

Unread second-opinion radiology reports waste health care resources

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**TABLE 2: Readings and Nonreadings of Second-Opinion Reports (*n* = 4696)
According to Imaging Modality, Requesting Clinician Specialty, and
Radiologist Subspecialty**

Variable	No. (%) Read	No. (%) Not Read
Imaging modality		
CT	1910 (88.6)	246 (11.4)
MRI	1822 (89.1)	224 (10.9)
Nuclear medicine ^a	375 (90.1)	41 (9.9)
Radiography ^b	40 (87.0)	6 (13.0)
Sonography	12 (37.5)	20 (62.5)
Requesting clinician specialty		
Surgery ^c	1811 (95.8)	79 (4.2)
Internal medicine ^d	832 (82.2)	180 (17.8)
Neurology	491 (78.8)	132 (21.2)
Gynecology and obstetrics	453 (88.5)	59 (11.5)
Ear, nose, and throat medicine	217 (90.4)	23 (9.6)
Urology	162 (94.7)	9 (5.3)
Pediatrics	51 (66.2)	26 (33.8)
Radiation therapy	28 (100.0)	0 (0.0)
Ophthalmology	22 (100.0)	0 (0.0)
Other	92 (76.0)	29 (24.0)
Radiologist subspecialty		
Abdominal	2416 (92.2)	205 (7.8)
Neuroradiology (head and neck)	972 (83.6)	191 (16.4)
Nuclear medicine	387 (90.0)	43 (10.0)
Musculoskeletal	240 (87.6)	34 (12.4)
Pediatric	56 (62.9)	33 (37.1)
Cardiothoracic	48 (75.0)	16 (25.0)
Breast	29 (90.6)	3 (9.4)
Interventional	11 (47.8)	12 (52.2)

^aIncludes scintigraphy and PET with and without concomitant CT.

^bIncludes conventional radiography, dual-energy x-ray absorptiometry, fluoroscopy, and radiography performed during radiologic interventions.

^cIncludes general, cardiothoracic, maxillary, plastic, and orthopedic surgery and neurosurgery.

^dIncludes allergology, cardiology, geriatrics, general internal medicine, pulmonology, gastroenterology, and rheumatology.

Credit: American Roentgen Ray Society (ARRS), American Journal of Roentgenology (AJR)

According to ARRS' *American Journal of Roentgenology* (AJR), clinicians do not read a considerable proportion of second-opinion radiology reports—"a situation that can be regarded as an appreciable but potentially reversible waste of health care resources," the authors of this AJR "Health Care Policy and Quality" article concluded.

Conducted by three radiologists from University Medical Center Groningen in The Netherlands, this retrospective study included 4,696 consecutive second-opinion reports of external imaging examinations authorized by subspecialty radiologists at a tertiary care institution between January 1 and December 31, 2018.

Of the 4,696 second-opinion reports, 537 were not read by a clinician, corresponding to a frequency of 11.4% (95% CI, 10.6-12.3%).

The imaging modality with the highest rate of not being read was sonography (20/32 [62.5%]), the requesting specialty with the highest rate was pediatrics (26/77 [33.8%]), and the radiologic subspecialty with the [highest rate](#) was [interventional radiology](#) (12/23 [52.2%]).

On multivariate logistic regression analysis, first author Sabine A. Heinz found that the following variables remained significantly and independently associated with the second-opinion report not being read:

- inpatient status (odds ratio [OR], 163.26; p
- sonography as the imaging modality (OR, 5.07; p = 0.014),
- surgery (OR, 0.18; p

- interventional radiology as the subspecialty of the radiologist who authorized the second-opinion report (OR, 3.52; $p = 0.047$).

Noting that the National Healthcare Authority of The Netherlands allows up to €100 (\$118) to be charged for each second-opinion reading, and that a typical second-opinion reading takes approximately 15 minutes, Heinz and colleagues calculated that the 537 unread second-opinion reports could cost as much as €53,700 (\$63,427), as well as approximately 134.25 hours of [radiologist](#) interpretation time.

"Although these numbers appear modest, they pertain to a single institution during a 1-year time period," Heinz et al. wrote, adding that cumulative nationwide figures would raise these totals, "possibly substantially," and that the number of unread second-opinion reports will likely increase, "given the projected rise in future second-opinion requests."

Furthermore, since opening the report in the electronic patient file system does not necessarily mean that the [clinician](#) actually read said report, Heinz and team contend that the rate of reports not being read (11.4%) is likely an underestimation.

Ultimately, "if subspecialty radiologists and clinicians take proven determinants into account," the authors of this AJR article maintained, "the amount of second-opinion readings with limited additional clinical value may be reduced."

More information: Sabine A. Heinz et al, Unread Second-Opinion Radiology Reports: A Potential Waste of Health Care Resources, *American Journal of Roentgenology* (2020). [DOI: 10.2214/AJR.19.22662](https://doi.org/10.2214/AJR.19.22662)

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