



**INTERNATIONAL SOCIETY FOR STRATEGIC STUDIES IN
RADIOLOGY**

Value Based Radiology

Strategic Plan

(October, 2021)

Long-term Envisioned Future (10+ Years)

Healthcare stakeholders worldwide understand the critical role that radiology plays in advancing quality care at an affordable cost for disease prevention, detection, management, therapy, and monitoring. Similarly, radiologists understand uniformly the importance of their roles in each of these domains and leverage tools that enhance their ability to provide subspecialized expertise to patients, the medical community, and the public at large.

Radiologists, by virtue of the advanced imaging radiology now offers, can significantly improve public and individual health outcomes while also favorably “bend the cost curves”, and they can do so in several ways:

Imaging offers early detection of disease as well as potential prevention of complications and/or secondary diseases. For instance, imaging plays a key role in the prevention of complications of missed early appendicitis. Likewise, imaging excludes appendicitis, avoiding needless interventions. Imaging quickly identifies atherosclerotic vascular disease, encouraging therapies that may prevent downstream stroke or myocardial infarction.

Imaging also enables stratification along care pathways that optimize patient outcomes. For example, early imaging of stroke patients discriminates hemorrhagic from non-hemorrhagic stroke, thereby identifying patients who will and will not benefit from thrombectomy, and who will potentially suffer unfavorable outcomes from thrombolytic therapy.

The impact of radiology services on patient outcomes and quality of life dominates the dialogue about legacy and novel technologies for imaging and image guided therapy. Diagnostic and technical efficacy are viewed as requisite inputs to studies involving diagnostic and therapeutic impact, patient outcome, and socio-economic benefit rather than as primary end points themselves. Radiologists are recognized for democratizing their services by standardizing image acquisition and information processing while embracing innovation that brings imaging advances to the population at large. Personalized imaging care integrates diagnostic data from all sources and leverages predictive analytics to anticipate and remedy future decrements in health and well-being.

Owing to the relatively high cost of radiology services amid an escalating problem of rising health care costs, methods are developed and honed to ensure that imaging and image guided therapy services are used appropriately based on evidence-based guidelines. Tools that ensure uniform adoption of such principles through automation or semi-automation are uniformly distributed and adopted throughout the medical community worldwide. The costs of failure to use or adopt such tools are accountable to all participants in the medical community at large, including those who interact primarily with patients and direct care.

Healthcare funding models endorse and enable value-based imaging care through appropriate provisioning for radiology services within the whole of healthcare delivery environment. Radiologists’ participation in collaborative patient care and treatments are rewarded and incentivized, with select care centers funded to provide advanced and developing diagnostics and procedures at no penalty to the delivery system, and for the added purpose of quantifying value for emerging technology and techniques.

The temporal nature of radiologic technologies is understood to be limited and often in need of upgrades to software, hardware, or both, to maintain currency with evolving standards of care. Radiologists and imaging

manufacturers share such beliefs and live by specific and measurable commitments to the circular economy and sustainability.

The critical role that radiology plays in advancing value-based healthcare is second nature to policy and decision makers for medical asset management and prioritization. Imaging resources and equipment necessary for managing the health of a population are well recognized and undisputed.

Goals and Objectives (3 to 5 years)

1. Metrics:

Goal: Radiology's contributions to (and potential detractors from) patient wellbeing are well understood by all constituents. As a specialty, Radiology quantifies its effect on patient outcome and quality of life. All imaging and image-guided therapies are quantified according to their effect on patient outcomes and quality of life.

Objectives:

- A. *Identify the conditions and clinical scenarios (including patient demographics and risk profiles) where appropriate use of imaging, including non-use, can improve health outcomes. This should be modifiable to enable application in different countries/regions.*
- B. *Evaluate the roles of imaging and image-guided intervention in the continuum of care. By doing so, develop or harness existing practically applicable metrics for quantifying the incremental contribution to health outcomes including rate of return to function.*
- C. *Improve price transparency through evaluating the costs and healthcare resource utilization of imaging and image guided intervention by country/region*

2. Performance Improvement Initiatives:

Goal: Radiologists uniformly ensure that use of radiologic examinations is justified, appropriate, and evidence based. Metrics for all imaging and image-guided therapies are included routinely in performance appraisal, improvement initiatives and are linked to reimbursement models.

Objectives:

- A. *Enhance/expand appropriate, evidence-based medical imaging for screening, diagnosis, surveillance, and survivorship*
- B. *Radiologists promote the use of appropriate, evidence-based medical imaging at the referring physician level*
- C. *Support, maintain and disseminate evidence-based appropriate use criteria (AUC), both for referring physicians requesting medical imaging exams and radiologists making follow-up recommendations*

3. Patients' Motivations and Behaviors

Goal: Patients are supported in decision making related to the use of imaging in their care with evidence-based information and counselling that is accessible both in form and content.

Objectives:

- A. *Increase & improve the profile of radiology and radiologists with patient communities (and referrers) to assist in understanding the value radiologists provide them individually, and the healthcare environment generally, and to enhance our ability to influence use of services and value creation*
- B. *Increase the capacity of radiologists to communicate directly with patients on an individual basis to optimize their experience and their outcomes, through a range of tools including direct communication and on-line, Apps etc.*
- C. *Provide resources to move towards an environment where patients and radiologists have the ability to define together the best imaging course in an unbiased, evidence-based, data-driven manner*

4. Radiologists and Referring Practitioners' Motivations and Behaviors

Goal: Radiologists and referring practitioners recognize each other's role, value, and needs and are mutually accountable to optimize imaging resource utilization and to develop the imaging resources of the future in an economic environment that rewards the value created by this work.

Objectives:

- A. *Integration -- Create a culture of collaboration amongst providers founded on shared standards of quality and care and promote the integration of data across diverse sources to enable and leverage AI tools that enable actionable intelligence*
- B. *Influence -- Employ storytelling tailored to the local community to support this culture change*
- C. *Incentives -- Create shared financial responsibility between radiologists and referring practitioners*

5. Health Care Stakeholders' Motivations and Behaviors

Goal: Healthcare stakeholders (hospital administrators, industry) are accountable for their effect on the cost of medical imaging and for ensuring resource utilization is optimized. Interventions are planned and executed to address stakeholder motivations and behaviors that affect the quality of imaging care and patient outcomes.

Objectives:

- A. *To enhance our profession's ability to help hospital administrators control the cost of care and eliminate waste.*
- B. *In recognition of the moral hazards of payment systems that encourage low value-imaging, to develop defined, uniform quality measures/benchmarks for high-value imaging (such as exist in breast imaging and cardiac imaging).*
- C. *Industry supports and partners with our profession for measuring outcomes that are linked to use of medical imaging and image-guided interventions. If outcomes do not improve, technical advances simply escalate costs and reduce value.*

Prioritized Tactics (culled from 46 proposed tactics)

Appropriate Use Criteria:

Expand impact of appropriate use criteria and decision support (such as ESR iGuide and ACR Select) by seeking greater input from non-radiology specialty societies (such as NCCN) to promote greater adoption and buy-in from referring physicians by emphasizing “don’t perform imaging” as a recommended option, instead of only ranking the relative (in)appropriateness of a list of possible tests, and focusing on developing and implementing appropriate imaging criteria beyond screening/diagnosis/surveillance. (Objectives 5B, 1A, 2A)

Quality Safety:

Prevent/reduce duplicate or redundant follow-up examinations by ensuring secure access to patient imaging and reports within a centre and region / country. In countries without the infrastructure an “imaging passport” with a record of examinations, dates, and locations could help with location and review of prior examinations. (Objective 1B)

Economics:

Imaging industry partners expand understanding of capital equipment purchases to include software/apps that interrogate the EHR, by gathering information on key performance indicators that measure patient outcomes related to modalities and procedures. Training pertinent to deployment and interpretation of such information is included with equipment purchases. (Objective 5C)

Communication:

Develop/promote research and training programs to maximize the impact of *direct patient communication* on patient preferences and behaviors, appropriateness of radiology referrals, resource utilization, and patient outcomes, and establish database of good radiologist communicators, to be made easily available to mass media for interview, commentary, raising awareness of radiology. (Objectives 3A, 3B)

Develop an app to provide patient information, guidance through dept, & procedures (potentially linked to RadiologyInfo.org), geographical guidance – customizable for each location. Include link to patient-friendly decision support tool (e.g adaptation of ESR iGuide), and report translation in lay language. Simple information about specific diseases could potentially be included or linked. (Objective 3B)

Collaboration:

Radiologists, referring practitioners, ambulatory units and hospitals work in multidisciplinary teams with other diagnostic disciplines to better understand each other’s needs and better respond to critical gaps in health care management (such as monitoring immunotherapies) to optimize utilization of existing resources and develop the resources of the future. (Objectives 4A, 5A)