Nursing Impact:
Packing Your Role with POWER!

Anne W. Alexandrov PhD, AGACNP-BC, ANVP-BC, CNS, NVRN-BC, CCRN, FAAN
Professor & Mobile Stroke Unit Chief Nurse Practitioner
University of Tennessee Health Science Center

Objectives

– Describe the most POWERFUL aspects of your role as a nurse
– Discuss methods to elevate the IMPACT of your nursing contributions

Nursing’s Charge...

To Ensure Safe Passage Through Our Complex Health System

Nursing Visibility

– Conducted in 1997, organized by Nancy Woodhull, the founding editor of USA Today who prior to her death from lung cancer spent a significant amount of time interacting with nurses who provided excellent compassionate and scientifically grounded nursing care; she was struck by the invisibility of nurses in media
– Nurses outnumber physicians 3:1 and spend significantly more time with patients than physician providers
– 4% of quotes in newspapers and 1% in weekly and industry publications were attributed to nurses; nurses were mentioned in only 14% of articles reviewed and rarely photographed

Nursing Visibility

– Updated Woodhull 2 report released in September 2017 documenting no change:
– Nurses were quoted 2% of the time, photographed 4%, and mentioned in 12% of articles
– Nurses were most absent in stories about health policy, healthcare as a business, and health research
– Journalists stated that they would have to justify using a nurse as a source because they did not believe nurses were experts and that nurses are not in positions of authority; therefore not a valuable resource; many didn’t understand what nurses do
– The few journalists that did include nurses stated that the nurse’s perspective “enriched” their story significantly

Power

– What comes to mind?
  – Control
  – Influence
– Personal characteristics:
  – Knowledgeable
  – Experienced
  – Strong
– Almost 50% of women think of “power” as negative
Nursing Visibility

- Our visibility in the media and influence in policymaking are not commensurate with our numbers, positions, and expertise.
- We remain the most trusted professional across all professions for more MANY years of Gallup polling.
- We are the reason why hospitals— in particular— exist.
- But we are far too humble, taken advantage of when administrators try to better their profit margins, and much too silent about issues we know far better than anyone else.

POWER Produces Visibility and Extends from AUTHENTICITY

Expert

Scientific Grounding

- Heavy physical workload: Equipment, traveling, physical dependency
- Unrelenting vigilance: High state of attention; risk of life threatening events
- Emotionally draining: Death trajectory; rapid change; sensory overload; constant giving of self to others

Nursing Practice Demands

- Heavy physical workload: Equipment, traveling, physical dependency
- Unrelenting vigilance: High state of attention; risk of life threatening events
- Emotionally draining: Death trajectory; rapid change; sensory overload; constant giving of self to others

Why do people stay on the job?

- Continuance Reasons:
  - People stay because the cost of leaving is too high
- Affective Reasons:
  - People stay because they like the people they are working with
- Normative Reasons:
  - People stay because they believe in the Mission and vision, and are committed to bringing it to life

Jo Marion

When it feels good, it feels like a place that values...

- Mutual respect, diversity of opinion
- Telling the truth about current reality so that problems are identified, solutions proposed and implemented
- Risk-taking: mistakes are celebrated as learning in action
- Innovation and creativity
- Questioning practice and traditions
- Life-long learning
- Team work
- The individual and the whole; and independent and interdependent work
Nursing: Nutrire, to Nourish

- Implies an ability to care for, to sustain, to provide for another
- Essential to the very preservation of life
- Consider what we are privileged to do each day:
  - Caring for others at the most vulnerable, intensely private time in one’s life
  - Holding the fragile balance of life and death in the palm of our hands
  - Accepting this responsibility means to commit to making the caring experience truly fulfilling for patients and families

Making Your Work as a Nurse POWERFULLY VISIBLE

What Patients & Families Want is Exactly What Each of Us Would Want from a Nurse

- Acknowledgment as individuals with full lives
- Respect
- Clear communication regarding health status
- Honesty
- Competent caregivers
- Input into care delivery and decision making...no paternalism
- To believe that, "you truly care about me"

"I wouldn’t demand a lot of my doctor’s time. I just wish he would brood on my situation for perhaps five minutes; that he would give me his whole mind just once; be bonded with me for a brief space; survey my soul as well as my flesh to get at my illness...Just as he orders blood tests and bone scans of my body, I’d like my doctor to scan me, to grope for my spirit as well as my prostate. Without some such recognition, I am nothing but my illness.”

(Anatole Broyard)

Dare to Really Care

There is no single image that is more POWERFUL in the eyes of patients and those you lead

How we handle change impacts our image and our culture

The Trouble with Change...

- The only one who likes a new idea is...
- Stages of change:
  - Denial
  - Anger / resistance
  - Acceptance
  - Active participation

"Each of us must possess self-knowledge and take responsibility for our shadow side”
Fad or Fantastic Idea?

BOHICA

“Bend over, here it comes again!”

Opinion and Commitment are Normally Distributed

Adaptation, Lessons Learned

- Responds quickly to changes in environment
- Differentiates themselves from their closest rivals
- Able to make do with what’s at hand; innovative and efficient
- Anticipates related changes in relationships and work dynamics

“This preservation of favourable variations and the rejection of injurious variations, I call Natural Selection.”
Charles Darwin

Life Brings Conflict

- Conflict is a normal and expected part of our personal and business lives; based in varied and often opposing goals

Dealing with Conflict

Controlled Conflict
- Strengthens relationships, supports teamwork
- Fosters open communication and problem solving
- Resolves disagreements rapidly increasing productivity
- Deals only in win-win solutions
- Makes allies and diffuses anger
- Brings out into the open all sides of an issue in a supportive manner
- Focuses attention on results

Uncontrolled Conflict
- Damages relationships and discourages cooperation
- Harbors defensiveness and hidden agendas
- Wastes time, money and human resources
- Focuses on fault-finding and blaming
- Creates hard feelings and enemies
- Is frustrating, stress producing and energy draining
- Is disruptive, hostile and creates problems

Lancaster’s & Lancaster’s Model

Influencing Change

(Group Behavior) (Individual Behavior) (Attitudes) (Knowledge)

(Short) → Time Involved → (Long)
Evaluating Culture

Balancing Act: Know the Norms...

- Squabbles can be healthy
- Values alignment is critical
- True leadership and authentic followership can not be assigned
- Shared reward and recognition are more precious than individual accomplishment

“Are you a boring or remarkable nurse?”

Research–Practice–Consumer Rights:
Drivers of Health Policy

Assumptions:

- Emerging technologies, therapies, and practices will produce both anticipated and unanticipated, unstudied phenomena.
- Practitioners’ knowledge and skills are heterogeneous and dynamic, ranging from beginner to expert levels and changing as new practice phenomena emerge.
- U.S. consumers expect and demand high quality evidence-based health services.
- Health policy aims to ensure consumer access and excellence in practice.

Examples from my world...

- 1.8 million neurons die each minute that we delay reperfusion in acute ischemic stroke
- While the first in the world to approve alteplase tPA for stroke treatment, U.S. treatment rates overall are very low; our team has pushed Memphis to have the highest treatment rates in the world
- Few vascular neurologists; could NPs fill the gap?
- Beliefs that tPA doesn’t work well enough; can we amplify tPA treatment?
- The USA healthcare system is poorly organized to treat acute stroke patients
- Can Mobile Stroke Units improve delivery of disability reducing/life saving therapy?
- Can hospital Emergency Departments and Stroke Units perform better?
The “Golden Hour” for Acute Stroke Treatment is Dead!

- T=0: Suspected stroke patient arrives at stroke unit
- ≤10 min: Initial NIHSS evaluation (including patient history, lab work initiation, & NIHSS)
- ≤15 min: CT scan obtained
- ≤25 min: CT & labs interpreted
- ≤45 min: rt-PA given if patient is eligible
- ≤60 min: rt-PA given if patient is eligible

The “Golden Half-Hour”

- T=−10 min: Suspected stroke patient hospital pre-notification
- 0 min: Stroke team notified
- ≤10 min: Patient arrives, Met at triage by stroke and ED team
- ≤25 min: CT scan completed & interpreted
- ≤30 min: t-PA given if patient is eligible

Fellowship Training in Vascular Neurology

Postgraduate Fellowship Education and Training for Nurses: The NET SMART Experience

- Anne W. Wojner Alexandrov, PhD, RN, CCRN, FAAN
- Mary Brethour, MSN, RN, ACNP
- Fern Cudlip, MSN, RN, ANP
- Victoria Swatzell, MSN, RN, APN
- Sharon Biby, MSN, RN, APN
- Dana Reiner, MSN, RN, APN
- Terri-Ellen Kiernan, MSN, RN, APN
- Diane Handler, MSN, RN, CNS
- Susan Tocco, MSN, RN, CNS
- Joanna Yang, MSN, RN, ANP

Acute Stroke is Ideal for Advanced Practice Nurses Fellowship Training

- High disease incidence
- Relatively low treatment rates in comparison to other major diseases (MI, cancer)
- Shortage of specialty prepared neurovascular physicians
- Growing public demand for excellent acute stroke care
- Significant disease burden that is associated with caregiver stress, high resource use, and cost

NET SMART - AP

- The principle target outcome of the NET SMART program is to develop a critical mass of APNs capable of providing neurovascular clinical practice leadership that results in improved tPA treatment rates and patient and hospital outcomes.
- Hybrid learning approach:
  - Local vascular neurologist sponsorship of the APN Fellow for clinical oversight and education.
  - On-line learning accessible 24/7/365
  - Modules are updated regularly to reflect the latest in stroke science
  - Content presented at the learning level of a Vascular Neurologist
  - All content is externally vetted/approved by stroke neurologists
  - Learning activities and post-tests for each mandatory module
  - On-site clinical validation to ensure fellows’ theoretical and clinical mastery of content

NET SMART

Neurovascular Education and Training in Stroke Management and Acute Reperfusion Therapies

- Supported by $2 million in U.S. funding.
- Major program aims:
  - Increase intravenous tPA treatment rates
  - Increase use of interdisciplinary evidence-based acute stroke management by expanding nursing expertise and providing vigilant patient advocacy
- Two program levels:
  - NET SMART-Advanced Practice (AP) (first class enrolled in January 2008)
  - NET SMART-Junior (first class enrolled in January 2011)
NET SMART – AP
13 Clinical Modules

1. Introduction to Acute Stroke
   - Research methods supporting stroke science
   - Epidemiology
   - Stroke risk factors
   - Stroke pathogenic mechanisms

2. Emergency Systems for Acute Stroke – Prehospital and Emergency Department Priorities

3. Clinical Localization of Acute Stroke
4. Computed Tomography Interpretation
5. Magnetic Resonance Imaging Interpretation
6. Multi-Modal Angiographic and Perfusion Interpretation
7. Extracranial Duplex and Transcranial Doppler Interpretation

8. Reperfusion Therapy for Ischemic Stroke
   - Research support and methods for IV tPA
   - Research support and methods for intra-arterial rescue
   - Evolving reperfusion science

9. Neurocritical Care and Hemorrhagic Stroke
   - Ventilation management
   - Hemodynamic monitoring
   - ICH
   - SAH

10. Complication Avoidance in Stroke
11. Secondary Stroke Prevention Decision Making
12. Stroke Center Development and Credentialing
13. Outcomes Measurement and Innovation for APN Fellows

NET SMART – AP
On-Site Clinical Validation

- Objective:
  - Demonstrate integration and mastery of didactic content and clinical training.
- The 60 hour experience:
  - Respond to “Stroke Codes”
  - Expected to thoroughly work-up, medically diagnose, and determine medical and nursing management of acute stroke patients
  - Attend and interact on clinical rounds, during neuroradiology rounds, and in patient conferences
  - Participate in scholarly activity (publication, manuscript review, research, etc.)

NET SMART AP
Program Outcomes

- Fellow enrollment:
  - USA, New Zealand, South Africa, Hong Kong, Spain (103 graduates to date)
  - On average 14 months to program completion
- Results in Fellow Practice Sites:
  - 8.3% absolute increase (p<0.001) in tPA treatment rates with safe sICH rates at 4.4% (range 2-6.25%)
  - 100% of sponsoring vascular neurologists report confidence in their Fellows’ ability to appropriately select patients for reperfusion therapy
  - Physician sponsors commonly report going online to view content and broaden their own knowledge about new scientific findings and recommendations
  - Significant improvement in knowledge scores (p<0.001) on Fellows’ post-tests compared to entry level knowledge
  - Significantly improved (p=0.025) levels of “practice confidence” reported by graduates

Can Alteplase tPA Therapy be Amplified?

- Approximately 30% of acute ischemic stroke is large vessel occlusion (LVO)
- tPA may still work if given early AND the clot is small; at worst, it will:
  - Open a small amount of the artery (partial recanalization) so that more blood can get through
  - Soften the clot so that it will be easier to remove in the Cath Lab
  - By time to get the patient to the Cath Lab

NET SMART APN
Benefits Identified by Fellows

- Authentic practice and research expertise among program faculty
- Accessibility of program faculty throughout the distance learning process
- Distance learning accessibility
- Ability to become immersed in an aggressive treatment philosophy that can challenge local treatment paradigms
- Provision of regular performance feedback
- Clinical exercises that ensure application of new knowledge
  - Cummation of the experience in a high-volume, complex, aggressive stroke center which enables a look at how things are done at other centers
  - Esprit de corps among fellows and faculty
  - Networking among fellows and faculty
- Regularly updated, evidence-based content
- Expectations for fellows to be able to clearly articulate how clinical trials drive changes in practice
**The Clotbuster Trial**

**M2M1**

1. Reverses fibrin structure
2. Streaming of plasma through thrombus
3. More tPA is delivered to binding sites

**Ultrasound Enhanced Thrombolysis**

- Since 1968 deterioration has been reported when the HOB has been elevated in patients with hyperacute ischemic stroke (Toole 1968; Caplan 1976)
- Several small studies have consistently showed increases in blood flow within stroke territories affected by large artery ischemic stroke, with reports of clinical improvement when the HOB was lowered to zero-degrees
- No large scale trial has targeted enrollment of hyperacute large artery stroke with a head positioning intervention

**Head Positioning in Hyperacute LVO Stroke**

- 20% increase in mean flow on average in large artery occlusions when HOB lowered from 30-degrees to 0-degrees (effect size for the intervention at three levels = 0.47; r = 0.50 and observed power of 0.99)

- 18% of subjects demonstrated clinical improvement within 30 minutes of placing the head at 0-degrees flat positioning.

**And then, HeadPoST…sigh**
ZODIAC (ZerO Degree head positioning In hyper-Acute large artery ischemic stroke)

International Trial Investigators: Anne W. Alexandrov, PhD, David Liebeskind, MD, Georgios Tsivgoulis, PhD, MD, Sandy Middleton, PhD, Barbara Brewer, PhD, Michael D. Hill, MD, Andrei V. Alexandrov, MD

Current Stroke Treatment

Prompt Recognition
911 activation
Priority dispatch

Home

Hospital

Urgent brain imaging
Thrombolytic drug
Endo-vascular procedures

Recovery
Prevention strategies

Background

Mobile Stroke Units (MSU) hold promise as a method to provide ultra-early diagnosis and treatment of acute stroke patients.

USA Mobile Stroke Units

Houston 02/2014

Denver 01/2016

Cleveland 07/2014

University of Tennessee Health Science Center Mobile Stroke Unit

But, it’s cramped back there...
The UTHSC Memphis MSU is integrated into the Memphis fire Department system and dispatched by 911 or first responders on scene for diagnosis and management of suspected stroke victims.

MSU Imaging

MSU Benefits

- Patient access to stroke experts at the scene
- Improved pre-hospital triage to appropriate level of care
- Bypass the Emergency Department: Direct admission to Stroke Units, Neurocritical Care Units, Operating Rooms, or Cath Labs
- 72 minutes faster treatment of acute stroke compared to routine ambulance transfer/treatment times

Can IV t-PA be Safely Managed Outside an ICU?

- 333 IV t-PA treated patients from 2009-2011
- 302 direct Stroke Unit admissions from the Emergency Department (E.D.) for IV t-PA
- 31 (10%) cases were direct admissions to NICU from the E.D. for systemic hemodynamic and/or pulmonary instability (i.e. concurrent MI, malignant infarction, requiring intubation and mechanical ventilation, etc.)

Overall sICH rate was 3.3% (n=10)

Estimated cost savings in total for this 3 year period was $362,400

No cases required transfer to the ICU from the Stroke Unit for continued management

No t-PA related deaths

Can IV t-PA be Safely Managed Outside an ICU?

- Most countries with formal written guidelines recommend admission of acute stroke patients to Stroke Units, totally avoiding admission to the ICU in favor of specialist stroke services
- Stroke Units in the USA operate quite differently than those in Canada, western Europe, and Australia
- USA requirements are less in an attempt to be "inclusive," AND they rely heavily on ICU care with transfer into the Stroke Unit
- Other countries adhere more closely to requirements that supported findings from Stroke Unit clinical trials

Stroke Units:
The First Successful Intervention for Acute Stroke Management
Results

Comparison of Stroke Unit managed vs. NICU managed IV t-PA cases:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Admission NIHSS</th>
<th># of #</th>
<th># Stroke Hemorrhage</th>
<th>LOS</th>
<th>Median mRS at DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICU (n=31)</td>
<td>9.5</td>
<td>1</td>
<td>1</td>
<td>6.9+9.7</td>
<td>6</td>
</tr>
<tr>
<td>Stroke Unit (n=302)</td>
<td>9.0</td>
<td>10</td>
<td>8</td>
<td>6.9+9.6</td>
<td>4*</td>
</tr>
</tbody>
</table>

*p<.001

Health Policy Implications

- Mobile Stroke Units (MSU):
  - MSU FAST Act
  - MSU reimbursement with full Emergency Department bypass
- APN expanded scope of practice
- Telemedicine
- MSU diagnosis and management
- Advanced certification (ANVP)
- Stroke Unit guidelines
- Staffing & training
- Patient population testing

You will only be as **EXPERT, VISIBLE** and as **POWERFUL** as you choose to be...