

Radiation Safety Program Documentation by Database.

Personal computer database management systems (DBMS) have been used to archive and report radiation safety-related licensing information, personnel dosimetry records and radioisotope inventories. We describe a technique in which a DBMS (Microsoft Access) employs stored information to produce Internet-ready documents that are more customizable than those created using standard queries, reports and macros. The method is as follows: (1) Query results or data stored in tables are accessed using textbox controls on a standard form. (2) Modules written in Visual Basic for Applications (VBA) are attached to the form's event procedures. Because VBA is a full-featured programming language, arbitrarily complex logical and mathematical operations can be applied to the numerical or textual data displayed in the controls to compute useful parameters. (3) These parameters are concatenated into character strings containing embedded HTML tags and "boilerplate" document text. Formatting elements (bold/italic typefaces, block quotes, tables, etc.) can be readily incorporated. (4) The character strings are written to HTML text files which can be viewed and printed using any Internet "browser" program. One application of this technique is creating documents required for compliance with the radioactive patient release criteria outlined in NUREG 8.39. From stored data on each patient's discharge exposure rate and home situation, the DBMS estimates doses to the general public and composes a set of post-discharge instructions for the patient, as well as the required dosimetry documentation.