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Medicine  Health  
RHODE ISLAND

PUBLICATION OF THE RHODE ISLAND MEDICAL SOCIETY



  
Nursing Homes

# What's in a Name???

GOOD - authentic, honest, just, kind, pleasant, skillful, valid

NEIGHBOR - friend, near

ALLIANCE - affiliation, association, marriage, relationship

CORPORATION - company, business establishment

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## Commentaries

### A Good Result Isn't Always a Good Result

At a recent talk, the guest speaker, a prominent psychiatrist from a distinguished institution, talked about the importance of diagnosing and treating depression in Parkinson's disease. I politely noted that the published data would suggest that there is no proven treatment, that anti-depressant drugs have not yet been shown to be helpful. I asked if she was talking from her personal, "anecdotal" experience, her data from chart review or from some unpublished data from elsewhere. Her response was as startling as it was insightful.

"Your skepticism is based on data showing that anti-depressants don't work any better for depression in Parkinson's disease than placebo. But the response to placebo is excellent. Anti-depressants work just as well...It is clear that just entering a study, just getting tender loving care, is adequate to treat depression and the results are very good. This means that it is very important to identify PD patients who are depressed because depression has such a tremendous impact on quality of life and even on motor function and we can treat it."

This was at once ingenious and ingenuous. We normally do not espouse placebo treatments. This is the antithesis of "evidence-based medicine." No one endorses sham surgery simply because placebo-controlled surgical trials demonstrate that both interventions work, but who can argue with TLC?

I'm a neurologist, not a psychiatrist, and I don't dispense a whole lot of TLC. I dispense anti-PD medications, anti-depressants, anti-psychotics, anti-anxiety drugs, anti-Parkinson drugs, anti-dementia drugs, and a lot of advice. I don't see patients once a week for "talk therapy," so I don't know how much placebo response there is to my counseling. I know there's a lot to my prescription medications.

Her comments got me to thinking about placebo effects. They are commonplace, sometimes quite wondrous, and poorly explained. We think of the "placebo

response" as generally beneficial, but there is a term, "nocebo," for the dark side of the placebo, the bad reaction, the adverse effects of an inactive intervention. I thought immediately of Mr. S, a patient branded in my memory from many years ago.

Mr. S. was a 78 year-old man with advanced Parkinson's disease. He was doing quite poorly, despite my best efforts. He had been depressed for a long time and the anti-depressants I prescribed either failed to help him or caused too many side effects. He slowly shuffled into my office, markedly stooped, drooling and crying. "I just want to die," he said.

I arranged for him to be admitted to a psychiatric unit for **electroconvulsive therapy (ECT)**. ECT, which is often considered barbaric, especially by neurologists, and is illegal in Berkeley, California, is actually the single most effective treatment for depression. It is reserved for the patients whose severe depression fails to respond to medications. It works by unknown mechanisms, and has a completely unexplained beneficial effect on the motor features of PD. I felt comfortable referring him for the treatment and hoped that the psychiatrists would agree to give it. I also hoped that he wouldn't have the common side effect of a transient delirium. I was very interested and invested in how well he would do. Families are always rather skeptical.

A week or so later I was at the hospital where the psychiatry unit was located so I decided to visit him. It was one of the most remarkable transformations I had ever seen. Mr. S. was sitting in the hallway in a Hawaiian shirt, reading a magazine. He looked like he had just returned from Hawaii and was visiting a friend. He didn't look like an elderly man with severe PD and severe depression. When I approached him, he put down the magazine, smiled and stood up. "Hey, Doc, how're you doing?"

"You remember me?"

"Of course. You're Doctor Friedman."

"You look terrific. How do you feel?"  
"I feel great."

"So, they're treating you ok?"

He put his arm around my shoulder. "Doc, this place is great. They serve you three meals a day, and in the morning, the nurses come in, take off your clothes, wash you all over, rub powder all over, and then dress you again. It's wonderful."

I was very impressed. In fact I had never seen anything like this. I went to the nursing station and asked how many ECT treatments Mr. S had received. None. He had simply responded to the changed environment. Obviously Mr. S was no longer depressed. He no longer required ECT. He was a new man, so he was discharged.

When I saw him a month later, he shuffled slowly into my office, drooling, as stooped as ever. "I want to die," he said.

I thought of this when my colleague suggested, quite wisely, that it didn't matter if someone benefited from placebo or "the real thing." What really matters is how the patient does. The proof of the pie is in the eating. But whereas weekly sessions with a therapist are considered usual and customary treatment, I don't know how to schedule regular geisha care, and doubt that any insurer would pay for it, no matter how much money it saved them. Even the weekly counseling sessions, which obviously are covered by insurers, are limited in number. Can one prescribe TLC? How much TLC can one provide? It's like physical therapy. It's always helpful, but there are limits to what can be paid for by an insurer.

I reflect on poor Mr. S. fairly frequently. Fifteen years later I'm still stunned. Should he have gotten ECT? Was he, in fact, depressed, or was his life simply terrible and not worth living?

How do you fix a life?

— JOSEPH H. FRIEDMAN, MD

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# Thomas Willis and the Oxford Epidemic

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**In a century defined by civil war, plague, great urban fires** and regicide, England managed to nurture some of its greatest physicians. Seventeenth Century England witnessed such medical luminaries as William Harvey [1578 – 1657], Thomas Willis [1621 – 1675], Thomas Sydenham [1624 – 1689] and Richard Lower [1631 – 1691], each contributing materially to a more rational understanding of how the human body functions while documenting the distinguishing clinical features of the major diseases which afflict it.

What had these illustrious clinicians contributed?

Harvey taught the world that the heart was an awesome organ capable of pumping blood through a defined system of channels, thus bringing sustenance to all of the peripheral tissues while then returning the depleted blood back to the heart, via channels called veins, to be re-circulated again in a pulsating, life-sustaining cycle. It was Harvey who taught his colleagues: “I profess to learn and teach anatomy not from books but from dissections; not from the tenets of philosophers but from the fabric of nature.” And it was Harvey, England’s most illustrious clinician, who devoted much to the study of comparative anatomy and experimental inquiry.

Richard Lower expanded our knowledge of the lungs. He experimented with the life-giving properties of human blood and performed the first documented human-to-human blood transfusion.

Sydenham was instrumental in discarding the older Galenic presumption that all diseases were the manifestations of humoral imbalances and/or disquiet of the spirit. Through his meticulous observations, he began to envision specific diseases each with unique signs and symptoms, each with their own rational causes.

Willis related the sweet taste of the urine with a disease called diabetes. His most enduring contributions, however, lay in his revelations of brain anatomy, intracranial blood supply and the revolutionary notion that the brain was not an inchoate, homogeneous mass of quasi-liquid but the organ of memory, passion, sensation and motor control. Indeed, Willis coined the word, ‘neurologie.’

It is proper to acknowledge the many contributions of these creative thinkers; but it is equally important to document the many limitations imposed upon their hypotheses by the primitive state of science and the instrumentation available to 17<sup>th</sup> Century scientists.

Consider, for example, the stressful life of Thomas Willis, born in 1621 in the English town of Great Bedwin, Wiltshire, to a family enamored of the Royalist cause. He was a studious, inquisitive child, distinguished by his reddish hair, piety, stammer and short build. As an adolescent, he entered Christ Church College, Oxford, in 1638, initially to enter the clergy; but he became displeased with the rigidity of its curriculum and transferred to the program in medicine.

Willis was classified as a servitor student, one who paid his tuition through domestic service to the college’s canon, Thomas Iles. Part of his kitchen duties consisted of preparing the many herbal remedies concocted by Mrs. Iles, who functioned as a local midwife and healer. Thus his formal education, con-

sisting of the time-worn lectures on Hippocrates, Galen and Aristotle, was now augmented by the poorly documented empiric therapies of the street.

In August 1642 the world changed for Willis. King Charles of England assembled his troops at Nottingham Castle in preparation for armed conflict with the forces of Parliament. The Royalists took over the city of Oxford as their base of operations; and Willis, to avoid forced military service, fled to his family farm. Oxford was rapidly converted from a sleepy academic enclave to a fortified community overflowing with armed men, with dormitories converted to barracks, classrooms into arms depots and refectories into taverns. An unknown disease swept through the Oxford region, killing Willis’ father and stepmother as well as untold numbers of Royal soldiers. Willis returned to Oxford, joined one of the King’s regiments and served briefly in the defense of the city as Oliver Cromwell’s parliamentary army besieged the university town.

Willis, with only a few months of formal medical education, involved himself in the care of the many stricken by the epidemic fevers. Most of his patients were the young recruits in King Charles’ embattled army. The fever, which would not be called typhus for another two centuries, was then called camp fever since it regularly emerged in besieged armies, particularly in colder weather.

In addition to his assigned duties, Willis took up the task of writing what was to be one of history’s most exacting clinical descriptions of typhus. In great detail he described the character of the incubation interval, the hectic fevers, the typical mulberry-like rashes, the progressive confusion and delirium and the tragically high mortality rate.

But what did Willis not “see” in the patients that he had examined? While his recorded summary demonstrated the contagious character of the disease, he failed to identify the means by which the disease traveled from one human to another. Centuries later the human louse was shown as the vector spreading the disease. [It should be noted that the germs of typhus also kill the transmitting lice but not before they have injected typhus germs into a new victim, germs that they had picked up from a prior human with active typhus.] Willis “saw” the lice, which were everywhere; but he did not conceive of any role that they might have played, largely because the notion of invisible germs as the ultimate causative agent of contagions had not yet emerged.

Willis’ subsequent career enhanced his role as one of England’s most creative physicians. He confronted the human brain - which to most observers looked like little more than a cream-colored mass of semi-fluid – and foresaw, without microscopes, a highly complex organ capable of wondrous tasks. And in his great text on the nervous system he wrote: “To explicate the uses of the Brain seems as difficult a task as to paint the Soul, of which it is commonly said, that it understands all things but itself.”

– STANLEY M. ARONSON, MD

## Disclosure of Financial Interests

Stanley M. Aronson, MD, has no financial interests to disclose.

# Nursing Homes: Introduction

Stefan Gravenstein, MD, MPH

**Nursing homes (NHs) provide one of** the most dynamic practice settings available to clinicians today. In the last 20 years, NHs have evolved from providing custodial care to a blend of caregiving and sub-acute or post-hospitalization rehabilitation care. In decades past, nursing homes offered a common retirement path for physicians. Now, more—although not nearly enough—physicians are choosing a practice focusing on nursing home care early in their careers. Unlike a few decades ago, specialized education exists for nursing home care and management. With the increasing complexity of residents, NH staff deliver a more sophisticated and broader array of services meeting ever higher quality standards.

The evolution of NH services has proceeded in lockstep with regulation. Regulatory oversight has framed standards for care at the state and national levels, while payment for services has followed the lead of hospital care for the segment of patients using skilled services in the NH setting. Interestingly, even though the motivation for high quality care in these settings is great, the regulatory burden is high and not particularly conducive to creative reform. Instead, at the close of this last millennium, the process of reform has tended to be reactive to the regulatory process rather than proactive, and restrictive and system-centered rather than embracing individual-centered care.

Meanwhile, hospitals' successful quality improvement movement serves as an example for a second-generation quality improvement initiative in NHs. This work began as part of **Centers for Medicare and Medicaid Services (CMS) 7<sup>th</sup> Scope of Work (SOW)**. CMS first mandated a reporting system to try to capture quality of care under the "**minimum data set**" (MDS). Next, they funded the 53 state **quality improvement organizations (QIOs)** to add NH quality to their work, and reach out to the greater of 30 or 10% of NHs in each state to directly participate in the QIO programs. **Quality Partners of Rhode Island (QPRI)** and collaborators at Brown University lead the

national **QIO Support Center (QIOSC)** for this effort. The Support Center was started under the leadership of David Gifford, MD, MPH, currently Director of the Health Department for RI. The MDS provided a key measurement tool. Measurable successes in the areas of focus have been demonstrated, especially in the management of pain and reduction in use of restraints. An important lesson of the 7<sup>th</sup> SOW was that quality improvement requires effective changes at the management level, as well as at the resident care level. In other words, the culture of care and management is important to clinical outcomes. The 8<sup>th</sup> SOW includes assessments of depression, pain, restraints, pressure sores, as well as measures not captured by the MDS, including satisfaction of staff, residents and their families, and NH staff turnover.

CMS this past September raised the bar again for quality measures by launching the "Advancing Excellence in America's Nursing Homes" campaign. This program enlists NHs to volunteer in setting improvement goals. As an "unfunded mandate," now almost 10% (1400) of the nation's long-term care facilities have enrolled, and continue to enroll at a steady rate since the September launch. One of the successes associated with enrollment is the recognition by these individual facilities that quality care ultimately costs them *less* rather than more resources, and the campaign and QIOSC provide support through the **Local Area Networks for Excellence (LANES)**. Many of the LANE "conveners" happen to be the state QIOs, and for Rhode Island this is again led by the QPRI team which continues as the state QIO and national NH QIOSC. Physicians, facility staff, trade associations, facility residents and their families also have the opportunity to individually sign on and become informed, but the Campaign is really targeted for facility leadership and facilities to sign on and commit ([www.nhqualitycampaign.org](http://www.nhqualitycampaign.org)). NH "commitment" means individually setting targets for improvement, and to learn and implement changes, facilitated

through use of the linked educational resources, and tracking these over time. There is no regulatory hazard for failing to achieve targets and reporting is anonymous (i.e., success is reported in aggregate), which should motivate facilities to set their targets to try to achieve these results, and not be left behind by the national movement.

We have learned from the past decade that as quality care improves in NHs, the setting provides an ever better practice environment for all levels of providers - from the bedside care given by certified nursing assistants to midlevel providers, physicians, and administrators. As the environment and process of care improve, so does the high rate of staff turnover that plagues the NH industry. Even better, the people who live in these facilities and their families are getting increasingly personal care that is less invasive, safer, and focused on quality at all levels. You will enjoy the articles in this issue. They address the challenges but also the revolution of quality care, regulation and finance. You will learn where and how to educate yourself to provide the care you would expect for yourself, and the barriers and opportunities to achieve that level of quality.

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# Culture Change in Long-Term Care

Cynthia Holzer MD, CMD, AGSF

## The American long-term care (LTC)

system, based on a medical model, regards residents as sick patients, unable to care for themselves. Routines are organized for the efficient operation of the facility, rather than the needs of residents.<sup>1</sup> The focus of care is to treat the residents' weaknesses, not to develop their strengths.

Culture change is a movement that departs from the traditional institutionalized care model, towards "person-centered" care.<sup>2</sup> This change places the residents and their direct care workers at the center of the organizational structure. Residents are allowed to determine their own care and daily experiences. Culture change promotes quality of life and quality of care.

LTC facilities' "pioneer practices" have implemented this change, and several "care-models" have emerged.

The "individualized care" model helps residents return to familiar routines: residents decide what is important to them, and how they want to live out the rest of their lives.<sup>3</sup>

The "regenerative community" model downplays illness and builds upon residents' strengths, helping residents flourish despite declining health.<sup>3</sup>

The "resident-directed care" model separates facilities into small home-like neighborhoods, with resident choice at the heart of the community. Each neighborhood has a permanently assigned, cross-trained staff team.<sup>3</sup> (Table 1)

The Wellspring model is based on a charter group of 11 freestanding not-for-profit homes in eastern Wisconsin (The Wellspring Alliance). This model developed in 1994 in response to managed care oversight. This model seeks both to enhance quality of resident care and to enhance the quality of work-life for staff. The Wellspring model has hired geriatric nurse practitioners, and given employees necessary skills and a voice in how their work should be performed. The Wellspring homes share staff training, comparative data on resident outcomes and multidisciplinary resource teams.<sup>4, 5</sup>

The Eden Alternative is the most recognized model of successful culture

change. Dr. William Thomas created The Eden Alternative in 1991 to alleviate the three "plagues" of LTC: loneliness, helplessness, and boredom. This community-centered approach seeks to "create a human habitat where life revolves around close and continuing contact with plants, animals, and children."<sup>2</sup> Seeing the animals, children and gardens of an Eden facility, many onlookers erroneously equate "Edenizing" with these elements. However, "Edenizing" includes a change in philosophy. Much like resident-directed care, Eden emphasizes community and neighborhoods, with staff organized into interdisciplinary teams. The major tenets of the Eden philosophy are:<sup>6</sup>

- Decision-making is placed in the hands of those closest to the residents, which often is the direct care staff. This inverts the usual organizational structure.
- The individuality of each older adult is addressed through permanent staffing: the same caregivers are assigned to the same residents every shift. Also, in "neighborhoods," caregivers form close relationships with older adults.
- Staff members are encouraged to become members of self-directed teams where they can participate in decision-making.
- Companion animals, plants, and children create a diverse environment to reduce loneliness, helplessness, and boredom.

ness, and boredom.

Elmhurst Extended Care is the only nursing home in Rhode Island to achieve Eden Certification status thus far.

With culture change, the role of front-line caregivers will change. This change is imperative, because turnover among staff in LTC can average between 70 to 100% per year,<sup>7</sup> spurred by low wages, lack of control, lack of respect, heavy workloads, lack of teamwork, and lack of communication. A person-centered culture resolves some of these issues. Caregivers have consistent assignments and are highly involved in decision-making and care-planning. The locus of control shifts from managers to residents and their caregivers. This transfer of control promotes independence and individuality in the framework of strong caregiving relationships. Nursing assistants are cross-trained in housekeeping, meal service and activities. Caregivers find their jobs more satisfying because they are in leadership roles, are involved with care planning and decision-making, are developing new skills and deepening relationships with residents.<sup>7</sup>

The Eden training program demonstrates that human caring is powerful medicine. Eden homes have shown reductions in the number of medications administered to residents. This in turn decreases pharmacy costs and reduces nursing time required for med passes. Eden homes have lower rates of anxiety and depression, further aiding in the re-

Table 1. Practices in a Resident-Centered Culture

- Food is accessible to residents at all times.
- Food is served family style at kitchen or dining room tables.
- Residents have consistent caregivers who know them as individuals.
- Residents' rooms are filled with personal belongings.
- Activities occur spontaneously, in addition to planned events.
- Residents direct the decisions affecting their lives in the home.
- Workers are empowered to listen and respond to residents' needs.
- Residents live in neighborhoods or households staffed with empowered teams of caregivers and other supporting personnel.
- Decisions previously made by facility managers are made at the household level.
- Residents are actively involved in all aspects of daily life, continuing to perform household functions such as cooking or cleaning if they desire.

(Adapted from Misiorski, S. What is culture change? [www.almosthomedoc.org/changing/culture\\_change\\_essay.cfm](http://www.almosthomedoc.org/changing/culture_change_essay.cfm))

duction of medications, particularly antipsychotics and benzodiazepines. A 151-bed Midwest Eden home demonstrated, for cognitively intact residents, a mean pretest and posttest Geriatric Depression Scale score significant decrease ( $p < .01$ ), from 4.89 to 2.61, respectively. For cognitively impaired residents, mean Cornell Depression in Dementia Scores demonstrated a significant decrease ( $p < .01$ ), from 8.36 to 6.55, respectively.<sup>6</sup> Eden homes also demonstrate a lower rate of somatic complaints, leading to fewer telephone calls to the physician from the facility, allowing the physician increased efficiency while rounding. Fall rates have also been shown to decrease, in part from a reduction in medication use and an increase in activity. These outcomes contribute to an overall improvement in quality indicators.<sup>8,9</sup>

The SW Texas State University Institute for Quality Improvement in Long Term Care conducted a two-year study, from 1996 to 1998, on quality outcomes in nursing homes adapting the Eden Alternative philosophy. Five Texas nursing homes were involved, with a bed total of 734. The findings are impressive:<sup>10</sup>

- 60% decrease in behavioral incidents
- 57% decrease in Stage I -Stage II pressure sores
- 25% decrease in bedfast residents
- 18% decrease in restraints
- 11% increase in resident census
- 48% decrease in staff absenteeism
- 11% decrease in employee injuries

In 2004, Quality Partners of Rhode Island led a national pilot project sponsored by the Centers for Medicare and Medicaid Services called "Improving Nursing Home Culture." The primary objective was to help nursing homes move from an institutionalized culture to an individualized culture.<sup>11</sup> Two-hundred-and-fifty-four nursing homes participated: 168 homes saw a relative decline of 5.4% in their pain quality measure rates. These same facilities experienced a 14.5% decline in their use of physical restraints.<sup>11</sup>

"Edenizing" a home takes approximately two years. It is vital not to rush the process, because it requires both a change of management philosophy and

reorganization of the physical environment. The educational and implementation processes often overlap. "Edenizing" requires leadership that is committed to this change.<sup>12</sup> To adapt to change, there must be collaboration, flexibility and mutual respect among administration, staff and residents.

Culture change occurs in phases. In phase one, the facility commits to the change. The long-range goal is to create high involvement of residents, their families, and staff. During this phase, the institution explores their organizational structure. Staff evaluate how their organization's culture promotes or hinders the ability of residents to live their lives as fully as possible.<sup>13</sup> Quantitative data may be collected on resident depression and staff and family satisfaction. Phase one provides intensive education to staff, residents, and families. Typically the administrator, director of nursing and a core group of staff members complete an Eden Associate training session. They then provide in-service training sessions with staff on all shifts.<sup>6</sup>

Phases two and three occur quickly, often concurrently. Phase two involves planning the organizational restructuring and additional education of all staff, residents and families. Plans are outlined in detail, recognizing that adjustments will be made as the journey progresses. In Phase three, the facility forms self-directed work teams; e.g., neighborhood, spiritual dining, pet, gardening, and children's teams. The teams explore how life should be lived within their teams. These work teams move into phase four by beginning the inversion of the organizational structure, with the goal of placing decision-making with residents or those closest to the residents. Once in phase four, teams work with residents to make decisions.<sup>6</sup> Culture change is a dynamic process. Once the phases are achieved, culture change must be nurtured.

Dr. Thomas identified likely barriers to culture change. First is apathy. Facility administrations and management teams, which do not experience the three "plagues" of loneliness, helplessness, and boredom, feel that as long as operations are running smoothly, no systemic change is required. Another barrier is fear. The administration often fears the impact of

culture change on the survey process. The staff fears that change will add to their work-load. Another barrier is resistance to change. Staff and leadership believe that nothing is wrong with the system: "we have always done it this way." Facilities also falsely believe that there is not enough time or money to implement change. On average, homes spent \$30,000 over the first two years of implementation. The majority of the expense was for training. In the long run, culture change is thought to save money. Nursing homes generally have waiting lists, with less staff absenteeism. Last, negativity often surfaces with change in ideology.

Scalzi evaluated barriers and enablers to changing organizational culture in three nursing homes. The first barrier was the exclusion of nurses from the culture change training. Resistance to change resulted when one group was excluded and did not share the values or knowledge of the changes to be implemented.<sup>14</sup> Scalzi concluded that true culture change can work only when the values are shared, pervasive, and preserved throughout the entire organization.<sup>14</sup>

The second barrier was competing and/or conflicting goals. Staff perceived that the corporate emphasis was on compliance with regulations and the "bottom line," not on developing an environment that values respect, empowerment, and choice for residents and staff.<sup>14</sup>

A third barrier was the high turnover of administrators. Leadership vacancies delayed the implementation of culture change as well as destabilized the organization.<sup>14</sup>

Scalzi identified several enablers. First, a critical mass of "change champions" with shared values and goals appeared to facilitate culture change. These individuals tended to be staff who attended the offsite educational training sessions, then motivated other staff to implement changes.<sup>14</sup>

A second enabler was management style. When the leader's management style incorporated respect for others, enhancement of relationships and community, individualized person-centered care, and quality of work life for staff, implementing culture change became a natural extension of those values rather than a corporate dictum.<sup>14</sup>

The **Omnibus Budget Reconciliation Act of 1987 (OBRA)** introduced to new nursing homes new standards of care, a resident-focused, outcome-oriented survey process, and a range of federal enforcement remedies.<sup>15</sup> OBRA stated that “residents in nursing homes need a home where they can live for the rest of their lives as individuals.” Residents’ social, spiritual, emotional, occupational, recreational and cultural needs were considered as important as their physical needs. The focus became providing the highest quality of life attainable for the frail elderly living in nursing homes.<sup>3</sup> However, despite OBRA guidelines, nursing homes have been hesitant to implement culture change for fear that loosening their rules might produce worse clinical outcomes and generate penalties during the survey process. Administrators believe that surveyors will punish facilities for implementing the innovative changes and resident-centered approaches. To address these perceptions, The **Rhode Island Department of Health (RIDOH)** has been awarded a grant by the Commonwealth Fund for a study, “Resident-Centered Regulation: Using the Regulatory System to Transform Nursing Homes.” The proposed project will use Rhode Island as a test site for new regulatory process tools.<sup>16</sup>

As stated in the grant abstract, “during Phase 1 of the project, RIDOH will identify how culture change can be accomplished within the existing regulations, as well as how culture change can provide solutions to problems experienced by nursing homes in meeting regulations and fulfilling the legislative intent.” They will seek input from technical experts, including ways to remove barriers and create incentives, and will work with an evaluator to define outcome indicators and develop a research design.

“During Phase 2, RIDOH will train all Rhode Island surveyors on supplemented survey protocols, implement the enhanced survey process in a sample group of nursing homes as a pilot test, review results and assess the impact of the survey materials on nursing home facilities, nursing home residents, and the state survey agency.” They will develop a plan to disseminate the survey materials through publications and conferences.”<sup>16</sup>

We look forward toward culture change in LTC facilities. Future generations of elders will demand community environments that promote both quality of life and quality of care.

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# Transitions of Care: A Topic for the Present and Future

Ana C. Tuya, MD

**Transitions of care, an ongoing area of concern** with renewed interest and ongoing research, refers to a set of actions designed to ensure the coordination and continuity of health care as patients transfer between locations or between levels of care within the same location.<sup>1</sup> Discussions about quality of care, patient satisfaction, and physician satisfaction in relation to nursing home care are incomplete without a review of transitions of care. This topic is of particular interest due to the increasing number of patients who go from acute health care settings to short term stays in nursing homes (or skilled admissions) and then return to the community. JCAHO and other quality assessment organizations are now evaluating elements of transitions of care directly related to patient safety issues, such as the appropriate reconciling of medications across the continuum of care, and the quality and quantity of information provided in hand-offs during transfer of care.<sup>2</sup> How do we make the transition process easier for us and better for our patients?

Although simple enough in concept, transitions of care prove to be often-ineffective. With today's shortened hospital stays, increased use of nursing homes for "skilled" or post-acute care, restricted resident work-hours, development of hospitalist physicians, and "SNF-ists," (skilled nursing facility) hand-offs occur frequently.<sup>3</sup> Rarely does the outpatient primary care physician follow the patient into the hospital, to the nursing home and back to the office. Different medical record systems, and the restrictions placed by the concern for health care privacy have made getting records or information over the phone very difficult. Dr. Eric Coleman, a geriatrician and a researcher, likens each piece of the puzzle to an independent silo of information—acute care hospital, nursing home, patient, and outpatient practice.<sup>3</sup> Each silo thinks of itself as an independent system, and information exchange between them is not always easy. Incentives for communication are not always obvious. We all understand that it is part

of good care and agree with the principle, yet why does it not always happen? Time constraints, system problems, and lack of system-wide emphasis on the problem can prevent us doing what we know is the right thing to do. Until there is a focused way to connect the silos of care, or an easier method of communication and information transfer, the process will continue to be a challenge. In addition, there are no financial or performance rewards for excellence in transitional care. There are no Medicare quality or performance indicators to assess the effectiveness of transitional care.<sup>3</sup>

All the fault does not lie within the health care system. Patients can and should participate in the process as well, but are not often encouraged to do so. Or patients feel unable to navigate the system. Those of us who care primarily for older patients rarely see patients who are actively involved in their care, know their medications, list their specialists, procedures, and dates, and understand their diagnoses. More commonly, we hear hazy answers, such as "I had surgery on my stomach," or "I take a heart pill," or "you know, the little blue pressure pill."

The fault, though, lies more with the system than the patient or physician. The traditional medical culture, especially for the older adult, has been paternalistic. Doctors managed everything, and patients trusted them to handle all problems. In a culture of long-standing, continuous doctor-patient relationships, such an approach could succeed; it fails in today's climate of multiple and frequent hand-offs. As a result, patients (or their caregivers) do not understand the problem list, and do not take responsibility for keeping records, carrying medication lists, and urging doctors for thorough explanations, so that the patients can give those explanations to other practitioners down the road. Also, a number of older adults have trouble comprehending what is explained to them. Finally, some patients have difficulty reading and writing.

For all of the above reasons, Coleman puts the barriers to good tran-

sitional care under three categories: 1) the delivery system; 2) the clinician; and 3) the patient.<sup>3</sup> Anecdotally, every practitioner can think of a patient who has come and gone from the hospital multiple times over a short period, or been hospitalized and then discharged to a nursing home for skilled rehabilitation before returning home. Even more commonly, there is the patient who sees a specialist for evaluation, laboratory and imaging testing or medication changes and then returns to the office for a routine visit. Medicare data, for 2003, show 12,713,090 total discharges from short stay hospitals; 39,320 of those discharges were in Rhode Island.<sup>4</sup> The total number of admissions to skilled nursing facilities nationally in 2003 was 2,332,549; 9,450 were in Rhode Island.<sup>4</sup> There were 270,000 home visits in Rhode Island in 2003, and 7,804 nursing home residents in the state as of 2005.<sup>4</sup> Finally, studies indicate that of these skilled nursing facility residents, 19% will return to the acute care hospital within 30 days.<sup>3</sup>

Adverse events are linked to transitions of care. A 2003 study evaluated 400 patients after hospital discharge, typically 24 days after discharge: 76 patients had had an adverse event during the transition period to home; 23 of these were deemed preventable after extensive review, and 66% of the events were related to adverse drug events.<sup>4,5</sup> This adverse events rate of 19% was significantly higher than studies of adverse events during hospitalization in the same era, which found rates of 2.9-3.7%.<sup>6,7</sup>

Given multiple care settings and practitioners, the risk of poly-pharmacy becomes compounded; times of transition are especially risky. When patients come into the hospital, medication lists are not always available. Even when the list is available, more urgent priorities supersede. "Necessary" medications are continued, while others are let lapse until the patient is "stable," often, never to be resumed. Also, it has become common practice to add "prophylactic" and "as needed" medications, such as proton pump inhibitors, sleeping pills, and a

bowel regimen for elderly patients in the hospital. At discharge, careful medication reconciliation may be omitted; prior medications should be verified and restarted, no-longer-necessary hospital-specific ones stopped, and new medications added and cross-checked with previous ones. Patients often go home with medication lists that do not identify previous regimens, or continue medications for which they do not carry a diagnosis; e.g., acid suppressants. A recent study, examining medication discrepancies in the post-hospital period, found that 14.1% of patients (n=375) experienced one or more medication discrepancies.<sup>8</sup> About half the discrepancies were related to patient factors, while system problems accounted for the other half. Of interest was the higher re-hospitalization rate among patients who experienced discrepancies - 6.1% (p=0.4) in thirty days.<sup>8</sup>

In summary, many practitioners, as well as many patients, face transitional care disruptions daily. Research data support the frustrations and anecdotal experiences of practitioners; adverse events are associated with inadequate transitional care. There is also a cost implication—investing in transitional care will reduce re-hospitalizations and acute care visits from skilled nursing facilities.

There are steps that can be taken on individual, educational and systems levels to make the transition process safer and easier.

To discuss solutions starting with the clinician, simply being aware of the problem and taking the time to review medication lists at each transition, to educate patients about their diagnoses and medications, and to obtain records and information from other practitioners would be a first step. For example, taking the time to communicate with colleagues at different institutions when a patient is admitted to the hospital or to a skilled nursing facility, or evaluated in the emergency department will encourage successful transitions. A five-minute phone conversation may save patients unnecessary tests or hospitalizations if the physician who knows them best can clarify questions or concerns. Those of us who practice in the hospital can save a community practitioner a great deal of back-tracking by forwarding a discharge summary, or calling with the highlights of the hospital stay and the important follow-up issues.

As part of the Brown internal medicine residency's mandatory Geriatrics block rotation, we have incorporated transitions of care as a theme. House staff are getting didactic presentations on the topic, as well as seeing first hand admissions of new skilled nursing home patients, whom they have seen in the hospital, to a nursing facility. They encounter a new skilled admission, having to piece together the events in the hospital, the previous history and the follow up. They see first hand the information they receive from the hospital and how it is not often easy to reconcile the medication list and history to form a plan of care for the skilled stay. Due to residency work-hour restrictions, hand offs occur more frequently; this is day-to-day training in transitions. These experiences, coupled with formal curriculum during their intern year Geriatrics rotation will make today's residents more facile with transitional care.

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## **A five-minute phone conversation may save patients unnecessary tests or hospitalizations...**

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The Agency for Healthcare Research and Quality (AHRQ) has started to emphasize patient safety concerns directly related to transitional care in its funding priorities, and will likely do more in the future. Given moves toward pay for performance in Medicare, it is likely that measures of transitional care will be included to provide additional incentives to foster adequate transitional care. On a state system level, Lifespan has recently instituted a Continuity of Care form that integrates with the Physician Order Management system. On admission to the hospital, this form records the patient's outpatient medications and doses. Upon discharge, the hospital medication profile is transferred into the medication list. The completing physician must then go through each medication and decide whether to resume, continue or discontinue. New medications or discontinued medications require a reason for the changes. Use of such forms will likely

improve the utility and appropriateness of patients' discharge medications and help practitioners in the office, home health agencies and in skilled nursing facilities.

Finally, at the patient level, physicians should encourage patients to take responsibility for their health care information. In the office setting, providing standard forms for patients to fill-in medication history, allergies, health care wishes, medications, and names of all their physicians is a first step. Patients should be advised to carry this form at all times. It is enough information for another practitioner to start with when caring for patients in different settings. A recent study evaluated interventions designed to improve transitional care, and piloted the Care Transitions Intervention.<sup>9</sup> In this randomized controlled trial of 750 patients, Coleman studied patients and their caregivers, since the pairing is the common denominator among the many transfers of care. The intervention group had focused education and support to assist them in medication management; creating, and maintaining a personal health record; recognizing the signs of a worsening of their condition; when to call for advice; and how to maintain regular follow up.<sup>9</sup> The intervention employed transition coaches, who were advanced practice nurses, and registered nurses and supported and promoted the patients' and caregivers' independence and ownership in their own care.<sup>9</sup> The main outcome measured was re-hospitalization within 30, 90, or 180 days of discharge. At all three time intervals, the intervention group had statistically significant lower rates of re-hospitalization, as well as significantly lower hospital costs at 90 and 180 days, despite the increased up front cost to provide the transition coach and intervention.<sup>9</sup>

The results of this study are promising. Providing patients with the tools, encouragement and support to take control of their own health care information can improve continuity of care, prevent future hospitalizations, and decrease costs. The study team's personal health record can be adapted to any practice setting. A website was created by the research group at University of Colorado Health Sciences Center, who are the Care Transitions Intervention team.<sup>10</sup> The site

describes the interventions plan, provides the resources necessary, and has downloadable forms, including the personal health care record. Patient education and empowerment is a proven technique to improve the challenges of transitional care. As further proof, the Care Transitions Measure developed by Coleman and his team (measurement tool to assess patient satisfaction with transition of care and level of knowledge about diagnosis and medications) recently received The National Quality Forum's endorsement.<sup>10</sup>

Transitional care has been integral to health care since its inception, but managing transitions successfully has become more challenging. Less continuity of care is the rule, driven by increasing patient volumes, more sub-specialized physicians, new breeds such as the hospitalists and "SNF-ists", and residency work hour restrictions in teaching hospitals. Patients generally defer to their health care professionals to maintain and coordinate their information. The wave of the future is increased communication, electronic medical records that cross over independent institutions, and mandated quality and performance measures that encourage good transitional care. Easy first steps are the use of medication rec-

onciliation at each step of a transition, verbal or written communication with practitioners accepting hand offs, and initiatives to encourage patients to ask questions and take ownership of their personal health records. Rhode Island is already on its way; electronic records are being used in many of our hospitals, and Continuity of Care Forms are in use at the Lifespan hospitals.

#### ACKNOWLEDGEMENTS:

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# Infections in the Nursing Home: A Primer for the Practicing Physician

David Dosa, MD, MPH, and Lynn McNicoll, MD

**More than 1.5 million Americans reside in nursing homes (NHs) nationwide, a number that exceeds the number of hospitalized patients at any given time.<sup>1</sup> Over the last few decades, the illness severity and age of NH residents have increased. In addition, with the decline in acute hospital length of stays, many residents are admitted for post acute “skilled” care that approximates the severity of illness historically found in hospitals.<sup>2</sup> Many of these skilled-level residents receive multiple antibiotics, have central or peripheral venous access, have long-term bladder catheters, require mechanical ventilation and/or hemodialysis, and require wound care. Given these facts, coupled with the communal living arrangements, it is not surprising that nursing home residents are at extreme risk for nosocomial infections.**

The Centers for Disease Control and Prevention (CDC) estimates that 1.5 million nursing home-acquired infections occur each year. Infections are the most common reason for hospital admissions, and, collectively, the most common cause of death among NH residents.<sup>3</sup>

NH residents are at heightened risk for infection for a variety of individual and institutional reasons.<sup>2</sup> Individual risk factors include impaired host immunity, malnutrition, medication use (e.g. immuno-suppressants, etc.) and co-morbid conditions such as dementia, diabetes, stroke, incontinence, and peripheral vascular disease. Institutional factors that predispose NH residents to infection include group activities such as meals, physical therapy, and recreational activities that allow for airborne, vehicle, and vector-borne transmission of infectious organisms.

While many of these infections are easily treated with oral antibiotics, ample evidence suggests that NH infections predispose to increased mortality and morbidity, including physical and cognitive decline, and increased re-hospitalization. Given the increased use of broad-spectrum antibiotics, there is also a dis-

turbing trend towards infections caused by **multi-drug resistant organisms (MDRO)** and antibiotic-related infections such as *Clostridium difficile*. These multiply resistant organisms, including **Methicillin-resistant *Staphylococcus aureus* (MRSA)**, **vancomycin-resistant *enterococcus* (VRE)**, and multiply resistant gram negative rods, complicate the management of NH residents and are likely to increase the likelihood of future epidemics.<sup>4</sup>

A review of the literature was conducted to sift through the current knowledge and recommendations relating to the more common NH acquired infections including urinary tract infections, pneumonia, multiply resistant organisms such as MRSA and VRE, and *Clostridium difficile*.

## URINARY TRACT INFECTIONS

Urinary tract infections (UTI) are one of the most common infections in NH residents. Inappropriate use of antibiotics for suspected UTI is also common – between 22% and 89% of antibiotic prescriptions.<sup>5</sup> Asymptomatic bacteriuria is frequent in older patients, especially women. Differentiating between asymptomatic bacteriuria and an actual UTI is often difficult in older NH residents, especially those with dementia. In one study of Ontario NHs, one-third of antibiotics prescribed for UTI were for asymptomatic bacteriuria.<sup>6</sup> Treatment of asymptomatic bacteriuria is not recommended even for chronically incontinent NH residents.<sup>7</sup> In most NHs, however, the presence of bacteriuria usually triggers the reflex response of ordering an antibiotic.

Urinalysis showing pyuria (>5 white blood cells per high power field), a urine culture with > 10<sup>5</sup> organisms, and more than 2 symptoms (fever, dysuria, urgency, new incontinence, frequency, suprapubic pain, or gross hematuria) generally indicate an active infection. Delirium, cognitive, or functional declines are often the only manifestations of a UTI in cognitively impaired long-term care resi-

dents; treatment should be initiated if laboratory data confirm the presence of a UTI. Multifaceted interventions with algorithms and case scenarios for ordering urine cultures directed at NH physicians and nurses have been shown to reduce antibiotic use for UTI by 31%.<sup>8</sup>

Risk factors for UTI include age, female gender, urinary incontinence, poor hygiene, and low urine output. Urethral instrumentation and/or catheterization are also significant contributors, increasing the risk of a UTI. Hospitalized NH residents will often have a urinary catheter placed, increasing their risk of a nosocomial UTI. Often urinary catheters are placed initially for appropriate reasons but the catheters are kept in place longer than necessary. It is estimated that older persons have a 5% risk of a UTI for every day of catheterization. In addition, 21% of catheters are placed for inappropriate reasons—most often for urinary incontinence.<sup>9</sup>

First line or empiric antibiotic treatment for UTI can safely include trimethoprim-sulfamethoxazole or nitrofurantoin while awaiting culture and sensitivity results in patients with typical symptoms of a UTI and substantial bacteriuria with leukocytosis. Often it is preferable to wait until culture results are available if the patient has a history of recurrent UTI or resistant organisms - assuming the patient is medically stable. Older persons with a normal serum creatinine level generally have a low calculated creatinine clearance related to aging. Thus, it is important to dose-adjust antibiotics based on calculated creatinine clearance. Also, when starting antibiotics, it is essential to consider adjusting warfarin doses or increasing the monitoring of anticoagulation. In a recent population-based retrospective study, NH residents were found to be almost 4 times more likely than community dwelling elders to have renal impairment and 80 times more likely to require prolonged antibiotics for UTI. In addition, NH residents are 7 times more likely to have inappropriately dosed antibiotics, 9 times more likely to suffer

adverse reactions, and 2.6 times more likely to receive repeat treatment than community dwelling elders.<sup>10</sup>

Residents with substantial exposure to antibiotics in the past are more likely to develop UTIs with resistant organisms. Nursing home residents with poor medication compliance who do not complete a full course of antibiotics may also have an increased risk of resistant organisms. In particular, NH residents with previous exposure to a fluoroquinolone are 20 times more likely to have fluoroquinolone-resistant *Escherichia Coli* infection.<sup>11</sup>

There is little evidence that nutritional supplements such as vitamin C and cranberry tablets have any impact on the rate or severity of UTI. However, these agents are low risk interventions and are often implemented in high-risk NH residents with recurrent UTI. Vaginal estrogen creams can improve the vaginal and urethral mucosal integrity and potentially increase urethral sphincter function, thus reducing the risk of bacterial migration up the urethra. Keeping nursing home residents well hydrated and increasing hydration at the first sign of a UTI can help prevent the progression to a UTI.

#### Take home points:

- Asymptomatic bacteriuria need not be treated.
- Wait for organism identification and sensitivity information prior to treatment whenever possible.
- Urinary catheters are a significant risk factor for infection and should be removed whenever possible.
- Always adjust antibiotic dosing for calculated creatine clearance and monitor coumadin levels during treatment.

### NURSING HOME-ACQUIRED PNEUMONIA

Nursing home-acquired pneumonia (NHAP) was first defined as a clinical entity in 1978. The reported incidence of NHAP is 0.27 to 2.50 cases per 1000 patient days, a ten-fold increase compared to age-matched community dwellers.<sup>12</sup> NHAP is a frequent cause of hospitalization; mortality rates rival those seen in community dwellers admitted to the ICU.<sup>13</sup> Despite these facts, NHAP can be difficult to diagnose in NH residents. Though cough and fever are present in about 60%

of cases, more subtle clinical signs frequently occur including delirium, appetite loss, falls, incontinence, and weakness.<sup>14</sup> Delays in obtaining laboratory evaluation and chest x-rays contribute to the need to make presumptive decisions about hospitalization and empiric decisions on antibiotic therapy.<sup>14</sup>

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## ...in 2004, 63% of staphylococcus infections in health care facilities were resistant.

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In many cases, NHAP can be treated safely in the nursing home with antibiotics and supportive therapy. In a retrospective cohort study conducted in a large university-affiliated nursing home, investigators noted similar mortality rates in NH residents with pneumonia who were hospitalized, compared with those treated in place.<sup>15</sup> In addition, those who remained in the NH appeared to have less functional decline over the following 60 days. A large prospective study of 36 Missouri nursing homes also noted that initial hospital therapy did not improve mortality compared to those treated appropriately in the nursing home.<sup>16</sup> Finally, Loeb et al. utilized a cluster randomized trial of 680 Canadian NH residents to assess whether a clinical pathway for on-site treatment of pneumonia could reduce hospital admissions, mortality, subsequent functional loss, and cost.<sup>17</sup> The investigators found no change in overall mortality or morbidity between groups, but noted significant cost savings (over \$1000 per patient) in the NH-treated group. They concluded that a clinical pathway for treatment of NHAP could reduce hospitalizations and achieve cost savings, without worsening clinical outcomes.

Both the American Thoracic Society and the Infectious Disease Society of America recommend one of three regimens for the treatment of NHAP: (1) a fluoroquinolone alone; (2) a second generation cephalosporin in combination with a macrolide; and (3) a non-anti pseudomonas third generation cephalosporin with a macrolide.<sup>18,19</sup> Current recommendations emphasize the importance of rapid delivery of care for pneumonia. A consensus panel convened in 2002 recommended hospitalization for NHAP when the NH cannot provide rapid antibiotic therapy within 8 hours of diagnosis. Rec-

ommendations for care in the NH included: the availability of every 4 hour vital signs, laboratory access, parenteral hydration, and the presence of at least two licensed nurses.<sup>20</sup> Recommendations for hospitalization included the presence of 2 or more of the following conditions: oxygen requirement over 3L per minute; oxygen saturation < 90% at sea level; respiratory rate > 30/minute; uncontrolled congestive heart failure, diabetes, and/or chronic obstructive pulmonary disease; stuporous mental status; and increased agitation.<sup>20</sup>

#### Take Home Points:

- NHAP can be safely treated in the nursing home in many circumstances without change in outcome and overall cost savings.
- There are three recommended regimens outlined by IDSA and ATS for NHAP treatment.

### MULTI-DRUG RESISTANT ORGANISMS

Since the first published reports of resistant organisms in long term care facilities during the 1970s, nursing homes have been viewed as a reservoir for MDROs.<sup>21</sup> Estimates from the Centers for Medicare and Medicaid Services (CMS) for 2005 suggest that 27,000 NH residents have antibiotic resistant infections.<sup>22</sup> A Veterans Administration (VA) study published in 1991 from a NH unit in Washington noted prevalence rates for colonization with resistant organisms of 34% among residents and 7% of staff.<sup>23</sup> In a 2001 study, 43% of 117 participants from a nursing home were colonized with one or more resistant pathogens including 24% with MRSA and 3.5% VRE.<sup>24</sup> Given the increased usage of broad-spectrum antibiotics and epidemiological studies conducted in the acute care setting, it is likely that these numbers have increased in recent years.

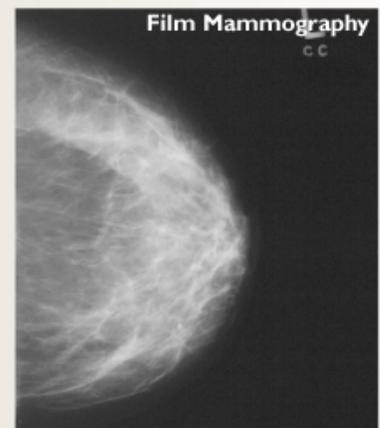
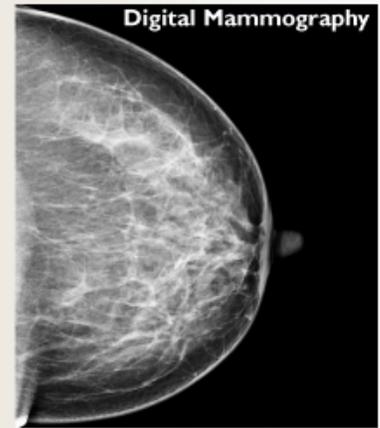
The development of resistance in the NH occurs for multiple reasons. First, resistant organisms are frequently brought into the nursing home from outside sites—most often acute care hospitals where residents are colonized or infected with resistant organisms.<sup>21</sup> These residents are then admitted to the NH for continuing medical care, frequently requiring dressing changes, and catheter care with ample opportunity to colonize other residents and staff. Second, resistant organisms are selected for as a conse-



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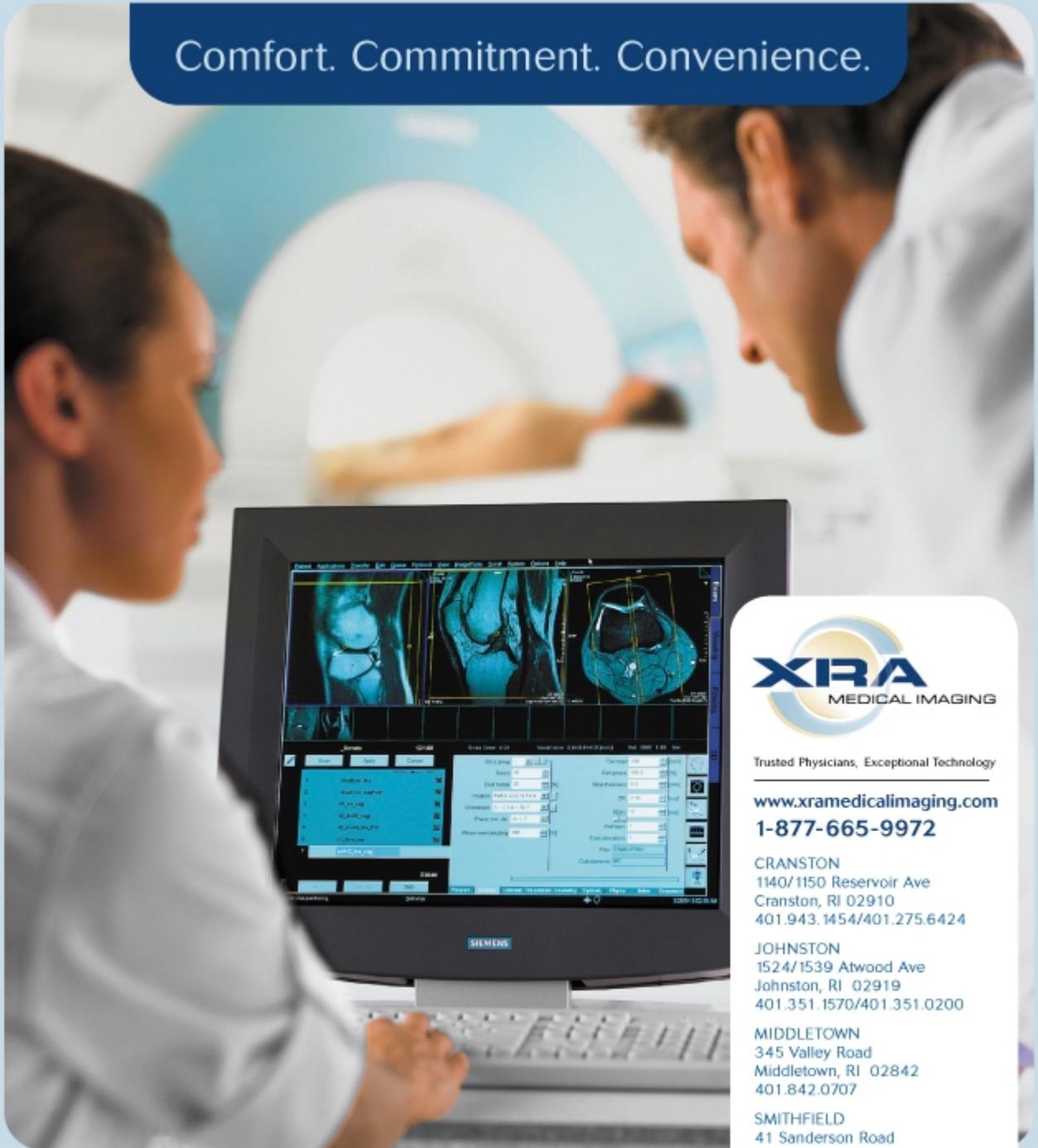
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quence of repeated and often inappropriate antibiotic use. For example, antibiotics comprise 40% of all systemic medication use in the NH setting; the point prevalence use of these drugs is as high as 8% in some studies.<sup>25</sup> In many cases, commonly used antibiotics are “broad spectrum,” encouraging emergence of selectively resistant organisms over time. Even when prescribed correctly, antibiotics often fail to penetrate foreign bodies such as catheters and reach sub-optimal concentrations in necrotic tissue and ischemic wounds allowing for resistance to occur. Finally, antimicrobial resistance occurs through mutations or transfer of genetic material from one bacterium to the next. It is believed that this mechanism has resulted in case reports of Vancomycin resistant staphylococcus aureus; conjunctive transfer of the *vanA* gene from enterococci to *S. aureus* has been demonstrated *in vitro*.<sup>26</sup>

Table 1 lists the known risk factors for colonization related to MDRO among nursing home residents. Two studies have identified risk factors for infection related to MRSA, including a VA study that identified dialysis and persistent MRSA colonization as independent risk factors.<sup>27</sup> A second study, also conducted in the VA, identified diabetes mellitus and peripheral vascular disease as independent risk factors for infection.<sup>28</sup> Such studies have not yet been conducted for VRE in the nursing home setting.

## METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA)

MRSA has become a major problem in acute care hospitals, in the outpatient setting, and in the nursing home. While the first reported cases occurred in the 1950s, the introduction of new antibiotics suppressed the problem of resistance until the 1980s. Since then, the prevalence of MRSA has steadily increased. A 1987 report described an outbreak of MRSA in a St Louis nursing home.<sup>29</sup> Based on CDC data, the proportion of staphylococcus infections that are antibiotic resistant has been growing steadily. In 1974, MRSA occurred in 2% of the total number of staphylococcus infections; in 1995, that proportion increased to 22%; in 2004, 63% of staphylococcus infections in health care facilities were resistant.<sup>30</sup>

MRSA is caused by a mutation to the **penicillin binding protein (PBP2a)**. While treatment of MRSA is more challenging, MRSA is not considered to be “more virulent” than non-resistant strains of *Staphylococcus aureus*. In addition, most cases of MRSA represent colonization rather than infection. Once MRSA has been introduced to a facility, however, there is evidence to suggest that it lingers in the NH, and can spread from one resident to another, mostly by person-to-person contact via the hands. A study conducted in a VA nursing unit noted that 34% of the residents and 7% of the staff had

acquired MRSA within 15 months of its documented introduction into the facility.<sup>23</sup> Persistence of MRSA colonization in NH residents has been documented at rates as high as 65% 3 months after initial screening in a VA facility.<sup>27</sup> Lower rates have been described in community NHs.<sup>31</sup>

Treatment for MRSA infections is essential and the treatment of choice is Vancomycin. Other antibiotics are also effective under certain conditions including Trimethoprim-sulfamethoxazole, fluoroquinolones, linezolid, daptomycin, and rifampicin. Eradicating colonization with MRSA has proved possible with several different medical regimens. These regimens include: a three days of topical mupirocin alone or in combination with an oral antibiotic(s) (e.g., Trimethoprim-sulfamethizole and rifampin, or ciprofloxacin alone).<sup>1</sup> Nevertheless, it is generally presumed that eradicating colonization should not be attempted for individual cases; such efforts should be reserved for high prevalence or outbreak situations.<sup>32</sup>

### Take Home Points:

- Increasing prevalence and persistence rates for MRSA among NH residents is high.
- Vancomycin is the treatment of choice for infection.
- Eradication of colonization is possible, but should be reserved for high prevalence or outbreaks.

## VANCOMYCIN RESISTANT ENTEROCOCCUS (VRE)

Enterococci are commonly encountered pathogens of the urinary tract, GI tract, and skin. As with MRSA, Vancomycin-resistant enterococci are no more virulent than non-resistant species and are generally considered to be of low pathogenicity. Nevertheless, VRE is occasionally implicated in serious infections, particularly amongst older persons and those with immunosuppression. As a class of bacteria, enterococci have intrinsic resistance to multiple antibiotics, with the notable exception of penicillins and glycopeptides. As the usage of these antibiotics has increased, however, the presence of resistance via Beta-lactamase production has also increased. Subsequently, the presence of Vancomycin resistance was first described in Europe, followed quickly by reports of its presence in US isolates.

**Figure 1: Known Risk Factors for Colonization with Resistant Organisms in Long Term Care†**

### Risk Factors for Methicillin-resistant *Staphylococcus aureus*

#### Patient Characteristics

- Poor Functional Status
- Bedridden/Confined Status
- Male Gender
- Urinary Incontinence

#### Skin Condition

- Presence of Pressure Ulcers
- Presence of Wounds

#### Invasive Devices

- Nasogastric Tube
- Feeding Tube
- Urinary Catheterization
- Intermittent Urinary Catheterization

#### Recent antimicrobial use

#### Prior Colonization

### Risk Factors for Resistant *Enterococci*

#### Patient Characteristics

- Poor Functional Status
- Renal Failure
- Low Serum Albumin
- Wheelchair/Bed bound

#### Skin Condition

- Presence of Wounds

#### Invasive Devices

- Urinary Catheterization
- IV catheterization

#### Recent antimicrobial therapy

†= Adapted from Strausbaugh LJ, Crossley KB, Nurse BA, et al. Antimicrobial Resistance in Long-Term-Care Facilities. *Infect Control Hosp Epidemiol.* 1996;17:133.

Vancomycin-resistant enterococci in the NH has become increasingly prevalent. A study in Oklahoma nursing homes cited Vancomycin resistance in cultures of *Enterococcus faecium* at 26%.<sup>33</sup> Unfortunately, screening cultures often underestimate the magnitude of the problem because they fail to detect overgrowth of a resistant strain selected by antibiotic therapy or transmission that occurs between screening attempts. Furthermore, studies have suggested that VRE often contaminates environmental surfaces in the rooms of colonized patients thereby increasing the frequency of transmission.<sup>34</sup>

The Food and Drug Administration (FDA) has approved treatments for all VRE infections: (1) quinupristin-dalfopristin (QD); and (2) linezolid. A third agent, Daptomycin, has recently been approved for certain skin infections with VRE. In general, recommended treatment varies depending on the type of infection and the species of VRE. Side effects with these agents are common and patients should be carefully monitored. In some cases, evidence of combination therapy with other more routinely used antibiotics has been shown to be effective. There are no reported effective decolonization strategies for VRE, and attempting it is not recommended.<sup>32</sup>

#### Take Home Points:

- Colonization with VRE is increasing in prevalence
- Eradication attempts are not effective and not recommended
- There are two approved treatment options for active infection with VRE

#### CLOSTRIDIUM DIFFICILE

*C. difficile*-associated diarrhea (CDAD) accounts for over 25% of diarrhea in the NH and is associated with significant morbidity.<sup>35</sup> Severe complications occur in 10% of patients and include pseudomembranous colitis, toxic megacolon, dehydration, hypokalemia, colonic bleeding, and perforation.<sup>35</sup> Older adults are more likely to acquire CDAD due to high antibiotic exposure in long-term care settings, age-related changes in fecal flora, relative immunodeficiency, and compounding co-morbid conditions that increase the vulnerability of older patients.<sup>36</sup> Within a NH, patients recently admitted from a hospital or with severe illness (skilled or rehabilitation patients) constitute the majority of CDAD cases.<sup>35</sup> Risk factors for CDAD among long-term

care residents include recent hospitalization, low albumin, and use of proton pump inhibitors.<sup>6</sup> Recent antibiotic use is the greatest risk factor for CDAD; clindamycin is among the most frequent antecedent treatments. Recently hospitalized patients are also at high risk. With their increased use, third-generation cephalosporins, fluoroquinolones and macrolides have also been shown to be associated with CDAD.<sup>35</sup> Recurrence of CDAD is also a major problem; rates are estimated at 20%, but vary from 5 to 55%.<sup>35</sup> CDAD-related costs are estimated to result in \$1 billion in health care costs annually in the United States.<sup>37</sup>

First line treatment is metronidazole (renal dosing as appropriate) for 2 weeks. Persistent or recurrent CDAD treatment strategies include a second course of treatment with metronidazole for 3 to 4 weeks or changing to, or adding vancomycin orally. Adjuvant therapy includes adding cholestyramine or probiotic agents such as *Lactobacillus* or *Saccharomyces boulardii*.<sup>35</sup> Long-term care facilities have responsibilities to limit the spread of CDAD by isolating patients with CDAD, maintaining proper enteric precautions, and limiting antibiotic use.

#### Take Home Points:

- The prevalence of CDAD is increasing with more frequent reports of virulent strains associated with severe complications.
- First line treatment for CDAD is metronidazole. The addition or change to oral vancomycin is recommended for persistent/severe cases.
- Adjuvant therapy with cholestyramine and probiotic agents is helpful.

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# Nursing Home Physicians: Roles and Responsibilities

Aman Nanda, MD, CMD, and Tom J. Wachtel, MD, FACP

In the United States, roughly 16,100 nursing homes house 1.5 million persons. Most (62%) of the homes are for-profit facilities; nearly 54% are part of regional or national chains; 31% are not-for-profit facilities; 7.7% are government-affiliated.<sup>1</sup> In the last 20 years, as nursing homes have assumed responsibility for more acutely ill residents, the jobs of the Administrator, Director of Nursing, Medical Director, attending physician and direct care staff have become more complex. In this article, we describe the roles and responsibilities of attending physicians and medical directors in the NH.

## ROLE OF ATTENDING PHYSICIAN

Three concepts highlight the nature of NH medical care: competence in care of older and disabled persons; the interdisciplinary team approach; and government regulation.

NH physicians are expected to be familiar with geriatric care principles, including experience and knowledge about geriatrics syndromes and problems common in elderly residents. The ability to manage polypharmacy, delirium, dementia, falls, osteoporosis, malnutrition, pressure sores, incontinence and multiple interacting co-morbid conditions is essential. For example, older patients with pneumonia or urinary tract infection may present with a change in mental status or behavior rather than fever. The attending physician must assess behavioral changes, cognition, affect, gait, sphincter function, and overall physical function, as well as be familiar with interventions to maintain or improve functional outcomes.<sup>2,5</sup>

Virtually all residents are debilitated, with multiple co-morbid chronic conditions. Residents require the services of nurses, rehabilitation personnel, dietitians, social workers, personal care attendants and others, with whom the attending physician should interact often - by phone, e-mail, fax or face-to-face. These ongoing interactions are necessary for the physician to receive information about the residents and to make better, often collaborative decisions.

The NH physician must work as a member of a team whose leader is a nurse. Attending physicians provide oversight and assume ultimate responsibility for the medi-

cal care of residents, and physicians write the orders that the other professionals carry out. Yet because physician presence in the facility is intermittent, nurses are the “eyes and ears” of the physician.

The nursing assessment is crucial, but nurses unfamiliar with a particular resident, as well as temporary pool nurses, may not give accurate assessments.

Physician responsiveness to nurse calls promotes better communication and provides attending physicians with the opportunity to teach and assist nursing staff in care and assessment. Concerns about nursing performance should be brought to the attention of the Director of Nursing or Medical Director. Interaction with residents’ families (and friends) is also important for exchange of information in both directions. Families need to know what to expect and the attending physician should ask families to participate in establishing the goals of care and expectations for frequency and medical follow-up.

Transitions are times of high resident vulnerability because the resident is new to the care team, and because the transfer of information between institutions (usually hospital and NH) often is incomplete or delayed. The high prevalence of dementia (>50%) among residents undermines reliability of medical histories. Interagency transfer forms filled out by the hospital staff at the time of discharge, or by the nursing home nurse at the time of transfer, often incompletely or inaccurately reflect allergies, medical diagnoses and medications. Ideally, nurses and physicians from both institutions should communicate directly; in practice, the multiple transitions, low priority accorded to paperwork, multiple providers and rush to move the patients act against such an ideal.

NHs are highly regulated. Providing medical care to NH residents differs from both the hospital setting and the outpatient setting. Hospitalized patients are acutely ill and seen daily. Ambulatory care patients receive episodic visits for chronic disease management, health maintenance or acute conditions. But such patients are generally independent, can carry out their physicians’ recommendations on their own or with minimal assistance, and can control the visit schedule. Nursing home residents are at risk of physician under-use,

resulting from regulations establishing a minimum frequency of physician visits. Skilled NH residents (short term rehabilitation) are seen at least 2-3 times in the first month, and once a month thereafter; long-stay residents are seen routinely at least once every two months. Medically necessary visits can be performed as frequently as necessary, but billed no more than once daily.

Many state and federal regulations are intended to promote better care. By accepting responsibility for the medical care of NH residents, the attending physician implicitly agrees to comply with those rules and regulations, including the regulatory visitation schedule, provision of 24/7 coverage, responsiveness to report change in resident condition and other concerns or questions from nurses, care documentation and medications and treatment orders and reviews.

Unfortunately, many physicians choose not to practice in NHs. One barrier is the public image of NHs as a place of last resort where older persons go to die. Second, the “magnetism of the acute care world” attracts medical students, residents and attending physicians to hospitals and specialty practices. Third, the paucity of training in geriatric medicine during medical school and residency, and worsening shortage of geriatricians, discourages physicians from entering geriatrics. Fourth, the lack of specialists willing to visit NH residents often requires NH attending physicians to extend their scope of practice beyond their ordinary hospital or office practice. There are no regulatory limitations on consultations, but few specialists visit NH residents, who must be transported to consultants’ offices. Fifth is a financial disincentive: Medicare does not reimburse physicians for coordinating services or providing interdisciplinary care across settings. NH physicians spend time traveling between facilities, practicing telephone medicine and managing paper flow without reimbursement. Finally, high liability risk is generated by the fact that most long-term care NH residents die in the NH, with the potential for “wrongful death” claims. And the problem of persistent under-funding of NH care can limit services. The practical difficulty to comply and document compliance with over 100,000 pages of rules and regulations, and the resulting sub-

stantial increase in malpractice insurance rates for physicians practicing in NHs create another major impediment.<sup>6</sup>

Medical care of NH residents is potentially rewarding. Optimal NH care is interdisciplinary, preventative, curative and palliative, and the physician may be able to improve residents' lives beyond purely clinical interventions by taking on administrative roles collaboratively with or as the medical director. Listed below are the responsibilities of the physician practicing in the NH setting.<sup>7</sup> These responsibilities reflect appropriate care, as well as specific regulations. The regulations encompass several domains, each of which corresponds to a regulatory code known as a Federal tag (F-tag) number. Also listed below are suggested time management guidelines for efficient NH practice.

### Physician Responsibilities in the NH (examples)

1. Physically attend to each resident in a timely manner consistent with state and federal guidelines (visit every 30 days for the first 90 days following admission, and at least every 60 days thereafter) while assuring that the appropriate diagnostic tests are performed (Tag F 387, F 500-512).
2. Respond in a timely fashion to a resident's change in function or condition (F 157).
3. Assess each patient comprehensively, assist in care plan development, periodically review it and assure that the goals for each care plan are rational and relevant (Tag 272, 279, F 250, F 309).
4. Implement treatments and services consistent with good geriatric practice to enhance or maintain physical and psychological function and to avoid accidents (TAG F 502-512, F 310, F 311, F 323 and F 324).
5. Assure that residents are free from unnecessary drugs by periodic review of drug regimens and consultant pharmacist recommendations (Tag F 329-F331, F 428 and F 429).
6. Inform residents of their health status and enable residents to exercise self-determination including advance directives (Tag F 151, 152 and 154).

### Time Management Advice

- Establish regular days for rounding in a particular NH
- Cluster routine visits, avoid single

resident visits unless urgent

- Limit practice to only a few facilities
- Use protocols or established clinical practice guidelines for common problems
- Employ a nurse practitioner or physician assistant who can manage routine and acute care, and serve as liaison among you, nursing staff and families
- Address care plan, expectations, and advance directives with resident and family soon after admission
- Establish strong relationships with NH nursing and administrative staff
- Conduct rounds with the floor nurse to ensure acquisition of key information and to make sure care plans are being carried out.
- Collaborate with the medical director to train staff to limit after-hours calls to urgent medical problems, and establish a system for conveying routine information (e.g., regularly scheduled calls)

### ROLE OF MEDICAL DIRECTOR

A medical director oversees certain aspects of medical care and services for an organization or a health-care system. Hospitals have department chairs, chiefs of staff, division directors or vice-presidents for medical affairs. The Omnibus Reconciliation Act of 1987 (OBRA '87) requires that all long-term care facilities designate a medical director who is a licensed physician to practice in that state. Interpretive guidelines describe the following duties:<sup>8</sup>

- Ensure that the facility provides appropriate medical care
- Monitor and ensure implementation of resident care policies
- Provide oversight of physician services
- Play a role in overseeing the overall clinical care of the residents to ensure to the extent possible that care is adequate
- Evaluate potential inadequate medical care and take appropriate steps to try to correct the situation
- Consult with residents and their attending physicians concerning care and treatment when needed and requested

### General Statement

Services provided to nursing home residents can be broken into 3 categories:

(a) *Domains of care that fall under physician expertise* include physician and other practitioner services, including timeliness of visits, appropriateness of medical care,

credentialing of physician/practitioners; infection control; formulating advance directives; employee health; and medical records (e.g., admission notes, progress notes, discharge summaries). The medical director should be actively involved, in collaboration with the facility's leadership (administrator and director of nursing) in oversight of the above domains, and shares responsibility for satisfactory performance of the NH in those areas. If problems are discovered during inspections or quality assurance activities, the medical director should provide assistance and recommendations pertaining to corrective action plans. The medical director may need to intervene directly with attending physicians and practitioners who are not performing according to expectation.

(b) *Domains of care that are primary responsibility of other health professionals (e.g. nursing, physical therapy, dietary, social work), but require some degree of medical director input.* The medical director should be aware of those departments' policies and procedures, and how they are fulfilling their function. If problems are identified internally (e.g., as a result of a mishap or during the quality assurance process) or by an external party (state inspectors), the medical director should be informed and may be involved in helping the NH to formulate plans to correct the problem(s). The medical director should not be held responsible for actual implementation of corrective actions, given that the medical director has no authority over any NH employees and has no access to NH financial resources.

(c) *Domains of services to NH residents that should not be under medical director oversight or responsibility include cleaning, laundry services, food services, plumbing, fire, safety et al.* Physicians have no training or expertise in these areas. Accordingly, if problems are identified (e.g., a "deficiency" during an inspection), the medical director can be informed of those problems (as may be required by the regulatory process), but there should be no expectation that the medical director has responsibility in the plan of correction.

### AREAS OF RESPONSIBILITY:<sup>9</sup>

1. General
  - a) Overall coordination, and monitoring of physician/practitioner activities
  - b) Monitoring the outcomes of the health care services; i.e., quality assurance/improvement (QA/QI).

2. Physician/practitioner oversight
  - a) Establish a procedure to review physician/practitioner credentials and grant privileges to attend
  - b) Establish rules that govern the performance of physicians/practitioners
  - c) Establish a formal procedure to oversee physician/practitioner performance (QA)
  - d) Define the scope of practice for non-physician practitioners (would usually use state/federal regulations).
  
3. Ensure physician performance in the following activities:
  - a) Accepting responsibility for the care of residents assigned to them
  - b) Performing timely admissions, including review of medical records
  - c) Making scheduled and as-needed visits
  - d) Providing adequate ongoing 24/7 medical coverage
  - e) Providing appropriate medical care
  - f) Documenting care and doing so legibly
  - g) Formulating and approving advance directives/end-of-life orders
  - h) Others (may be physician, resident, or facility specific)
  
4. Cover for the attending physician when the latter is unavailable or not performing appropriately.
  
5. Policies and procedures: the medical director is responsible for the content and implementation of those policies and procedures that fall under the physician's domain (see above), and monitoring of their execution. The medical director should review policies and procedures that pertain to other types of health care professionals (e.g., nursing) but not be held responsible for their execution.
  
6. Quality Improvement (QI): The medical director (or designee) must attend the quality assurance meetings and be an active participant in the QI process, including areas that are not in the medical domain; a physician is often the most knowledgeable and able member of the QI committee in the management and interpretation of statistical data.
  
7. The medical director is involved with policies that cover employee health.

8. Infection Control: The medical director advises and consults with designated nursing staff regarding communicable diseases, infection control and outbreaks.

9. Review the reports of formal inspections by the state department of health. When deficiencies are identified, the medical director should be involved in the plan of correction of problems that are in the medical domain.

#### **Sources of Medical Director Responsibilities, Accountability and Caveats**

The federal and state regulations define a broad outline of NH medical director responsibilities. Pursuant to the Federal NH Reform Act of 1987, and specifically, 42 C.F.R. 483.75(i) (also designated as Tag F501 for survey reference), each NH covered by the Act must designate an individual to serve as a medical director.<sup>10</sup> The regulations further state that each medical director is responsible for

- the implementation of resident care policies; and
- the coordination of medical care in the facility.

While these may appear simple and straightforward, the variety of responsibilities included within each function calls for interpretation. Indeed, taken literally, the job description implied by the regulatory language goes far beyond the role of a hospital chief of staff or department chair. The vague regulations preclude a direct translation into a functional and realistic job description. Additionally, the breadth of the regulatory scope of responsibilities of the medical director job is unreasonable; it could be interpreted to include domains in which physicians have no expertise. Finally, the authority bestowed upon medical directors is limited by the part-time nature of the position and its advisory status, without authority over the NH employees and budget.

During 2006, CMS introduced new surveyor guidance to clarify the federal requirements for Tag F 501. The medical director is now viewed as a medical leader who should actively help facilities provide effective medical care. The updated surveyor guidance expects the medical director to:

- Coordinate medical care in the facility;
- Collaborate with the facility leadership and provide clinical guidance to help develop, implement and evaluate resident care policies and procedures that reflect current standards of practice;
- Help the facility identify, evaluate, and address/resolve clinical concerns and issues that affect resident care, medical care or quality of life, and are related to the provision of services by physicians and other licensed health care practitioners.

The revitalized F-501 tag addresses medical direction concerns raised during state inspections, and specifically whether the medical director, in collaboration with the facility, coordinates medical care and is involved in the implementation of resident care policies. Two types of medical direction failures can be identified:

1. The facility has failed to involve the medical director in his/her role.
2. The medical director has not performed his/her role.

The survey team must first identify whether noncompliance cited at other tags relates to the medical director's roles and responsibilities. In order to cite at F501 when noncompliance has been identified at another tag, the team must link the identified deficiency to a failure of medical direction.

NHs are subjected to considerable oversight by government agencies and other parties (e.g., ombudsperson, families of residents). The frail nature of NH residents and their multiple co-morbidities can lead to medication errors, injuries, pressure ulcers or malnutrition, and even death; accordingly, complaints about NHs, their medical directors and their physicians are not uncommon. The state's department of health and the state's board of licensure and discipline may be asked to adjudicate those complaints. Despite the breadth of responsibility imposed upon the medical director, that responsibility is not matched by the medical director's regulated authority over the NH operations. The 2001 Institute of Medicine report "Improving the Quality of Long Term Care" urged facilities to give Medical directors greater authority for medical services and care. Furthermore,

most medical director contracts only require that the director work at the facility for a brief period, often 2-4 hours weekly. In combination with the regulations, such arrangements make the medical director an easy target for liability, investigation by state licensing boards, and even criminal prosecution, but do not provide an obvious mechanism whereby the directors can implement sound policies and practices consistently in facilities. A carefully worded employment contract may offer some protection. Medical directors should also maintain a written record of their activities; for example, in the form of a quarterly report to the QA committee.

Despite its pitfalls, NH medical direction and patient care can be a rewarding experience. Physicians can enhance the well being of medically complex frail patients admitted for short-term rehabilitation, as well as for long-term residents in the final phase of their lives. Medical directors and attending physicians are encouraged to become the members of American Medical Directors Association (AMDA), attend AMDA's annual symposium, and learn more about these positions. [<http://www.amda.com>]

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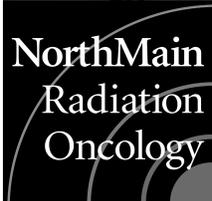
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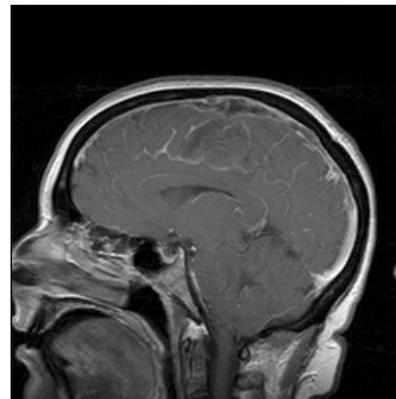
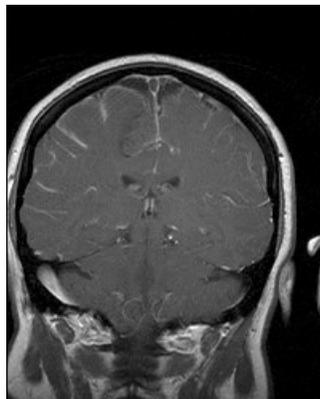
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# Images In Medicine

## Superior Sagittal Sinus Thrombosis

Jill Steinkeler, MD, and Richard Haas, MD



**A 33 year-old woman presented with a four-day history of progressive headache and left sided weakness.** The patient started an oral contraceptive two weeks prior to presentation. Neurologic examination was notable for left arm and leg weakness with impaired light touch sensation.

Initial work-up included a noncontrast head CT that showed subarachnoid hemorrhage along the right frontal and parietal convexity with an intraparenchymal hemorrhage in the high right frontal lobe. (Figure A) A CT angiogram (CTA) was negative for aneurysm or arterial venous malformation (AVM). MRI/MR venography (MRV) demonstrated thrombosis of the superior sagittal sinus as seen on coronal and sagittal T1 post-contrast images. (Figure B)

Dural sinus thrombosis accounts for 1-2% of strokes in young adults. Occlusion of the major venous sinuses can lead to cerebral infarction and hemorrhage due to intracranial hypertension, cerebral herniation and death. Predisposing factors for dural sinus thrombosis include hypercoagulable states, pregnancy, medications including oral contraceptives, intracranial infection, and trauma. The majority of patients present with severe headache. Focal neurologic signs develop in about 50% of patients with sinus thrombosis.

The diagnosis of dural sinus thrombosis should be considered in young and middle-aged patients who present with stroke-like symptoms, especially if noncontrast CT demonstrates hemorrhagic infarcts that are not confined to one arterial vascular territory. MRI with MRV is the most sensitive imaging technique and will demonstrate abnormal signal in a sinus corresponding to absent flow on MR venography. Early diagnosis is crucial to prevent cerebral herniation. Anticoagu-

lation is the mainstay of treatment of sinus thrombosis even in the presence of hemorrhagic infarcts. Endovascular thrombolysis is reserved for patients with a poor prognosis.

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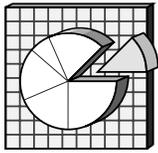
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### Disclosure of Financial Interests

Jill Steinkeler, MD, has no financial interests to disclose.  
Richard Haas, MD, has no financial interests to disclose.





## Resident and Family Satisfaction with Nursing Home Care in Rhode Island: Prioritizing Improvement

*Margaret S. Richards, PhD, and Gwen C. Uman, RN, PhD*

In 1998 the Rhode Island General Assembly mandated the collection and public reporting of information on measures of clinical quality and patient satisfaction with care in all categories of licensed healthcare facilities.<sup>1</sup> For Rhode Island nursing homes, this mandate has been met with the publication of Nursing Home Compare<sup>2</sup> data as well as information on family and resident satisfaction with care. The first report of family and resident satisfaction in 92 nursing homes in Rhode Island was published in the fall of 2006<sup>3</sup> and was based on a two-year project conducted with Quality Partners of Rhode Island and Vital Research, LLC, of California.

Public reporting of healthcare performance data (including satisfaction scores) enables consumers to compare providers when the ability to choose a provider exists. It is expected that the publication of performance data also motivates providers to improve quality of care delivered.<sup>4</sup> Providers in receipt of the public comparative report and their individual facility reports want to know *how* they performed relative to their peers, and *what* they can do to improve their scores. Vendors like Vital Research fulfill providers' requests for help understanding how to get started on quality improvement by giving them a priority index of their satisfaction data. Simply put, a priority index is a statistical application that is one possible guide to identifying the best opportunities for quality improvement. It reflects two dimensions of satisfaction from the consumer's perspective: importance and performance. High priority areas for intervention and improvement are those that are of high importance to the consumer, but exhibit a low performance score. The construction of these indices, the results for nursing homes statewide in 2006, and the policy implications for healthcare quality are presented here.

### METHODS

During 2006, Vital Research completed 3,057 face-to-face interviews with residents, including those with mild or moderate cognitive limitations, and received 4,082 mailed surveys from family members of residents in the 92 homes. Priority indices were calculated separately for residents and family members. Vital Research created custom priority indices for each nursing home with 20 or more completed resident and family surveys. For homes with fewer than 20 returned surveys, a statewide summary index was provided.

The index was created around 'domains' or topics of care rather than indexing every element or question on the survey. The first step in creating an index was to calculate a facility-specific importance coefficient for each domain (the correlation coefficient showing the relationship of each domain to the total satisfaction score, ranging from -1 to +1). Second, these domain importance coefficients were ranked from low (rank=1) to high. Thirdly, the average satisfaction or performance score for each domain, based on a scale from 1.00 to 4.00, was ranked from highest satisfaction or performance (rank=1) to lowest. [Note how the rankings are reversed.] Finally, the importance rank and the performance rank for each domain were summed to create the priority index score. Domains with the highest sum of the two ranks (domains with high importance but low performance) suggest areas ripest for quality improvement.

### RESULTS

The statewide priority index score for residents (Table 1) suggests that the two domains to target initially for quality im-

**Table 1.**  
**Rhode Island Nursing Home Resident Survey Priority Index, 2006**

Domain	Importance		Performance		Priority Index Score
	Coefficient	Rank	Score	Rank	
Direct Care/Nursing Staff	0.78	9	3.68	6	15
Meals and Dining	0.69	5	3.56	9	14
Overall Satisfaction	0.77	8	3.76	4	12
Resident Environment	0.72	6	3.73	5	11
Activities	0.65	3	3.61	8	11
Administration	0.72	7	3.77	2	9
Choice	0.63	2	3.63	7	9
Facility Environment	0.66	4	3.85	1	5
Laundry	0.55	1	3.76	3	4

**Table 2.**  
**Rhode Island Nursing Home Family Survey Priority Index, 2006**

Domain	Importance		Performance		Priority Index Score
	Coefficient	Rank	Score	Rank	
<b>Facility Environment</b>	<b>0.84</b>	<b>12</b>	<b>3.56</b>	<b>9</b>	<b>21</b>
<b>Activities</b>	<b>0.78</b>	<b>10</b>	<b>3.49</b>	<b>10</b>	<b>20</b>
Direct Care/Nurse Aides	0.83	11	3.65	7	18
Meals and Dining	0.73	6	3.41	12	18
Overall Satisfaction	0.88	13	3.69	4	17
Resident Environment	0.77	9	3.58	8	17
Therapy	0.71	4	3.25	13	17
Laundry	0.67	2	3.43	11	13
Professional Nurses	0.77	8	3.71	3	11
Admissions	0.72	5	3.66	6	11
Administration	0.75	7	3.78	1	8
Choice	0.65	1	3.69	5	6
Social Services	0.68	3	3.74	2	5

provement involve direct care and nursing staff, along with meals and dining. These are the domains for which resident importance is high but performance was low – on average – across the state. In contrast, the statewide priority index score for family members (Table 2) suggests that the two domains to target initially for quality improvement statewide involve the facility environment and activities. Custom priority indices, created for individual nursing homes with sufficient survey returns, differed from the statewide rankings and are not presented here.

## DISCUSSION

The statewide priority indices make intuitive sense – what resonates most with the Rhode Island nursing home resident, on average, is what he or she experiences most directly and personally, i.e., hands-on care and the food that is served. What resonates most with the family members, on average, is what they can most easily observe; i.e., the residents' surroundings and opportunities for stimulation. Conversely, laundry was not judged by the residents to be an area of especially poor performance. Most interesting is the low prioritization of choice for both residents and family, driven largely by its low importance ranking. This may reflect a lack of expectation that—in an institutional setting—residents can choose when to get out of bed, what to wear, and when to open or close their doors. As nursing homes across the nation move towards individualized care and away from institutionalized care,<sup>5</sup> expectations with respect to resident choice will most certainly be raised.

Nursing home administrators in Rhode Island were given a summary report of their home's satisfaction performance as well as a priority index and tools for targeted quality improvement. These tools included a 'How to Improve' guide written

by Quality Partners of Rhode Island with Centers for Medicare and Medicaid Services funding and a half-day training in the conduct of learning circles or focus groups with residents and families. The learning circles enable the administrators and their staff to further 'drill down'; if meals and dining is a priority area of improvement, what can the nursing home do to make the dining experience more enjoyable? This might be as straightforward as serving meals on china with cloth napkins or offering more than one seating to provide a more intimate setting. Administrators were encouraged to use the priority index as a practical guide to small, focused changes in the delivery of care that might yield large returns in satisfaction.

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## Disclosure of Financial Interest

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Jay S. Buechner, PhD, has no financial interests to disclose.

# Book Review

## *Fourteen Stories: Doctors, Patients and Other Strangers*

by Jay Baruch

The Kent State University Press (2007)

### **Before proceeding with my review of emergency physician**

Jay Baruch's insightful collection of stories, I must disclose possible conflicts. First, my final attempt to work as an urgent visit doctor ended when I was scolded for "thinking like a primary care doctor." Second, while reading this book, I endured a visit to a local emergency room where a family member, a young physician, was treated with systematic disregard. I was just beginning to read "Too Long, Too Short", and I resumed my reading with a negative attitude toward emergency rooms and all who staff them. "Too Long, Too Short" is a keenly observed story of a third year medical student's indoctrination into clinical rotations, where he learns immediately that "I didn't know I supposed to lie." The medical student succumbs to the pressure to conform and receives validation from his chief resident. His evolution derails his personal life and leaves him wondering if he has lost his moral compass. This story rang true, and frightening. The other stories explored the flawed interactions between patients, doctors, staff, families and the healthcare system. There is a recurring character, Clyde, a homeless frequenter of the emergency room, who is subjected to a degrading walk of shame, demanded of all inebriated patients before ER discharge. Clyde later exacts his revenge on an ER attending who stumbles across him in an alley. Ultimately, Clyde's saga is complete. There is a story of a promising medical student who suddenly realizes that she is not meant to become a physician, Baruch writes with a rapid pace, characters and scenes are drawn swiftly, and conflict abounds. The toll exacted by working in the medical system reverberates throughout these stories. These are not gloried accounts of medical heroics, but nuanced explorations of the ambivalence and pain that permeate medicine.

While I enjoyed all the stories, my favorite was "Afterword: Narrative's Disaster Zone," originally a bioethics paper. Reading it was a healing experience for me, after my recent trauma in the emergency room. Baruch explores the stories generated by medicine, and the need to listen, despite the constant interruptions that occur in the emergency room. He presents three vignettes, which each represent a tale and a lesson learned from truly hearing patients' stories. He acknowledges the pressured nature of the emergency room, where patients wait for hours and tell their stories to physicians who are over-worked and distracted. He describes how he uses literary techniques to refine his ability to hear the patient's story, including subtext, within the chaos of the "accident room." "Afterword" adds depth and compassion to the previous tales.

This book is published in a Literature and Medicine Series, where it is hoped that it can be a resource for health-care education. I believe this collection of stories achieves that goal. Clearly medical providers will understand these stories differently at dif-

ferent stages of their careers, but the underlying conflicts and honest depictions provide a platform to observe and understand the practice of medicine. Reading these stories, I thought about the first-year students whom I teach. Medicine is more of a concept than a reality to them at this point, but they are physicians in training, and they all have experienced the healthcare system. Baruch's tales may be cautionary, but ultimately he doesn't project the message "Abandon all hope, ye who enter;" rather "Here lie dragons" and you need to be aware.

— JUDITH NUDELMAN, MD

*Judith Nudelman, MD, a primary care physician at Anchor Medical Associates in Warwick, is a Clinical Assistant Professor of Family Medicine and teaches the Doctoring course at The Warren Alpert Medical School of Brown University.*

### **Disclosure of Financial Interests**

Judith Nudelman, MD, has no financial interests to disclose.

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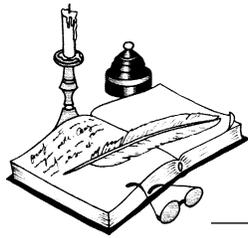
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# Physician's Lexicon

## The Wages of Syn

The English language has no shortage of versatile prefixes attached to and providing greater precision for its wide assortment of roots. Consider the Greek prefix, *syn-*, meaning with or together. This prefix, and its sister prefix, *sym-*, serve to define over one hundred commonly used medical terms as well as a substantial complement of words in the ecclesiastic and general vocabularies.

A synapse is defined as the functional contact between neurons. The *apse* root is from the Greek, *haptein*, meaning to grip or to attach. [The root appears in such scientific terms as haptoglobin and haptic, the sense of touch.]

Syncope, describing a brief fainting spell, is based on the root *-cope*, which appears in words such as syncopation [literally, a hesitancy or a "fainting spell" between musical notes]. A syndrome, a running together of certain clinical signs and

symptoms, is built on the root *-drome*, meaning a running [as in words such as aerodrome, hippodrome and dromedary.] Syngenic is an obsolete word for congenital; and syngensis is a Victorian euphemism for sexual reproduction.

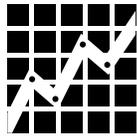
Then there is a cascade of technical words beginning with the prefix, *syn-*: Synalgia, synarthrosis, synchrony, syncytium, syndactyly, synechia, synergy, synonym, synthesis [and synthetic], and even synovia, a term invented by Paracelsus to describe the viscid fluid which he encountered in joint cavities. He probably selected a Latin root meaning egg [*ovum*] because of the albuminous texture of the synovial fluid.

In the accepted system of Greek grammar, the *syn-* prefix changes to *sym-* when the next letter in the word is either *a*, *b*, *p*, *ph* or *m*, but without altering the intended meaning of the prefix. And thus

we encounter words such as symbol, sympathy, symmetry [a measuring together], symphony, symphysis [a growing together], symptom [a falling together], and symposium [literally, a drinking together.]

The theologians of various faiths, not to be outdone by medicine, have appropriated a number of *syn-* words for their own professional use. There is the word, syndic [an organization for purposes of validation and sometimes a group of administrators, censors or magistrates] and its companion words, syndicalism and syndicate; synod, [a clerical gathering, generally of momentous importance], synagogue [literally, a flowing together or an assembly], and synhedrin, more often spelled Sanhedrin, an ecclesiastic legislative gathering in ancient Judea.

— STANLEY M. ARONSON, MD



RHODE ISLAND DEPARTMENT OF HEALTH  
DAVID GIFFORD, MD, MPH  
DIRECTOR OF HEALTH

## VITAL STATISTICS

EDITED BY COLLEEN FONTANA, STATE REGISTRAR

### Rhode Island Monthly Vital Statistics Report Provisional Occurrence Data from the Division of Vital Records

Underlying Cause of Death	Reporting Period			
	July 2006	12 Months Ending with July 2006		
	Number (a)	Number (a)	Rates (b)	YPLL (c)
Diseases of the Heart	193	2,671	249.7	3,501.0
Malignant Neoplasms	200	2,282	213.3	6,236.5
Cerebrovascular Diseases	34	424	39.6	570.0
Injuries (Accidents/Suicide/Homicide)	55	443	41.4	6,723.3
COPD	33	477	44.6	380.0

Vital Events	Reporting Period		
	January 2007	12 Months Ending with January 2007	
	Number	Number	Rates
Live Births	1,244	12,951	12.1*
Deaths	915	10,005	9.4*
Infant Deaths	(6)	(85)	6.6#
Neonatal Deaths	(4)	(59)	4.6#
Marriages	215	6,952	6.5*
Divorces	282	3,223	3.0*
Induced Terminations	344	4,735	365.6#
Spontaneous Fetal Deaths	39	789	60.9#
Under 20 weeks gestation	(33)	(726)	56.1#
20+ weeks gestation	(6)	(63)	4.9#

(a) Cause of death statistics were derived from the underlying cause of death reported by physicians on death certificates.

(b) Rates per 100,000 estimated population of 1,067,610

(c) Years of Potential Life Lost (YPLL)

*Note: Totals represent vital events which occurred in Rhode Island for the reporting periods listed above. Monthly provisional totals should be analyzed with caution because the numbers may be small and subject to seasonal variation.*

\* Rates per 1,000 estimated population

# Rates per 1,000 live births



## MEDICAL MALPRACTICE TOPICS

INFORMATION FOR RHODE ISLAND PHYSICIANS FROM BABCOCK & HELLIWELL

# LEGAL PROCEDURES: PART I

## What Happens First?

John Tickner, CPCU, President, Babcock & Helliwell

Most physicians have never been a defendant in a medical malpractice suit, and are naturally concerned about such a possibility. To help shed light on this subject, I'll outline the discovery process, the gathering of evidence, and the testimony leading up to a medical malpractice trial in a two-part discussion. This month, I'll cover how a claim is initiated and interrogatories. Next month, I'll examine the deposition.

In Rhode Island, there are three ways in which you could be notified of a medical malpractice claim or lawsuit. You could receive:

1. A communication from the Board of Medical Licensure and Discipline
2. A "demand" letter from the plaintiff's attorney that indicates the plaintiff's intent to sue
3. A formal summons and complaint

### Summons and Complaint

Service of a summons and a complaint is often the first indication that a patient has taken legal action against you. The complaint is the legal document that sets forth the alleged misconduct. The summons is the legal document that directs you to appear before the court.

In Rhode Island, you only have 20 days in which to respond to a complaint. The response to a complaint is called an "answer." If the 20-day period passes without a response, you will lose the case!

If you receive a summons and a complaint, immediately contact your medical malpractice agent and company. They will assign an experienced medical malpractice defense attorney to represent you and to answer the complaint.

### Request for Copies of Your Records

The earliest indication of a lawsuit may be a request for medical records from either the plaintiff's attorney or the patient. Although patients have a legal right to see their medical records, a signed authorization is required.

Although medical records belong to the doctor who created them, patients generally have a right to review and get copies of their records. According to the Rhode Island

Department of Health, medical record requests from patients must be in writing or upon receipt of a properly executed "Authorization for Release of Health Care Information" form.

A request for medical records is not necessarily an indication of an imminent malpractice action. It may simply be part of an investigation of an accident or industrial compensation claim. Should you receive such a request, immediately contact your medical malpractice agent and company. Don't release any records until they advise you to do so.

### Interrogatories

During the discovery phase, the plaintiff and defense attorneys review all records and documents related to a case to fully evaluate the claim. They use interrogatories to further develop the facts or the legal and medical foundation of a case. These can be a valuable tool for both sides in the fact-gathering phase of the discovery process.

An interrogatory is a series of written questions sent to you by the plaintiff's attorney to obtain factual information. It must be answered in writing and sworn to. Responses may be used as evidence at trial. Your attorney will consult with you and help you prepare answers to the interrogatory.

An interrogatory is often repetitious. The same question is often asked in a number of ways to determine if your responses are consistent. To some this can be intensely irritating. However, take every question seriously. And above all, refrain from angry or flippant responses.

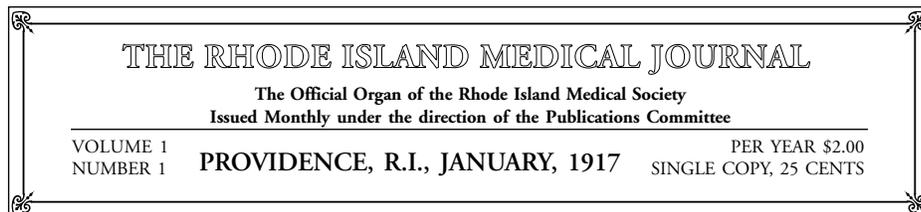
The information in this article is intended to provide general information. It is not intended and should not be construed as legal advice.

*John Tickner, CPCU, is president of Babcock & Helliwell, a privately held independent insurance agency established in 1892 that provides professional insurance-related services of all kinds. Babcock & Helliwell is an agency for ProMutual Group, New England's largest medical malpractice insurance provider and the second-largest provider in Rhode Island.*

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## **NINETY YEARS AGO, JULY 1917**

Edmund D. Chesebro, MD, gave the Annual Address of the President: "Thirty Years Spent in the Study and Practice of Medicine." He acknowledged in the audience Dr. William T. Burge, still practicing after 66 years. He noted the ascendance of specialization since he entered The College of Physicians & Surgeons at Columbia in 1887: "...one general practitioner recently somewhat facetiously [stated] that he was rapidly becoming simply a guide-post for referring his patients to this or that specialist for diagnosis and treatment." Dr. Chesebro also noted the rise of "group medicine," e.g., the Mayo Clinic, with 125 practitioners. He commented on the introduction of compulsory health insurance bills in the Massachusetts and New York legislatures. Great Britain, following the lead of Germany, had recently enacted such insurance. "Opponents claim that compulsory health insurance was not the result of general consensus, but was a political expedient employed for the purpose of continuing the militaristic imperialism by which the individual German has long been oppressed. They insist that this is socialism in contrast to the individualism which is so dear to the heart of every American." Dr. Chesebro cited the high costs of such a system. But he conceded that this insurance would probably happen: "...the trend of the times strongly favors its adoption, and we, as practitioners, will do well to acquaint ourselves with the provisions ...proposed in our neighboring states." Finally, he discussed the war, calling it the "conflict for world-wide democracy."

Harold G. Giddings, from the Genito-Urinary Department of Boston City Hospital, in "The Evils of Drug Store Prescribing in Venereal Disease," discussed 20 cases where patients presenting at the Hospital had self-medicated, following pharmacists' advice and prescriptions, with no examinations. For \$5, a person could buy a self-treatment kit, complete with a glass urethral syringe.

John W. Keefe, MD, in "Medical Men and the War," urged members to serve. "The order is reversed – it is no longer country for individual, but individual for country. We have been called in no uncertain terms and our duty is plain." "Our country asks for 20,000 medical men...and as yet only 5,000 have responded."

## **FIFTY YEARS AGO, JULY 1957**

Conrad Wesselhoef, MD, FACP, formerly Chief, Haynes Memorial of the Massachusetts Memorial Hospitals, and Clinical Professor of Infectious Diseases, Harvard Medical School, delivered the 16<sup>th</sup> Charles Value Chapin Oration: "Chicken Pox and Herpes Roster." Dr. Wesselhoef had been a pupil of Dr. Chapin's at Harvard. He noted the "familiar and less familiar manifestations and problems," cautioning: "...one should be wary of accepting the view that all herpes roster is of chicken pox origin."

Arthur E. O'Dea, MD, Chief Medical Examiner, State of RI, reported on "Unexpected Death in Infancy." The past year the state recorded 14 violent deaths (5 accidental smothering, including defective cribs, and sleeping with the mother), 43 homicides (including foreign body in the mouth, drowning, strangulation,) 1 neglect, 4 prematurity, and 15 "natural, well-defined cause." The remaining cases—48—were "ill-defined" (pulmonary edema?, and interstitial pneumonia).

In "Air Pollution: Its Implications for the Practicing Physician," Roswell W. Phillips, MD, described the noxious effects of dirty air, smog, and tobacco smoke, noting that chronic bronchitis is "often neglected as a chest disease."

## **TWENTY-FIVE YEARS AGO, JULY 1982**

John DiOrio, Jr, MD, and Robert E. Browner, MD, in "Adult Respiratory Distress Syndrome Occurring After Therapy with Diazoxide and Betamethasone for Premature Labor: A Case Report," urged the use of the Swan-Ganz monitoring "in cases of pulmonary edema not responding to usual therapy." A 31 year-old woman was admitted to Women & Infants' Hospital in premature labor at 32 weeks gestational age, with 3-minute painful contractions. Her blood pressure and temperature were normal; her pulse, 92 beats per minute. Three hours after delivery, she was transferred to Roger Williams General Hospital, where she was intubated. She needed an emergency tracheostomy. She was released 15 days later.

Anthony J. Alario, MD, Eugene Y. Su, MD, and George Ho, Jr, MD, FACP, in "Septic Prepatellar Bursitis in a Child," explained "Differentiation of septic bursitis from arthritis is important because of prognostic complications." The 6 year-old boy had been admitted to Rhode Island Hospital with fever and unilateral knee pain.

Andre Brem, MD, and Don B. Singer, MD, discussed the second of twins in "Asphyxial Disease of the Neonatal Kidneys," in a Clinical-Pathological Conference.

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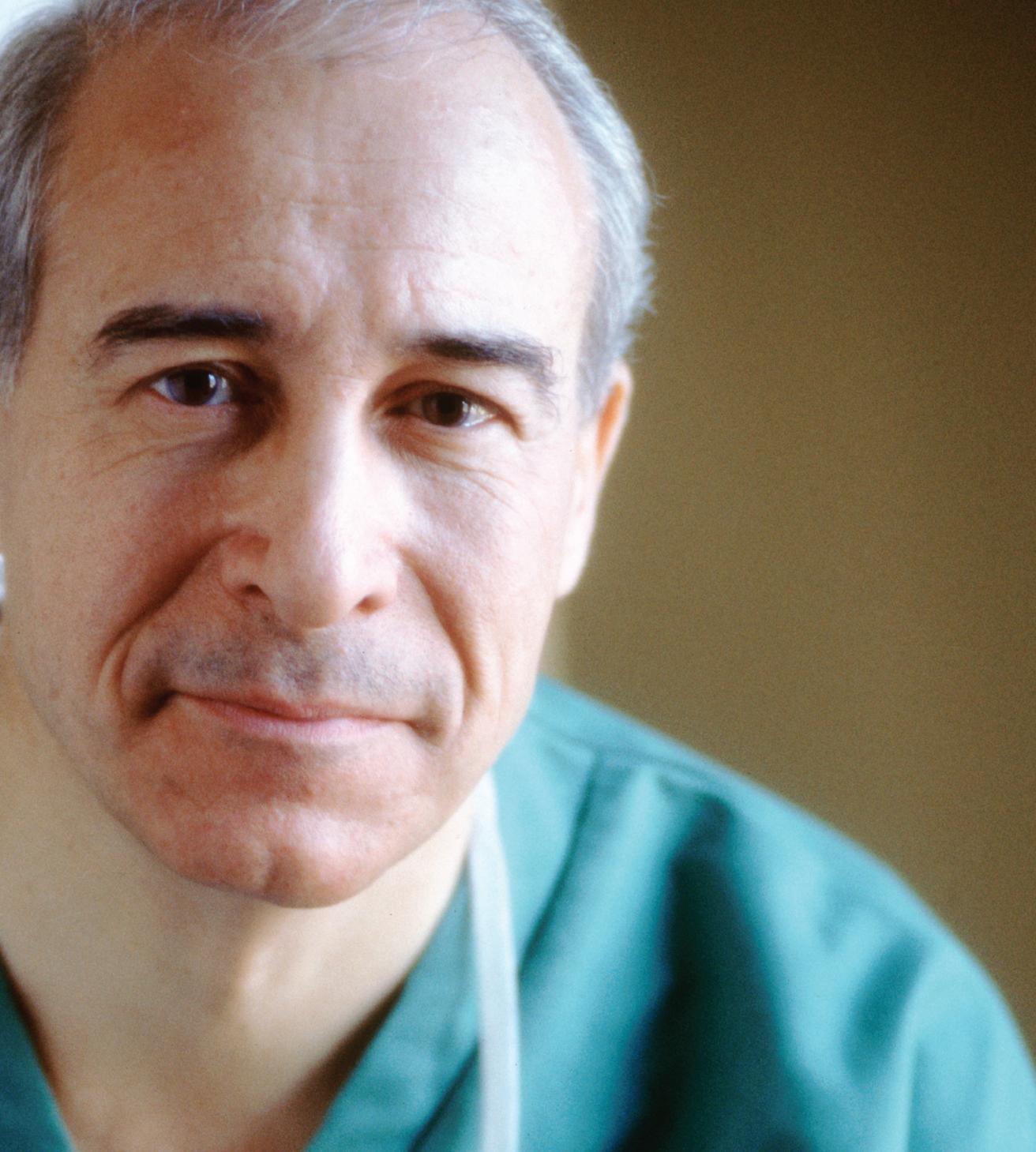
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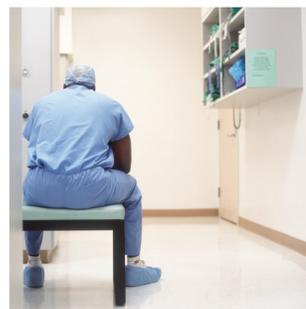
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