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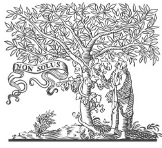

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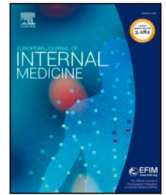

Letter to the Editor (European Journal of Internal Medicine).

Strengthening the continuity of medical care through the hospital discharge multimedia report

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Dear Sir,

Despite the adoption of new technologies, such as the citizen's electronic health record [1], in unified and universal health systems of Western European countries and Brazil, the hospital discharge report still remains a legally valid document to ensure the transfer of information concerning the outcome of the patient's hospital stay from the second or third level of care (hospital care) to the primary health care general practitioner. Thus, in its form of a free-text, typed document, it continues to be the keystone for the continuity of care [2].

The hospital discharge report is issued under the legal responsibility of the senior doctor of the hospital department supervising the overall medical care process. One copy of said document is annexed to the patient's medical records folder, which must be signed by the legal representative (i.e., the director or president) of the hospital. Following this, it is filed in the archives as a legally valid document to be retrieved and made available for legal purposes whenever requested by the investigating attorney in court cases. However, the sensitive information in this folder remains the property of the patient, who can also request duplication at any time.

Due to its synthetic and light format, patients usually bring the hospital discharge report not only to their general practitioner during transition care, but also to other specialists for a second opinion and follow-up.

Regarding the size, format, lay-out, and minimal data package, etc. of the hospital discharge report, senior doctors usually exercise their own authority and even their cultural background and literary style. Sometimes, hospital management endeavours to standardise and encourage senior doctors to make use of a template; however, templates definitely do not allow for flexibility among the several medical specialties.

According to an inquiry we conducted, the general practitioners are often disappointed with the discharge report they get from the hospitals. Occasionally they consider it too succinct while lacking in key information.

Other times they deem it redundantly verbose, while listing results of clinical tests with poor or no relevance to the final diagnostic conclusions. The basic differential diagnosis diagram, undertaken upon admission, and the evidence collected to untangle it is unclear or omitted in such a way that the rationale of the clinical conduct performed becomes incomprehensible to the general practitioner.

Finally, it is not uncommon for the general practitioner to not even read the document. Rather, he ends up copying the drug prescription in order not to displease the patient under the simple premise of passive submission to the higher level of care of the hospital (defensive medicine). As a consequence, the general practitioner's review of the hospital diagnosis and treatment, as well as the subsequent reconciliation of the therapy never occurs, resulting in an increase in the patient's vulnerability to medical error. [3]

Moreover, since the document is comprised of text nearly always on paper, handed over directly to the patient to avoid the inherent hazards of sensitive information stolen or lost or unwillingly disseminated from digital networks, images such as X-ray tests, magnetic resonance imaging, endoscopy tests, and histological smears, among others, cannot be attached. The report of imaging tests, occasionally cited in the document, is not sufficient to support the general practitioner's on-the-job learning and awareness. In fact, the general practitioner does not improve his medical skills through such occurrences with their own patients, which increases his frustration with regards to his hospital colleagues.

We are of the opinion that, in selected cases, the hospital discharge multimedia report, edited by the senior doctor and handed over to the patient, may improve continuity in transition care, in that it is: 1) time-saving and relaxing to go through in comparison to the reading of a physical document; 2) more powerful in the quantity of information transferred, since images, voice-over, and captions multiply by three the channels of communication in comparison to the single channel offered through typed text; and 3) easily managed by the observer at the points of concern by freezing frames, scrolling back and forth at the desired speed, for his best understanding.

With regards to which cases should be considered for a hospital discharge multimedia report, selection should prioritise those with the greater quantity of imaging documentation, namely oncologic and chronic degenerative diseases, surgical procedures, and other recorded manual technicalities.

We have tested some of hospital discharge multimedia report in surgery occurrences. A basic screenplay framing is required. It includes

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the following information:

1) A disclaimer regarding the unique copy edited, authorized recipients and use, and patient property rights;
2) Signed, informed consent;
3) A photograph and full identification of the patient.
4) Reason for admission, relevant information from the anamnesis and physical examination, and differential diagnosis diagram, if any.
5) Relevant clinical tests with images and pointers on focal features.
6) Reports from consulted specialists.
7) Diagnostic conclusions regarding the differential diagnosis diagram.
8) Treatments, including filmed clips of surgical operations.
9) Proposal of domiciliary treatment and follow-up recommendations and instructions.

As for editing and output, our proposed standards are the following:

a) Video format widely available (for example MP4);
b) Duration of less than 4 minutes.
c) Recording quality not to exceed a maximum file size of up to 20 megabytes;
d) History in chronicle format;
e) Names and facial images of the health providers redacted, whereas institution plainly displayed.

As with any clinical digital document containing sensitive data, compliance with appropriate legal constraints should be carefully observed, namely:

1) Editing upon receiving signed informed consent from the patient, with such signed informed consent displayed just after the disclaimer;
2) Editing by making use of institutional multimedia software under the responsibility of an administrator, while ensuring that no glitches are input into the document. Such glitches may pop-up and request additional undue information from the observer, disturbing the viewing;
3) Output with the advanced electronic signature of the director (senior doctor) of the department issuing the report [4]. This authentication ensures completeness, integrity, and traceability of forgery attempts.

Additionally, two important questions remain to be addressed: [1] Since the author assembles the multimedia report with samples from imaging tests, how can he select the most appropriate thumbnails, and [2] If he chooses arbitrarily, with no sharing and permission of the health professional reporting such imaging tests (radiologist, pathologist etc.), could conflicts arise among colleagues regarding the outstanding evidence presented by the selected images? Currently the executer and reporter of the cited imaging test has no part in the selection of the images shown in the hospital discharge multimedia report. Thus, new standards in the process of image archiving are needed.

As soon as an imaging test is reported by the competent health professional, the report and images are automatically stored integrally in a repository called the “Picture Archiving and Communication System (PACS).” Review of both the report and images is usually permitted for all accredited health professionals within the care providing department through the hospital's local area network.

However, downloading, exporting, and printing over physical support forms is not permitted, unless it is by the same reporter within the executing department (for instance the radiologist who carried out and reported a Magnetic Resonance imaging test is the only person authorised to export and print out a copy of the magnetic test from a support document).

Currently, the senior doctor of any department maintains such permission to edit a hospital discharge multimedia report permanently; however, as he is usually not an expert in imaging tests, he might choose insignificant images.

The solution proposed here is that anytime an imaging test is archived into the PACS, the executing and reporting professional will select three or more thumbnails along with proper captions to be available for editing the hospital discharge multimedia report.

Finally, one can argue that senior doctors are not usually skilled enough to routinely edit multimedia to keep up with the quick flow of clinical information proceeding from a busy clinical department. Nevertheless, it is comforting that such capacities are becoming increasingly greater with the new generations of health professionals.

Through appropriate film editing templates and the introduction of digital health (e-health) instructional courses into the curricula of undergraduate health sciences faculties, as we are currently undertaking in several universities in Western Europe, Brazil, and Indonesia [5], we have observed that editing the hospital discharge report by multimedia does not prove to be more time-consuming than doing so by text format.

Furthermore, it remains to be assessed the extent to which the general practitioner feels comfortable with such forms of communication and thereby takes benefit from it in his on-the-job learning.

Declaration of Competing Interest

None.

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