Metrix Matrix: A Cloud-Based System for Tracking Non–Relative Value Unit Value-Added Work Metrics

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Abstract

Purpose: In the era of value-based medicine, it will become increasingly important for radiologists to provide metrics that demonstrate their value beyond clinical productivity. In this article the authors describe their institution’s development of an easy-to-use system for tracking value-added but non-relative value unit (RVU)-based activities.

Methods: Metrix Matrix is an efficient cloud-based system for tracking value-added work. A password-protected home page contains links to web-based forms created using Google Forms, with collected data populating Google Sheets spreadsheets. Value-added work metrics selected for tracking included interdisciplinary conferences, hospital committee meetings, consulting on nonbilled outside studies, and practice-based quality improvement. Over a period of 4 months, value-added work data were collected for all clinical attending faculty members in a university-based radiology department (n = 39). Time required for data entry was analyzed for 2 faculty members over the same time period.

Results: Thirty-nine faculty members (equivalent to 36.4 full-time equivalents) reported a total of 1,223.5 hours of value-added work time (VAWT). A formula was used to calculate “value-added RVUs” (vRVUs) from VAWT. VAWT amounted to 5,793.6 vRVUs or 6.0% of total work performed (vRVUs plus work RVUs [wRVUs]). Were vRVUs considered equivalent to wRVUs for staffing purposes, this would require an additional 2.3 full-time equivalents, on the basis of average wRVU calculations. Mean data entry time was 56.1 seconds per day per faculty member.

Conclusions: As health care reimbursement evolves with an emphasis on value-based medicine, it is imperative that radiologists demonstrate the value they add to patient care beyond wRVUs. This free and easy-to-use cloud-based system allows the efficient quantification of value-added work activities.

Key Words: Metrix Matrix, value-added work, work metrics, cloud-based computing, informatics

INTRODUCTION

It is predicted that radiology will transition from a fee-for-service, volume-based model to a form of value-based practice over the next decade. In 2008, the ACR Forum on Future Practice Models for Radiology discussed the added value radiologists bring to the health care enterprise and created a task force to further define that value. Their recommendations were reported in a 2008 white paper on the value added by radiologists [1]. On a governmental level, the US Department of Health and Human Services has sought to increasingly tie Medicare payments to the quality of care provided rather than the volume of services performed. Additionally, as many health care organizations move to new management models such as funds flow [2-5], it is essential for radiologists to be able to demonstrate and quantify the overall value they bring to their...
organizations and to patients, beyond traditionally trackable relative value unit (RVU)-generating activities.

In view of these national imperatives, we sought to design a system for tracking the value-added but non-RVU-based work activities performed by radiologists at our institution. We developed a cloud-based system we call Metrix Matrix, which can be easily accessed from any computer, tablet, or smart phone with an Internet connection. The goal was to design a system that is inexpensive to implement and efficient and easy to use for radiologists. We also sought to devise a system with which administrative assistants can track certain faculty work activities when feasible.

The system, which consists of a password-protected home page and linked Google Forms for tracking non-RVU value-added work activities, would be easily implementable and configurable at other institutions. Home page layout information and example Google work activity tracking forms are available by e-mail request to the corresponding author. Neither the authors nor the department receives any kind of remuneration from individuals or corporations related to the system.

METHODS
Metrix Matrix is a home-grown, cloud-based system accessed at a password-protected home page, which contains links to web-based forms created using Google Forms (Google, Mountain View, California) (Fig. 1). The home page and forms can be easily accessed using

![Fig 1. Metrix Matrix home page and an example form.](image-url)
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