AUTOMATED NOTIFICATION OF REFERRING PHYSICIANS IMPROVES FOLLOW-UP OF SUBACUTE FINDINGS ON RADIOLOGY EXAMINATIONS

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BACKGROUND

The Problem

- Radiologists encounter a wide spectrum of findings, ranging from immediately life threatening to definitely benign
- How best to communicate non-urgent but potentially significant findings lacks consensus and varies by institution, but can have medico-legal consequences

The Program

- In 2011 UCSF developed a system for timely (<48 hours), reliable communication of radiology reports using a simple dictation macro: //ALERT//
- Reports containing //ALERT// are phoned to the ordering physician and the patient’s primary care provider by non-radiologist staff

The purpose of this study was to evaluate whether the //ALERT// program increases rates of follow-up
**METHODS**

- IRB approved and HIPAA compliant
- 200 radiology reports were selected with actionable findings in the impression, 100 with //ALERT// and 100 without the alert
  - Reports dated July 1, 2014 – December 31, 2014, identified with mPower search software
- Inclusion criteria:
  - At least one subsequent encounter with UCSF
- Chart review was conducted through January 31, 2017 for follow-up
- Follow-up was defined as either: further imaging and/or testing for the relevant finding or documented acknowledgement of the finding
**RESULTS**

- After introduction in 2011, ease of use and minimal workflow disruption led to wide adoption of the ///ALERT/// macro by UCSF radiologists
- Used significantly more often for outpatient examinations than inpatient (p<0.01)

More than 30,000 reports with ///ALERT/// since implementation, and more than 6900 reports in 2017 alone
RESULTS

- Use of the //ALERT// system significantly increases follow-up from 82% to 94% (p<0.01)

- No significant effect (p>0.05) on rate of follow-up based on patient status (inpatient vs outpatient) or ordering physician type (primary care vs specialists)
RESULTS

- Primary care physicians are more likely to follow-up findings when //ALERT// is used (p<0.01)

- No significant difference in rates of follow-up for studies ordered by specialists (p>0.05)
RESULTS

- Incidental findings are significantly more likely to be followed-up when //ALERT// is used (p=0.04)

- There was no significant difference in rates of follow-up for expected findings (p>0.05)
**DISCUSSION**

- The //ALERT// program significantly increased overall follow-up by 12% (p<0.01)

- We observed significantly increased rates of follow-up of subacute findings in reports containing //ALERT// for:
  - Studies ordered by primary care physicians
  - Studies with unexpected or incidental findings

- Limitations of the study include:
  - Relatively small sample size (N=200)
  - Exclusion of patients with a single UCSF encounter
  - Limited sensitivity for follow-up obtained outside UCSF
CONCLUSION

- Automated notification with the //ALERT// program enables timely, reliable communication of subacute findings, with minimal disruption of radiologist workflow

- Usage of //ALERT// increases rates of follow-up

- Primary care physicians and patients with incidental findings benefit most from the additional communication
REFERENCES


