Developing and Implementing a Web-Based Departmental Faculty Scholarly and Service Activity Database

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RATIONALE

Faculty scholarly and service activity within an academic radiology department can take many forms and includes most activities that do not generate relative value units (RVUs). Forms of scholarship that are traditionally tracked (eg, on a curriculum vitae [CV]) include grants, abstracts, posters, invited presentations, peer-reviewed publications, books, and chapters. There are, however, multiple other forms of scholarly and service activity that need to be tracked for various purposes, both personal and institutional. Faculty members may be involved in diverse educational activities, such as curricular design, examination development, and digital media production. Publications may not all be peer reviewed, and much research and material development may be unfunded. Most faculty members teach medical students, residents, and other faculty members at their own institution, regionally and nationally. They may moderate societal meetings or develop meeting programs. Many mentor learners and junior colleagues. "Service" or "engagement" can include involvement with institutional, regional, or national committees, participation in multidisciplinary tumor boards, performing grant and journal reviews, and being on journal editorial boards. Faculty members may innovate in education (eg, develop a new course locally, regionally, or nationally), innovate in the clinical arena (eg, develop a new clinical program or a device) or in research (eg, develop a new technique). Patents may be applied for and awards given in any of these areas. Within any radiology department, there are administrative roles critical to smooth functioning, academic productivity and clinical work, such as section chief, vice chair, and program director.

These data need to be tracked for a variety of reasons. First, almost universally, the department chair is asked to provide a summary report of some of these activities at regular intervals to institutional administrative leaders and the medical school dean. These authorities frequently want a collation of scholarly and/or service activity, varying by the current data need and by the time period the report should span. In the current climate, which emphasizes clinical productivity (RVUs), chairs need to account for all non-RVU-generating activities that take place in the department.

Second, if "bonus" or incentive payments are given, or academic (nonclinical) time is awarded, these factors need to be accounted for to provide fair resource distribution and recognition.

Third, at the time of annual faculty reviews, a reviewer needs to be able to see faculty members' accomplishments to mentor them in their career paths.

Fourth, when external reviews are performed, a large volume of clinical and academic data need to be assimilated [1]. In a large department, centralized tracking of demographic data such as academic rank and promotion dates, work sites, and accreditation are important and often surprisingly difficult to access rapidly.

Fifth, the Next Accreditation System requires residency program directors to report to the local Graduate Medical Education Department and the Accreditation Council for Graduate Medical Education (ACGME) on a wide range of faculty activities (in somewhat nonintuitive groupings), including such elements as national committee work, curricular development, and invited presentations [2,3].

Finally, promotions committees need up-to-date data to advise faculty members on their suitability for promotion, and faculty members need access to information about their activities at the time of promotion application [4]. Many of the elements mentioned previously factor into the promotional portfolio of a clinician educator [5,6] but often are not included on

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a traditional CV, and not many faculty members keep extensive educational portfolios [7]. In the busy life of an academic radiologist, if these activities are not documented in a timely fashion, they are frequently forgotten, and data such as evaluations are lost.

WHAT WE DID

To effectively track all our diverse faculty activities, we decided to develop a web-based faculty scholarly and service activity database. This would provide a comprehensive. ongoing record of all faculty service and scholarly activity outside of RVUs; enable specific departmental reports to be produced rapidly, depending on the data requirement; provide individual faculty members with records of all of their potentially significant activities for promotion; and collate data on individual faculty members for annual and compensation reviews. We planned this database to be easy and fast for all faculty members to both enter and retrieve data.

We elected to use reasonably priced commercially available software to reduce startup costs and markedly reduce the computing skills required for development. After review, we selected Knack (EvenlyOdd, Lititz, Pennsylvania). This modular software can be customized by the user depending on requirements. Although it is designed such that an application programming interface can be developed to make it fully customizable, for our purposes we used the native Knack interface. Modular functions (tables, reports, entry forms, calendars, images, graphs, etc) can be added onto individual "pages" within the database and can appear as links or tabs to users. Links for uploading or downloading files (eg, Microsoft Office documents and images) can be added, as can hyperlinks to other pages within the database, other Knack databases, and external web pages.

The database was designed with the following functions.

Data Entry

Data entry of scholarly and service activity can be by faculty members or administration via the home page. Buttons direct entry for specific data types, such as publications, committees, teaching, quality improvement projects, grants, administration, curricular development, multidisciplinary conferences, and so on (Fig 1). Files such as teaching evaluations, ongoing professional practice evaluation reports, annual self-assessment documents, and CVs can be uploaded. Each button leads to a form for entries with open text, radio button selections, or drop-down menus. Fields were designed to capture maximal information with minimal input. Resident lectures and evaluations are captured automatically (see the following discussion).

Data Access and Security

Most data retrieval requires password access. Different user groups (eg, chair, program director, vice chair, annual evaluator) were designated, and the data available on any one screen of the database are filtered according to access level. All faculty members have access to all their own data.

Data Reporting

Reports were developed for various predetermined requests. For example, a "chair" page gives access

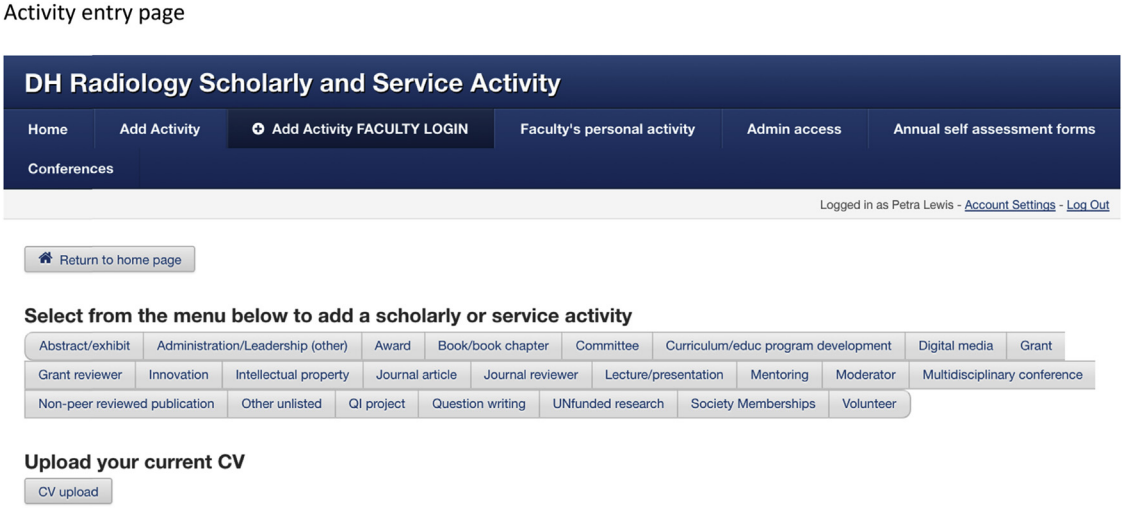

Fig 1. Faculty or administrators enter new activities from this page by clicking on the appropriate button.