Promoting Nuclear Medicine

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Introduction

• Medicine has undergone rapid change over the past few decades
  – “Although uncertainty and rapidity of change in radiology may seem like a recent occurrence, the history of radiology in the United States demonstrates that change and instability are the status quo ante” – Gunderman, Menon - Radiology June 2013
• “A pessimist sees the difficulty in every opportunity; an optimist sees the opportunity in every difficulty” – Winston Churchill
Background

• Paradigm shifts have occurred in Nuclear Medicine that have impacted workload, productivity and revenue
• Those shifts have not necessarily benefited the patient or the payers
• What are some things we can do to maintain or grow demand?
• Let’s explore Promotion – as can be applied to Clinical Nuclear Medicine
Decreased Demand in Nuclear Medicine

• Hypothesis – It is due to a lack of knowledge and education
• Lack of simplicity and rapidity
• How do we know this? Because it has occurred in settings immune from financial pressures
  – VA/DOD
  – Inpatient Wards for County Hospitals
What is Promotion?

• First, a definition of Marketing
  – Many definitions
  – Popular definition includes: “The process of communicating the value of a product or service to customers for the purpose of selling that product or service
  – Fundamentals of marketing include the 5 “P’s” of Product, Price, Placement, Promotion and People
  – Promotion: How information about a product or service is communicated
Why Promotion?

• Decline in Medical Imaging
  – Medicare Data shows decline in expenditures by 5-10% from 2009 to 2011 with growth between 2003 to 2006

• Decline in Nuclear Medicine
  – Reimbursement
  – Self referral by clinicians
  – Changes in Technology and costs for advanced imaging
What is Promotion?

• Promotion
  – Raising customer awareness of a product or brand, generating sales, and creating brand loyalty
  – An alternate definition includes the promotional “mix” involving any of the following: personal selling, advertising, sales promotion, direct marketing, and publicity
  – A promotional mix specifies how much resources (money, time, effort) should be allocated to each
Promotion is a Solution

• What do we need to promote?
• How nuclear medicine is going to answer the clinical question
• How nuclear medicine can save time and money
• How nuclear medicine will help patients feel better and have their illness cured and/or treated
Promotion Objectives

• What are the goals of promotion?
  – To present information to consumers and others.
  – To increase demand
  – To differentiate a product

• What are the types of promotion
  – Physical
  – Media
Physical Promotion

- Trade Shows
- Supermarkets
- Concerts
- Festivals
- Special Events
- Brand Ambassador, Celebrity
- Promotional Model
- Allows Person to Person connections, establishes relationships that result in brand loyalty
Media Promotion

• Print
  – Newspapers
  – Magazines

• Digital Media
  – Participatory Media
    • Social Media Platforms
    • Social Networking Sites
    • These lead to mass communication. Interactions from these tools or sites create the ability to gain social capital (increase in productivity through human contact)
  – Includes Facebook, Twitter, LinkedIn, Pinterest, Google Plus, Tumblr and Instagram
Effective Promotion in NM

- Most likely would involve physical promotion to the Provider
- Much of the current research in Medical promotion and marketing focuses on media – specifically digital media, but that has not yet been shown to be as effective
- For example, a study in JAMA showed prescribing habits of medical students and residents were impacted by interaction with marketing representatives from drug companies (Austad KE; Avorn J; Franklin JM; Campbell EG; Kesselheim AS. JAMA Internal Medicine. 174(8):1283-90, 2014 Aug.)
- Thus physical promotion will involve person to person interaction in the form of verbal communication as well as visual communication
How Promotion Works

• Physical
  – Person to person communication
  – Education
  – Teaching
  – Mentoring
  – Meetings
  – Conferences
  – Committees
How Promotion Works

• Physical
  – Decision Support Tools (ACR Appropriateness Criteria)
  – Food centered events
  – Human Element

• Past Efforts –
  – Marketing materials
    • Keychains, t-shirts, posters
  – Educational Publications
    • Books for Clinicians explaining Nuclear Medicine procedures
End state for Clinician

- Increased knowledge about the availability of Nuclear Medicine Studies
- How physiologic imaging is superior to anatomic imaging
- How multiple physiologic processes or body parts can be assessed in one study
- Lower cost, easier access
- Increased, appropriate ordering of Nuclear Medicine studies for both diagnostic and therapeutic purposes
Target Audience

- Nurse Practitioners
- Physician Assistants
- Advanced Practice Nurses
- Family Physicians
- Internists, OB/GYNs, Pediatricians, Emergency Medicine Physicians
- All Specialists – Cardiology, GI, Gen Surg, Ortho, ENT, Urologists, Oncologists, etc.
Nurse Practitioners and PAs

- Explosive growth in the past decade in numbers to include midwives, nurse anesthesia, etc.
- In many cases have replaced the primary care physicians
- Much shorter training programs with limited exposure to inpatient medicine
- Limited formal training in Imaging
- Usually no Residency Program training
Physicians

- Massive growth in ordering of imaging studies
- Little to no formal training in imaging
- Often taught by clinical subspecialist – Not Radiologist or Nuclear Medicine Physician
- Required imaging syllabus in residency often ignored
- Marked decrease in working hours results in decreased clinical skill and medical knowledge
Education

• Introduction to Clinical Nuclear Medicine
• MSK (musculoskeletal)
• Thyroid Disease
• GI Imaging
• Urologic Imaging and Therapy
• Oncologic Imaging
Education

• Target Audience
  – Clinics
  – Primary Care Practices
  – Hospitals (Grand Rounds)
  – Clinical Departments
  – Usually Staff Physicians, PAs and NPs
Lectures

• Give target audience basic knowledge not provided during their initial training or since forgotten.

• Examples include Hepatobiliary Scan with Gallbladder EF for RUQ pain; biliary dyskinesia

• Thyroid Scan for hyperthyroidism and nodular disease
Lectures

• Provide knowledge of alternates to conventional imaging for specific clinical conditions
• Provide CME or CNE where possible – through institutions
• Describe cost effectiveness of various studies compared to cross sectional imaging
• Describe ease of access for getting the study performed – i.e. most urgent or ASAP studies performed within hours to days
Mentoring = Exposure

• Lack of Clinical Exposure to Nuclear Medicine
• Offer electives of 1 day to 1 week duration
• Integrate Nuclear Medicine into a Radiology Rotation
• Reach out to Innumerable training programs to include:
  – Nurse Anesthesia, Nurse Midwife, Nurse Practitioner, Physical Therapist, Occupational Therapy, Physician Assistant, Chiropractor, Oromaxillofacial Surgery
  – Residents to include PA residencies
Mentoring Examples

• Examples of key educational exposures on rotation
  – Teaching a PT that a bone scan can assess multiple joints/whole body instead of ordering B/L Shoulder and Knee MRIs
  – Teaching a Nurse Anesthetist role of V/Q in patient with poor renal function
  – Teaching a Nurse Practitioner the role of HIDA with GBEF for Chronic RUQ pain
Mentoring Examples

- Examples of key educational exposures on rotation
  - Teaching a PA the ease of obtaining a MPS for Chest Pain without first requiring a Cardiology Consult
  - Teaching a PA in Gen Surg residency role of Indium-WBC scan for fluid collection seen on CT – Seroma vs Abscess
Teaching – Lectures to Training Programs

• Some specialties require Radiology Lectures – up to 10% of Didactic Training
• Reaching out to all training programs to create a Radiology and/or Nuclear Medicine specific syllabus
• Most programs need at least one Nuclear Medicine lecture
• Create Specialty specific lectures for all sub-specialties
• Approach Chief Residents first – they are often key deciders of needed lectures. Program Directors, even program coordinators are additional key contacts
Teaching – Lectures to Training Programs

• ER would need a lecture focusing on V/Q, HIDA, Tagged RBC studies
• Urology and Nephrology need to know about renal scans as well as PET/CT
• ENT would benefit greatly from understanding Thyroid Scans
• Orthopedists need to know about Bone Scans in detail, as well as PET/CT
Meetings

• Every Specialty has a state or regional meeting annually

• Certain Specialties would like to offer their members lectures to address gaps in knowledge
  – Renal Scan for Urology Meeting
  – Bone Scan and WBC Scan for Ortho
  – PET/CT for Heme/Onc
Local or Institutional Conferences

• Trauma Conference
  – Role of Nuclear Medicine in Trauma
• Weekend Primary Care Conference
  – Thyroid Scans and Bone Density
• Sports Medicine Conference
  – Bone Scans, MPS for Chest Pain
• Create Your Own Conference
  – Work through hospital education
Committees

• Established Committees exist in every hospital
• Examples include Trauma and Cancer committee among others
• Usually meet weekly to monthly
• Have a Quality Improvement/Performance Improvement function as well as educational role
• Will periodically have CME lectures
Committees

• Nuclear Medicine Participation encouraged
• Opportunity to discuss case of individual patients
• Provide education to committee members on specific cases for future reference – such as recommended studies for further work-up, i.e. PET/CT for non-iodine avid Thyroid Cancer
• Problem Solving; alternate work-ups i.e. Renal Scan for urinary leak
Multidisciplinary Conferences

• Endocrine-Nucs Thyroid Conference
  – Discuss scan results
  – Ask to attend weekly thyroid conferences

• Ortho-Rads Case Conference
  – PET/CT for certain tumors or bone lesions
  – Three phase bone scan for RSD

• Pulmonary – Rads Conference

• Urology/Nephrology Imaging Conference
New Recurring Conferences

• Develop unique case conferences for every relevant specialty
• Meet with orthopods, urologists, oncologists, etc. based on their clinical needs
• Develop periodic case conferences for primary care practitioners
  – Collect case series of studies with positive impact on patient management by Pas, NPs, etc.
  – Annual case conference for numerous specialties
Radiology Integration

• Radiology is in great demand by clinicians
• Even greater need for Radiology education
• Embed Nuclear Medicine in all the Radiology mentoring, education, lectures and conference
• Create additional slides or material for all Radiology talks
Examples

Trauma Symposium
CME Conference
Nuclear Medicine in Trauma

• Occult fracture – Bone Scan
•Leaks
  – Renal Lasix scan for urinary leak
  – Hepatobiliary scan for biliary leak
  – Tagged RBC Scan for ongoing hemorrhage
  – Availability of SPECT/CT
• PE- VQ Scan with SPECT/CT
• Infection – Tagged WBC Indium scan; PET/CT
• Brain Death -
Follow-up and Delayed Imaging

- Plain Film for Skeletal Trauma
  - 10 to 14 days in adults
  - Osteoclastic activity increases fracture lucencies
  - Periosteal reaction
- Serial Brain CT for hemorrhage
- Nuclear Medicine studies
- Abdominal/Pelvic CT for hemorrhage/Solid Organ Injuries
- CXR (Contusions/Pneumo)
- AXR (Ileus, dilated bowel)
Brain Death – Tc-99m-HMPAO
Biliary Leak with Biloma. CT, US, Hepatobiliary Scan, ERCP
Fluid collection on CT - Fluid from trauma or infected abscess?
Tc-99m HMPAO labeled WBCs
Decision Support Tools

• Use of Decision Support Tools mandated by Congress and CMS beginning in 2017
• ACR Appropriateness Criteria is the Model
• These are evidence based
• Review and obtain familiarity with when NM studies are recommended
Decision Support Tools

• Example – V/Q for PE in pregnant females has the highest rating: 9
• Communicate this data to referring clinicians
• Share this information through any other educational activities or committees
• Include in lectures
“Promotion through Nutrition”

• Fundamental social interaction in almost all societies
• Taking time to sit with colleagues in the cafeteria
• Providing food for a lunch time discussion with other departments within the institution
• Inviting colleagues during Department food centered social events
“Promotion through Nutrition”

• Speaking at industry sponsored dinners
• Providing lunch at a lecture scheduled for primary care practitioners at their clinic
• Examples
  – Sitting down with urologists in the hospital cafeteria to discuss Xofigo
  – Bringing snacks to a primary care staff meeting to discuss availability of Alzheimer’s imaging
Human Element

- Person to person relationships
- A form of branding
- Trust and confidence in the individual nuclear medicine physician
- Ability to get dumb questions answered
- Ability to teach out and get help by phone or e-mail
- Ability to help patients and clinicians with hope as well as problem solving in complex situations
Human Element

• Many key players in the Health Care team in addition to the providers
• Customers are first the patient, then the referring provider
• Staff and personnel from referring providers’ offices
• Patient family and friends, Payers, Hospital administrators, technologists
• Good Customer service must be provided to all
Human Element

• Who will execute this plan?
• Nuclear Medicine Physicians will generally teach/mentor/educate the providers directly
• Technologists can play a huge role in organizing, scheduling, coordinating many of these activities
• Technologists are often the lead in communicating to administrators, medical assistants, nursing and family members
Conclusion

- Promotion is a key element to our practice’s success in Nuclear Medicine
- Conducted a basic review of the definitions of Promotion and Marketing as applied to NM
- Discussed needs of referring clinicians
- Presented approaches to educate and communicate the clinical value of Nuclear Medicine
- Ultimately, the human element can play an important part in growing or maintaining demand for NM services
SAM QUESTIONS
Question 1

• Demand for imaging services has changed in which direction?
  a. Increased by 25% since 2009
  b. Decreased by 60% from 2003 to 2011
  c. Stayed the same from 2003 to 2006
  d. Increased by 10% from 2009 to 2011
  e. Decreased by 5-10% from 2009 to 2011
Answer 1

• Explanation: Correct answer is “e”. Despite early growth and then more recent declines in average Medicare spending per enrollee since 2003, the percentage of patient encounters resulting in medical imaging has significantly and consistently declined nationwide. Furthermore, expenditure per enrollee dropped from 2006 to 2011.

Question 2

• What is Promotion?
  a. Raising customer awareness of a product or brand, generating sales
  b. Justifying the price of a product or service
  c. Increased professorial rank within an academic Nuclear Medicine dept
  d. Selling advertising space within a scientific journal
  e. The amount of increased demand for Nuclear Medicine services
Answer 2

- Explanation: Correct answer is “a”. Promotion is defined in several ways, but most commonly it involves raising awareness of a product or service to increase sales and/or use of that particular product or service.

Question 3

• Effective forms of promotion in Nuclear Medicine might include?
  a. Cold calling high net worth physicians for financial investment
  b. Providing educational lectures and rotations to residents
  c. Speaking to a group of retired physicians
  d. Providing educational brochures to pre-med students
  e. Giving lectures to nuclear medicine technology students
Answer 3

- Explanation: Correct answer is “b”. Marketing interactions have been shown to influence medical trainees prescribing habits – specifically medical students and residents. Certainly, medically indicated and scientifically appropriate ordering of tests could be influenced as well.

Question 4

• Common Hospital committees and/or recurrent meetings where Nuclear Medicine may be discussed and promoted on a regular basis would include:
  a. Patient Safety Committee
  b. Residency Review Committee
  c. Tumor Board
  d. Fire Safety Committee
  e. Credentials Meeting
Answer 4

- Explanation: Correct answer is “c”. In Medicine, delivery of marketing messages at the point of care, when clinical decisions are being made is paramount. For oncologic related imaging, almost all the referring specialties are present at the tumor board and the Nuclear Medicine physician directly educates and proposes diagnostic or therapeutic interventions to help a particular patient’s plan of care.

Question 5

• The “Human Element” in Nuclear Medicine Promotion refers to:
  a. Personnel turnover in a Medical Institution
  b. Human Resources
  c. Digital and Electronic Media as they relate to marketing
  d. Key players in the health care team to include providers
  e. How much patients are willing to pay for a diagnostic study
Answer 5

• Explanation: Correct answer is “d”. Human Element refers to “People” in a marketing plan. These include everyone from the patient and referring physician to the receptionist, technologist, nurse, hospital administrator and Nuclear Medicine physician. In other words, all the different people having a direct or indirect role in a particular patient’s care.

References