”. We are gaining insight into our balkanized industry and greater understanding of the role that plays in medical harm, poor outcomes, and ineffective or non-existent care coordination. As medical homes and accountable care organization gain footing, the norms of behavior will change and the flatter hierarchies and greater information exchange that are likely to follow, will be more prevalent. The networks of patient care are changing rapidly; they are growing and becoming denser and the links are strengthening. As a result, health care innovations, including ACP and POLST use, have a much greater likelihood of being adopted in the near future.

Opinion Leaders

Research for this capstone did not specifically entail finding the health care opinion leaders in Maine; those who might be approached to help diffuse ACP and POLST use in the state. Rogers identifies four mechanisms for finding and measuring opinion leadership and one or more of these processes might be used to locate a body of professionals who can champion the POLST program in Maine. Rogers (p. 321-329) cites a body of research demonstrating the effectiveness of opinion leadership in the diffusion of health innovations, specifically vaginal birth practice guidelines, mammography, heart disease prevention, and HIV prevention. One of the drawbacks to relying on opinion leadership is that opinion leaders must, of course, remain informed, engaged, and connected in order to maintain an influential stance.

There is little doubt that the involvement of opinion leaders in the wider community as well as in specific facilities or within smaller geographic or health care communities will have an impact on the diffusion of POLST education and use.

D. Time - The Adoption Decision Process

The fourth pillar of Rogers’ diffusion concept is the time period over which diffusion takes place. The “innovation-decision process” (Rogers, 2003, p. 169) progresses from acquisition of knowledge about an innovation through to the adoption or rejection of it, a continuum that includes being persuaded, making a decision to adopt, implementing the innovation, and finally, confirmation of use. The rate at which an individual or organization progresses through these

steps depends on the attributes of the adopter. Unsurprisingly, the change-friendly early adopters do so in a shorter period of time. Knowledge diffuses more quickly than adoption and later adopters need a greater “gestation period during which a new idea ferments in an individual’s mind” (Rogers, 2003, p. 213). Since the process begins with knowledge and persuasion, the tasks required to communicate basic information about the innovation as well as its relative advantage to adopter audiences are essential to eventual successful adoption. This means that front-end effort strategizing about ways to get persuasive information out to potential adopters, especially those who may be predisposed to adopt early, will likely result in faster diffusion.

Critical Mass

When a sufficient number of people have adopted, the process becomes self-sustaining. This concept of critical mass and the accompanying “tipping point” for any phenomenon is now widely understood in the wake of Malcolm Gladwell’s popular book of the same name (2000).⁴² Rogers and Gladwell cite one another and refer to some of the same examples of how small things – a few people, a “sticky” idea, or just the right context – can make a significant difference in the rate that something ignites. The tipping point, the point at which critical mass is reached, is the point at which the rate of adoption is self-sustaining and needs no further interventions to encourage more people to adopt (Rogers, 2003, p. 343). In his discussion of adopter attributes, Rogers places this point at between 10 and 20% of individuals in the system of potential adopters (there may be several systems involved with any particular innovation). The study of how, when and under what circumstances critical mass is reached is fascinating, but the important diffusion issue for health care innovation is perhaps the extent to which professional and lay persons alike can see adoption’s relative advantage both to themselves and to the community. At what point do potential adopters adopt because failure to do so harms the community? Or, put differently, at what point do potential adopters adopt for the common good even though there may be no immediate or apparent individual benefit?⁴³ As mentioned above, perceptions of the relative advantage of ACP and POLST vary depending on personal philosophy, organizational culture, risk attitudes, resource availability, etc. In order to hasten critical mass, it is important to understand what factors are most often responsible for quick uptake.

There are many strategies to encourage attainment of critical mass and Gladwell identifies several that can be planned and actively deployed, such as seeking the “connectors”,

“mavens”, and “persuaders”, those individuals who know a lot of other people (connectors), know a lot about a lot of things (mavens), or those who have mastered the art of persuasion and human rapport (persuaders). The tipping point concept reminds us that enlisting the help of just a few folks in each of these categories can make the difference between reaching that critical mass or not. In addition, Gladwell reminds us that, in addition to the power of the few, there is also great force in an enduring idea (stickiness) as well as the context in which an innovation lands or is introduced.

The POLST initiative in Maine could benefit from strategically employing some of the concepts identified by Gladwell and integrating them with the diffusion principles. For instance, POLST innovators in other states have already identified the need to train “champions” in order to carry the POLST message into the community and Maine POLST advocates have plans to do the same. Taking steps to insure that the group of champions includes individuals who can function as connectors, mavens, and persuaders will expedite the cause. And while the POLST Coalition members are not in the advertising business, with modest effort they will be able to brainstorm ways the POLST story could be made “stickier”.

Author brothers Chip and Dan Heath were intrigued by Gladwell’s “stickiness” idea and advanced a formula for it in their 2007 book, *Made to Stick*.⁴⁴ Their suggestions are framed within the acronym SUCCE[S]. In order to make an idea survive, one needs to make it (1) **S**imple (find the core message); (2) **U**nexpected (surprise gets our attention); (3) **C**oncrete (easier to remember); (4) **C**redible (overcomes natural skepticism); (5) **E**motional (so people will *care*); and (6) it must use **S**tories (to inspire). While an analysis of this approach is beyond the scope of this paper, it is helpful to keep these components in mind when constructing promotional materials for POLST awareness and education. As journalist Ellen Goodman’s EOL culture change campaign, *The Conversation Project*, currently demonstrates, individual end-of-life circumstances are abundant with poignant, powerful stories about what can go right and what can go terribly wrong. Local Maine stories about how choice has helped patients and their families should be collected, formulated so that they are made sticky, and utilized to further advance the ACP and POLST cause.

Finally, Gladwell divides the context factor into two parts: environment and group size (Gladwell, 2000, p. 133). He suggests that environmental factors (e.g. cleanliness, decorum, quiet) can precipitate a powerful impact on human attitudes and behavior. Gladwell further

reminds us of the theory that human group size might be best limited to 150 based on the limits of the human brain to manage relationships, build community, and act efficiently and effectively. He suggests that relatively small changes in context and size might make the difference in whether and when critical mass is reached.

Gladwell's examples – cleaning up the graffiti on New York subway cars, Philip Zimbardo's Stanford prison experiment in 1971 – have more to do with one's immediate physical environment and its impact on behavior and it is not immediately obvious how this lesson could be used in affecting POLST's rate of adoption by organizations. There may, however, be some suggestions for better uptake by *patients*. To the extent that an ACP conversation is a prerequisite to the completion of a POLST form, attention should be paid to the conduciveness of the conversation environment and insuring that it reflects, as much as possible, the intimacy and reverence of the subject matter. Hospitals have made great strides in recent years in the creation of spiritually aesthetic spaces, both indoor and out, in order to promote healing. It is now time to proactively work towards using those spaces for conversation in addition to passive reflection and contemplation. One of the power point slides in Dr. Giansiracusa's community training contains the photograph of an older gentleman in a hospital bed hooked up to many tubes and machines and with an oxygen mask over his face. It is a powerful image that is clearly intended to remind the audience of the importance of telling one's family members that this scenario might be unacceptable and should therefore be avoided. However, it is also a reminder of how stark, frightening, and unpleasant a clinical setting can be for most people. Yet many ACP and POLST conversations do take place in a hospital room (D. Alpern, 2013, personal communication) where it may be difficult to transcend fear and connect or reconnect with one's core values. In such a clinical setting, it is also more challenging to envision the possible wellness and vibrancy of the patient in other, more homelike settings. At my facility, for instance, we frown on the use of hospital gowns even for our frailest, mobility-impaired residents because the image connotes illness and incapacity; we opt instead for modifying the resident's own clothing for ease of use when circumstances require. It continues to amaze me what a difference this small act makes in how a resident's health status is perceived by staff, visitors, and family members.

In a moving article entitled *Code Pearl* (Sweet, 2008), physician Victoria Sweet describes her experiences with an elderly, fully cognizant, patient with metastatic kidney cancer

and the associated challenge of whether and when to choose DNR status. “In person, Mrs. D was much more lively than she was on paper”, Dr. Sweet writes. She goes on to suggest, only slightly tongue-in-cheek, that there be a third code status: Code Pearly Gates that “would provide exactly what Mrs. D had: all life-prolonging treatments until death”⁴⁵ but would exclude anything futile. The point to keep in mind here is not only that outward appearances and environment matter greatly and those of us in health care must remember that we are vulnerable to distortions and misperceptions as a result, but that if we wish to be effective and make a difference we must keep this in the forefront of our minds and take steps to create an environment that best supports our ultimate goals. In order for patients and families to have the best experience with ACP and POLST conversations and increase the likelihood that those experiences will be favorably passed along to others, care should be taken to prepare the person, space, or the setting thereby allowing the person to be most receptive and the space most conducive.

E. The Adopter Attributes

Whether an innovation even begins the process of diffusion depends on whether the original innovators can at least persuade a few risk-takers at the outset. Rogers’ early observations of Iowa farmers and their adoption of hybrid seed corn, and his later study of the diffusion process identified the attributes of the adopter categories and he plotted their respective adoption rate in the now-familiar cumulative S-curve. Rogers reminds us (p. 277) that the rate of adoption is specific to certain populations (if more than one is involved with the innovation, as is the case with POLST) and that it can vary considerably among those groups. The adopter categories in those groups will, however, generally fall on a standard bell curve with 2.5% being innovators, 13.5% early adopters, early and late majorities each at 34% and the laggards at the remaining 16%. The consensus regarding POLST education and use in Maine appears to be not only that we have not yet reached critical mass, but also that some early adopters have encountered challenges that have yet to be addressed. We are inching up the S-curve in several professional populations, and surely so in certain health systems. However, POLST education and use among other groups – such as attorneys - has yet even to find those early adopters and the effort is impeded at present by a fundamental lack of knowledge.

Innovators and Early Adopters

The innovators and early adopters in Maine are those that have been at the vanguard of ACP since its earliest days. These are the individuals who actively sought out POLST information from Oregon and worked to lay the foundation for its wider use among various stakeholder groups. These are the individuals who sought professional fellowships, as well as educational, and funding opportunities to maintain momentum for the project. For instance, Kandyce Powell and her work at the Maine Hospice Council was pivotal in connecting some early adopters in order to begin preliminary training and use in trial settings. Tammy Rolfe engaged in significant outreach efforts in the long term care community and Dr. Hart's funding for a trial use of POLST at MaineGeneral's Glenridge facility was instrumental in the development of training materials that she later used in presentations to other physicians, long term care providers, and to members of the elder law section of the Maine State Bar Association. Dr. Mandel took up the considerable task of getting himself trained as a trainer in Wisconsin and then brought that information back to Maine, making a major education push in his geographic area. Many of these individuals are still working in this area and are involved in the day-to-day effort of managing and supporting the POLST initiative and sharing their expertise and experiences. These are the folks who were less vulnerable to the uncertainties in changing processes and were willing to forge ahead with learning, experimenting, policy development, and networking in order to pass along knowledge and create observable events, being ever mindful of the need to inform, simplify, and persuade.

Along the way, the nuts and bolts of the POLST education and implementation process is being reinvented to suit the needs of the Maine communities in which POLST is being used. Diffusion scholars now know that reinvention commonly occurs and that the more flexible an innovation is – and susceptible to reinvention – the higher rate of adoption (Rogers, 2003 p. 183). This flexibility allows early adopters to tailor the innovation to their specific circumstances. In the POLST early adopter communities, this reinvention process is key to providing feedback for form revisions and policy creation so that the entire POLST initiative can be deemed by others to be functional and manageable, increasing the likelihood of adoption by others.

Early Majority – Late Majority - Laggards

We have not yet arrived at an early majority of POLST users in Maine, though we can perhaps safely state that we will soon be there. Completion of train-the-trainer materials tailored for the specific audiences that need ACP and POLST information will be pivotal in getting the requisite knowledge about POLST in certain professional and geographic communities so that the adoption process can move along its continuum. The agenda for Maine Hospice Council's inaugural statewide 2-day POLST conference to be held on May 1st and 2nd includes the development of a five-year plan for POLST implementation. The conference will provide an important opportunity for ACP and other health care professionals to strategize, network, inform, and be informed which will provide POLST implementation a much-needed boost. It is possible that the early majority adopters will learn and network enough to either begin using POLST or to use it more widely.

Successes

The earliest efforts taken to introduce POLST in Maine were highly successful in galvanizing a dedicated group of professionals to focus attention and strategy on defining critical first steps, finding consensus on the advantages of POLST use and the structure and content of the POLST document, as well as establishment of the POLST Coalition and the POLST administrative home. My conversations with many of the individuals involved in the early years reveal a collective, mutual professional regard, appreciation, and respect that were, and will continue to be, cohering influences as the POLST program moves ahead and helps reinvent EOL health care delivery in Maine. I failed to detect any trace of professional discord, but rather found high levels of cooperation, leadership, enthusiasm, and earnestness. It is possible that had there been discord among this group of innovators early on, the POLST effort may not have advanced as far as it has. The willingness with which busy professional people have stepped up to offer their time and energy to this program is remarkable and bodes well for its continued success.

The securing of grant funding for Elizabeth Hart's pilot POLST project and her Coalition Medical Director position and Maine Hospice Council's grant award for POLST implementation were significant early successes that have been pivotal to establishing professional credibility and some preliminary trialability of POLST use. Further, MaineHealth's Palliative Care Work Group is impressively well-attended and serves as a platform for maintaining high-level

discussion of ACP-related issues. Expanding ACP documentation is high on the agenda for MaineHealth and that means that POLST use will remain a vital part of that discussion. There appears to be a professional generosity in the palliative care and hospice services community in Maine and since a few health systems have worked out many of the logistical wrinkles surrounding POLST use and portability between care settings, these successes can now be documented and shared with other organizations.

In addition, as a result of the strength of relationships developed with other states, the POLST conference next month has attracted nationally recognized speakers who will surely inject energy into ACP and POLST programs currently in place and jump start several new initiatives. As mentioned, the conference will also offer an opportunity for professional collaboration and networking from which new ideas will spring. Input from more experienced POLST users from other states will give Maine providers opportunities to consider other possibilities for growing POLST awareness and use.

Challenges

Since execution of the POLST form requires, at its core, engaging the patient in an intimate conversation about his or her potential death, the most fundamental challenge for POLST education is figuring out how to teach caregivers to have these conversations in a respectful, compassionate, collaborative manner. These conversations are most effective when the caregiver is emotionally sure-footed and unencumbered by his or her own EOL issues.

When I ask interviewees about their views on some of the barriers to POLST education and implementation, invariably they talk about how little time there is to spend with patients actually talking about EOL choice; too little time to train clinician colleagues; too little time to spend on drafting comprehensive policies around use of the POLST in different care settings; too little time to produce educational and promotional materials for the general public. Even those most dedicated and passionate about ACP and use of POLST admit to being “double-booked” with all that they have to do. MaineHealth has identified ACP as an imperative (E. MacDonald, personal communication, 2013) and has structured a compensation plan tied to the number of patients who have an advance care planning document. This has, understandably, resulted in a sense of urgency for outreach efforts but will require other interventions in order to overcome the pressures of too many tasks. Finalizing and tailoring the POLST curricula for the various

stakeholder groups is underway but it will take some coordinating in order to complete them and make them available to POLST champions in organizations and communities. A comprehensive education program that includes both curriculum creation and outreach planning is a major short term administrative task for the Coalition's Education and Training Subcommittee.

A corresponding difficulty is reaching out to such diverse stakeholder groups with differing interests and objectives and getting their attention on the POLST issue. For instance, several interviewees talked about the challenge of disseminating accurate, comprehensive information out to a wide community of emergency medical services staff. Even though the EMS regulations were updated in 2011 to include POLST provisions, there are many first responders who are unaware of POLST or are uncertain about its use and reticent to forego life-saving treatment. In addition, getting information out to attorneys and to patients themselves as well as many primary care providers and nurse practitioners remains a considerable challenge since these groups know essentially nothing about POLST. Physician and consumer awareness and education were identified by several of the interviewees as key barriers to POLST implementation.

Solving the logistical issues involved with transition of care will remain a puzzle for all providers in Maine and elsewhere until electronic records and the regional health information exchange infrastructure is more firmly in place. Even Oregon's POLST Registry is so new that there is little available information on its efficacy. In the meantime, we must rely primarily on in-hand delivery, a somewhat obsolete method of transporting documentation. The alternative is the cumbersome process of photocopying a fax copy onto the appropriate color paper. With so many primary care providers and long term care facilities still using paper records, electronic storage and transmission of POLST will not be reliable in Maine until some future time. In addition, quality improvement processes will be needed for periodic review and updating of POLST forms to insure accuracy and to insure that the forms will be recognized by providers.

Solving legal issues also remains a critical item on the POLST agenda. The potential liability arising from medical orders from non-credentialed physicians poses an obstacle the resolution of which no one person or organization has yet fully undertaken. And while I have not done research on litigation involving the POLST form and its use or misuse, there will surely arise circumstances in which choices documented on the form are ambiguous and misinterpreted by caregivers. These missteps will inevitably be the subject of future litigation and Maine

providers will have to absorb and integrate the lessons learned from those difficult cases. It would be helpful for Maine providers to learn from cases in other states and take preventive steps, if possible.

Finally, continued fundraising for centrally coordinated future tasks is always a challenge for non-profit organizations and Maine Hospice Council is no exception. Once the current grant funding expires, the Council and the Coalition must seek out new opportunities to maintain momentum for the POLST program.

Opportunities and Recommendations

In this changing health care terrain, there are surely no absolutely right or wrong ways to encourage awareness and provide education about ACP conversations and adoption of POLST. Some factors, such as the national mistrust of conversations about death and dying will be beyond the control of those working to promote POLST in Maine or anywhere. If the California CPR case had involved a family who would have wanted the facility to intervene and perform resuscitation on the elderly resident, who can say whether the ensuing legal battle and media attention might have stifled thoughtful discussion of limitations on EOL care; or perhaps such a scenario would have occasioned backlash and precipitated *more* discussion at a national level of the need for ACP. It is challenging for health care leaders to predict these trends. Despite this, the Maine POLST Coalition might consider engaging in more formal strategic planning which might extract some ideas based on several of the general principles outlined above on how to improve uptake and reach critical mass a bit faster. I provide below some general recommendations relating to several of the diffusion categories as influenced by the tipping-point theory.

Innovation Attribute Recommendations

Making POLST Use Trialable and Observable

1. Create functional, clear, task-specific protocol manuals

Enhancing the trialability and observability of POLST use in as many health care settings as possible requires a mechanism that reduces uncertainty and minimizes the diversion of organizational resources away from existing patient services. For POLST use, like many health care processes, uncertainty about logistical details will be a barrier to

implementation for some organizations. A concise, well-organized, uniform protocol manual that addresses many specific adoption procedures in the four heaviest use settings (long term care, acute care, primary care, and home health/hospice) and that could be easily and quickly personalized to the particular health system, would speed up the organizational implementation time and reduce front-end resource utilization in getting a POLST education and use program up and running. The creation of stakeholder-specific “toolkits” might be an effective way to make POLST adoption more barrier-free. For professional recipients (e.g. attorneys, therapists, social worker) straightforward information, clear instructions, and a list of links to additional online resources might allow them to begin talking about and integrating POLST use without delay.

2. Gather POLST success stories and spread the word

Observing success in health care settings is a challenge for many reasons relating to patient privacy, organizational competition, lack of professional time for observing other settings, and the overwhelming number of current local and national health care improvement initiatives. Despite this, there is no substitute for promoting awareness of an innovation and the challenge is how to craft a message that provides enough reality-based content to be persuasive and helpful. Given the professional nature of health care providers, the content of innovation messaging should be more substantive than mere advertising. What matters to clinicians and administrators will be credible information about proven successes. Achieving this will require the innovators and early adopters to do some extra work monitoring early implementation, collecting success stories and then translating those stories into a message that is easily absorbed and has the hallmarks of stickiness as outlined by the Heaths.

3. Update all web content

Maintaining POLST visibility is part of being “observable”. The Maine POLST website should be fully populated and linked with other web content. It should be a source of information for every stakeholder group and be specifically designed to route the reader to the appropriate place. Similarly, persuading the state to include POLST information along with other advance directive information would be helpful.⁴⁶ Further, a

downloadable form – perhaps one that would print in the appropriate color - for clinician use only would facilitate access to POLST forms, which currently are not easily obtained and are not widely available in individual physician offices.

Creating a “stickier” message

4. Produce a couple of widely distributed content ads

Gladwell and the Heath brothers remind us that it can be time-consuming and expensive to do the research and testing necessary to determine stickiness among a certain audience. It may, however, be possible to produce an effective message without inordinate time and money or there may be grant funding available to produce state-wide advertising in the form of a public service announcement. The Heaths’ formula for stickiness should be followed as much as possible using local stories gathered by clinicians in order to make the message simple, emotional, and credible. Oregon engaged in “intense media campaigns” in both 1994 and again in 1997 (Tolle, 2002) but it may be possible to do more with less now that we have a better understanding of how to craft a more persuasive message. It is critical to remember that “[p]ublic outreach was a significant factor in the successful implementation of POLST in Oregon” (Hieu, 2011, p. 61).

Communication Channels Recommendations

Creating links

5. Linking homophilous groups

Breaking out of information silos is critical for diffusion. The POLST initiative in Maine is robustly moving forward in several health systems or parts of systems and not even known in several others. These homophilous groups need the efforts of a few connectors to forge and support relationships so that information can be readily exchanged. For most professionals, the underlying message of comprehensive ACP conversations and the POLST form is compelling; it likely will only take a gentle nudge⁴⁷ – coupled with some of the tools listed above – to get them on board. Rogers discusses a few ways to find willing and available local opinion leaders (Rogers, 2003, p. 325); someone currently active in ACP or POLST should be tasked with this job.

6. Linking heterophilous groups

Dismantling the professional silos among the various heterophilous groups that are tangentially involved with POLST is also an important objective. An influential voice commanding respect across industries in Maine might be able to assist here, provided there is sensitivity to the disparate views, needs, and interests of the various groups. Rogers cautions that “communication between dissimilar individuals may cause cognitive dissonance” (p. 306) and, thus, it is critical that principles of cultural competence be followed. Effective communication can transcend boundaries and build relationships as well as carry a compelling message in pursuit of innovation adoption. The accountable care organization and patient-centered medical home demonstration projects may be resources useful in working through EOL care coordination and follow through.

Message content that promotes linkage

7. Translating the message among heterophilous groups

Some thoughtful effort will be required to figure out how best to translate the compelling clinical message of POLST to other stakeholders, particular attorneys and patients. Focus group work or research in other POLST states would unearth the most pressing concerns of these stakeholder groups and the perceived barriers for engaging in ACP and using the POLST form in order that either an inaccurate perception can be remedied or concerns adequately addressed. The key here is to create a sticky message unique, perhaps, to a particular stakeholder audience.

Social System Recommendations

Finding “connector” and “maven” opinion leaders

8. Enlisting connectors in the health care community

Connectors know people and since Maine’s health care community is small and congenial, it should be a relatively straightforward task to find two or three connectors and enlist their aid in diffusing information about POLST. These connectors should be on the POLST Coalition as well as be assigned the specific task of seeking out opinion leaders and other connectors in specific geographic and stakeholder groups around the state.

9. Enlisting health care mavens

Similarly, finding two or three health care mavens – those individuals who know a lot about all aspects of health care delivery – can significantly advance the POLST cause. It may be that connecting with national mavens might be the most effective tactic; highly knowledgeable, respected individuals who are willing to be a continuing resource for all types of organizations working on POLST implementation.

Time Recommendations

Encouraging a tipping point

10. Concentration of resources

Tipping point theory tells us to concentrate our resources on a few “small things” – as long as those small things are the ones that have the potential to make a big difference. An assessment of how educational and awareness resources are currently being used and which are most effective, may reveal insights on how to reallocate those resources so that “tightly focused, targeted interventions” (Gladwell, 2000, p. 256) can be crafted. Many of the educational materials presently being used provide extensive background and other extraneous information that may detract from the compelling reasons to adopt POLST. A more compact presentation, tailored to the audience, could be more effective.

Conclusion

EOL conversation and planning is gaining momentum on the national front and, as a result, there is fertile ground in Maine for furthering POLST awareness and use around the state. Strategic thinking and planning based on well-established diffusion theory are critical to achieving a tipping point for POLST use so that Maine patients and their families and caregivers are well-served. The diffusion principles are uncomplicated and straightforward in theory but can pose some challenges when applied to specific innovations. Making headway toward reaching critical mass will require a concerted effort and broad stakeholder input and brainstorming. The Maine POLST Coalition has an opportunity to engineer a more accelerated adoption pace with the creation of a strategic education and awareness plan that includes an action plan based on tested maxims.

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- ³⁹ http://www.nytimes.com/2009/11/08/magazine/08Healthcare-t.html?pagewanted=all&_r=0
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- ⁴¹ Associate Professor, Bonnie Farmer, PhD, RN stated: “In my class NUR322 Nursing Care of the Older Adult in the Community, end of life care is an integral focus of our course. As to POLST, I use it as an exemplary initiative (among other available forms).”

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- ⁴² Gladwell, M. (2000). *The tipping point*. New York, NY: Little, Brown and Company.
- ⁴³ Rogers discusses this point in terms of Garret Hardin's 'tragedy of the commons'. (1968).
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- ⁴⁶ This suggestion was made by Tammy Rolfe who expressed frustration that such information was lacking from both the Department of Health and Human Services website <http://www.maine.gov/dhhs/oads/aging/resource/rit2chew.htm> and the Attorney General's website http://www.maine.gov/ag/elder_issues/living_will.shtml
- ⁴⁷ Sunstein, C., Thaler, R. (2008). *Nudge: improving decisions about health, wealth and happiness*. New Haven, CT: Yale University Press.

Appendix 1

List of persons contacted

Kandyce Powell, RN	Maine Hospice Council, Executive Director
David Giansiracusa, MD	MaineHealth, Medical Director, Palliative Care
Ira Mandel, MD, MPH	Pen Bay Health Care, Medical Director, Hospice and HomeCare
Elizabeth Hart, MD	HealthReath Network (MaineGeneral), Medical Director, Hospice and HomeCare
Lynne Ponto-Rodriguez	Maine Hospice Council, Exec. Admin. Asst. POLST Program Coordinator
Deborah Alpern, LCSW	Mid Coast Health Services, Palliative Care Social Worker
Mark Nale, Esq.	Nale & Nale, Attorneys
Martin Womer, Esq.	Maine Center for Elder Law
Barbara Schlichtman, Esq.	Maine Center for Elder Law
Maureen Giffin, RN	Eastern Maine HomeCare, Community Relations Liaison
John Loyd, Esq.	Eaton Peabody, Attorneys
Marilyn Gugliucci, PhD	University of New England, College of Osteopathic Medicine Director, Geriatrics Medicine and Research
Bonnie Farmer, PhD, RN	University of Southern Maine, College of Nursing Associate Professor
Tammy Rolfe, RN, MS	First Atlantic HealthCare, V.P. of Quality Improvement & Compliance
Holly Harmon, RN, MBA	Maine Health Care Association, Quality Improvement Director
Richard Erb, MS	Maine Health Care Association, Executive Director
Kathleen Schwarze, MD	Geriatrician, Brunswick, ME
Jason Downing	City of Bath, Rescue Dept., Paramedic

Appendix 2

HIPAA PERMITS DISCLOSURE TO HEALTH CARE PROFESSIONALS AS NECESSARY FOR TREATMENT 4/2009
Physician Orders for Life-Sustaining Treatment (POLST) **Maine**

<p>First follow these orders, then contact physician, NP or PA. These medical orders are based on the patient's current medical condition and preferences. Any section not completed does not invalidate the form and implies full treatment for that section.</p>		<p>Last Name / First / Middle Initial</p>			
		<p>Address:</p>			
		<p>City / State / Zip:</p>			
		<p>Date of Birth:</p>	<p>Gender: M F</p>		
<p>A Check One</p>	<p>CARDIOPULMONARY RESUSCITATION (CPR): Patient has no pulse <u>and</u> is not breathing. ___ Attempt Resuscitation/CPR ___ Do Not Attempt Resuscitation/DNR (Allow Natural Death) When not in cardiopulmonary arrest, follow orders in B, C and D.</p>				
<p>B Check One</p>	<p>MEDICAL INTERVENTIONS: Patient has pulse <u>and/or</u> is breathing ___ Comfort Measures Only: Use medication by any route, positioning, wound care and other measures to relieve pain and suffering. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. <i>Do Not Transfer to Hospital for life sustaining treatment.</i> <i>Transfer if comfort needs cannot be met in current setting.</i> ___ Limited Additional Interventions: Includes all care described above. Use medical treatment and monitoring as indicated. Do not use intubation, advanced airway interventions, or mechanical ventilation. May consider less invasive airway support (e.g. CPAP, BiPAP). Transfer to hospital if indicated. <i>Avoid intensive care.</i> ___ Full Treatment: Includes all care described above. Use intubation, advanced airway interventions, mechanical ventilation, and cardioversion as indicated. <i>Transfer to hospital if indicated.</i> <i>Includes intensive care.</i> Additional Orders:</p>				
<p>C Check One</p>	<p>ANTIBIOTICS ___ No antibiotics. Use other measures to relieve symptoms. ___ Determine use or limitation of antibiotics when infection occurs. ___ Use antibiotics if medically indicated. Additional Orders:</p>				
<p>D Check One for part 1 <u>And</u> One for part 2</p>	<p>ARTIFICIALLY ADMINISTERED NUTRITION / HYDRATION: Offer food / liquids by mouth if feasible.</p> <table border="1"> <tr> <td> <p>Part 1 – Nutrition: ___ No artificial nutrition by tube ___ Trial period of artificial nutrition by tube. Goal: _____ ___ Long-term artificial nutrition by tube.</p> </td> <td> <p>Part 2 – Hydration: ___ No artificially administered fluids ___ Trial period of artificial hydration. Goal: _____ ___ Full treatment with artificially administered fluids.</p> </td> </tr> </table> <p>Additional Orders:</p>			<p>Part 1 – Nutrition: ___ No artificial nutrition by tube ___ Trial period of artificial nutrition by tube. Goal: _____ ___ Long-term artificial nutrition by tube.</p>	<p>Part 2 – Hydration: ___ No artificially administered fluids ___ Trial period of artificial hydration. Goal: _____ ___ Full treatment with artificially administered fluids.</p>
<p>Part 1 – Nutrition: ___ No artificial nutrition by tube ___ Trial period of artificial nutrition by tube. Goal: _____ ___ Long-term artificial nutrition by tube.</p>	<p>Part 2 – Hydration: ___ No artificially administered fluids ___ Trial period of artificial hydration. Goal: _____ ___ Full treatment with artificially administered fluids.</p>				
<p>E</p>	<p>BASIS FOR ORDERS My signature below indicates to the best of my knowledge that these orders are consistent with the patient's current medical condition and preferences as indicated by:</p> <table border="1"> <tr> <td> <p>Basis for determining patient's preferences (check all that apply) ___ Advance Directive (on file) ___ Patient's current statement to Physician /NP/ PA ___ Patient's statement to authorized representative ___ Best interest determined by authorized representative (no advance directive / preferences unknown)</p> </td> <td> <p>Discussion with: (check all that apply) ___ Patient ___ Parent of a minor ___ Guardian ___ Health Care Agent ___ Other</p> </td> </tr> </table>			<p>Basis for determining patient's preferences (check all that apply) ___ Advance Directive (on file) ___ Patient's current statement to Physician /NP/ PA ___ Patient's statement to authorized representative ___ Best interest determined by authorized representative (no advance directive / preferences unknown)</p>	<p>Discussion with: (check all that apply) ___ Patient ___ Parent of a minor ___ Guardian ___ Health Care Agent ___ Other</p>
<p>Basis for determining patient's preferences (check all that apply) ___ Advance Directive (on file) ___ Patient's current statement to Physician /NP/ PA ___ Patient's statement to authorized representative ___ Best interest determined by authorized representative (no advance directive / preferences unknown)</p>	<p>Discussion with: (check all that apply) ___ Patient ___ Parent of a minor ___ Guardian ___ Health Care Agent ___ Other</p>				
	<p>Print Name of Primary Care Professional</p>	<p>Phone:</p>			
	<p>Print Name of Signing Physician / PA/ NP</p>	<p>Phone:</p>			
	<p>Signature of Physician / PA /NP (required)</p>	<p>Date:</p>			

F Signature of Patient or Authorized Representative			
This form records your preferences for life-sustaining treatment in your current state of health. It can be reviewed and updated by your health care professional at any time if your preferences or condition change. If you are unable to make your own health care decisions, the orders should reflect your preferences as best understood by the authorized representative named below.			
Signature	Name (print)	Relationship (write 'self' if patient)	
Name of Authorized Representative	Relationship	Address & Phone	
Health Care Professional Preparing Form	Title	Phone	Date
Directions for Health Care Professionals			
Completing POLST			
<ul style="list-style-type: none"> • Should reflect patient's preferences based on current medical condition. Encourage completion of an advanced directive. • POLST must be signed by a physician, nurse practitioner or physician assistant to be valid. Verbal orders are acceptable with follow up signature by the physician/NP/PA in accordance with facility /community policy. • Use of original form is strongly encouraged. Photocopies and faxes are legal and valid. • Patient should sign this form if (s)he is able to make his/her own health care decisions. If unable to sign, an authorized representative should sign. • An Authorized Representative includes, in order of priority, a health care agent (same as durable health care power of attorney or agent named in advance directive), court appointed guardian, parent of minor, or surrogate as defined in 18-A MRS § 5-801. 			
Using POLST			
<ul style="list-style-type: none"> • Section A • No defibrillator (including AED's) should be used on a person who has chosen "Do Not Attempt Resuscitation." • Section B • When comfort cannot be achieved in the current setting, the patient, including someone with "Comfort Measures Only", should be transferred to a setting able to provide comfort (e.g., treatment of a hip fracture). • IV medication to enhance comfort may be appropriate for a patient who has chosen "Comfort Measures Only." 			
Reviewing POLST			
This POLST should be reviewed periodically and if:			
<ul style="list-style-type: none"> • The patient is transferred from one care setting or care level to another, or • There is a substantial change in the patient's health status, or • The patient's treatment preferences change. 			
Draw a line through sections A through F and write "VOID" in large letters if POLST is replaced or becomes invalid.			
SEND FORM WITH PATIENT WHENEVER TRANSFERRED OR DISCHARGED			

Appendix 3

FROM www.polstmaine.org

COALITION MEMBERSHIP

Coalition Member Name (and Title when applicable)	Organization Represented
Bruce Condit, M.D. (Palliative Care/Hospitalist)	Central Maine Health Care
Butch Russell, Clinical Director	North East Mobile Health Services
Cathy McKay, Director of Nursing	Lakewood Continuing Care Center
Cheryl Small, Social Worker	MaineGeneral Rehabilitation at Glenridge
David Giansiracusa, M.D., Director of Palliative Care	MaineHealth
Deanna Mullins, Social Worker	Goodall Hospital
Deb Alpern, Social Worker	Mid Coast Hospital
Deb Kramlich, RN, MSN, CCRN	American Association of Critical Care Nurses-So. ME
Eileen McDonald, Program Manager for Palliative Care	MaineHealth
Elizabeth Gattine, Esq., Director of Long Term Care	Office of Elder Services, Dept. of Health and Human Services
Elizabeth Hart, M.D., Medical Director of POLST Coalition	Maine Hospice Council & Center for End-of-Life Care/Maine POLST Coalition
Elizabeth Keene, Vice-President of Mission Effectiveness	St. Mary's Health Care Systems
Elizabeth Rolfe, RN	VNA Home Health Services
Elizabeth White, M.D., Medical Director	Androscoggin Home Care and Hospice
Enoch Albert, RN, Palliative Care	Mount Desert Island Hospital
Erika Pierce, PA-C, President	Downeast Association of Physician Assistants
Frank Chessa, Ph.D., Ethicist	Maine Medical Center
Gordon Smith, Esq., Executive Vice-President	Maine Medical Association
Heidi Wierman, M.D., Director of Geriatric Fellowship	Maine Medical Center
Holly Harmon, RN, Chief Nursing Officer	Lincoln County Health Care
Ira Mendel, M.D., Director of Hospice & Palliative Care	PenBay Medical Center and Kno-Wal-Lin
Jacqueline Fournier, NP, Palliative Care Program	Central Maine Health Care
Jane Skelton, Esq.	Elder Law Section, Maine State Bar Association
Jay Bradshaw, Director	Maine EMS (Emergency Medical Services)

Jeannine Wilson, LSW	Greenwood Center
Joe Semmes, M.D., Palliative Care & Emerency Medicine	Mercy Hospital
Judith Tupper, Managing Director, Population Health and Health Policy	Muskie School of Public Services
Kandyce Powell, RN, MSN, Executive Director	Maine Hospice Council & Center for End-of-Life Care
Laurel Coleman, M.D.	Geriatrician & Hospice/Palliative Care Physician
Lauren Michalakes, M.D., Director of Palliative Care	Maine Medical Center
Lynne Caswell, Esq., Legal Services Consultant	Office of Elder Services, Dept. of Health and Human Services
Lynne Ponto, Administrative Assistant	Maine Hospice Council & Center for End-of-Life Care
Matt Sholl, M.D., Medical Director	Maine EMS (Emergency Medical Services)
Maureen Giffin, RN, Community Relations Liaison	Eastern Maine Health Care
Megan Stiles, Director of Quality Control and Regulatory Affairs	Maine Health Care Association
Michele Jasinowski, NP	Southern Maine Geriatric Association
Paul Han, M.D.	Center for Outcomes Research and Evaluation
Peggy Haynes, MPA, Director of Elder Care Services	MaineHealth
Rick Erb, CEO	Maine Health Care Association
Romaine Turyn, Director of Aging, Planning, and Resources	Office of Elder Services, Dept. of Health and Human Services
Sandy Jewell, Director of Nursing	Maine Veterans Home South Paris
Sharon Foerster, LCSW, Program Manager of Geriatrics	MaineHealth
Sherry Rogers, RN, MSN, Chief Nursing Officer	Redington Fairview General Hospital
Susan Ostertag, M.D., Hospice and Palliative Care	Maine Coast Memorial Hospital
Susan Sepples, RN, Ph.D.	University of Southern Maine, School of Nursing
Susan Surabian, RN, Palliative Care	Redington Fairview General Hospital
Susan Watkins, RN, MSN, CHPN	Kno-Wal-Lin Home Care & Hospice
Tim Vogel, Esq.	Elder Law Section, Maine State Bar Association
Vanessa Broga, LSW	MaineGeneral Rehabilitation and Nursing Care
Walter Foster, Chaplain	Maine State Prison
William Wadland, M.D., Geriatrician	Maine Medical Center