

Upgrading the United States Transuranium and Uranium Registries' Health Physics Database

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The U.S. Transuranium and Uranium Registries (USTUR) has developed a newly structured database to provide fully searchable and comprehensive health physics data histories in each individual registrant case. The previous health physics database has been expanded from one 'flat' table – consisting of 12 fields – to eight specialized tables containing 179 individually searchable fields. These new tables divide all health physics observations into eight primary data types (each associated with a specific database form): air monitoring, *in vivo* bioassay, *in vitro* bioassay, contamination events, work site (intake/dose) assessments, external exposures, medical treatments, and narrative incident descriptions. Key design features are:

1. Avoiding data entry 'typos' and unit conversion errors by utilizing dropdown menus and pre-programmed unit conversion factors.
2. Optimizing data accessibility by storing principal information in individual 'searchable' fields, and
3. Compatibility with searchable web publication of 'de-identified' case health physics data and linkage with USTUR's other case information (case narratives, tissue radiochemistry results and pathology data).

The health physics database forms and steps taken to ensure quality data entry are presented, and broader application of these concepts is discussed.

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