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Non-EDRS Overview

- In a non-EDRS vital records process, the usual sequence goes something like this:
- The various data providers include funeral directors, medical examiners, physicians, hospitals, etc.
- Each of them fills out their own portions of a death certificate, sometimes involving passing back and forth a paper copy of faxing information.
- Eventually a certified copy winds up as the official copy in the Vital Records office.
- The Vital records staff enters that information in electronic systems to send to interested parties including NCHS and various health related organizations.
EDRS Overview

- In an EDRS system, each of the same data providers has an electronic system, usually web-based into which they fill out their portion of the certificate.
- Usually each has their own screens showing just what they need to see.
- Often, these show up in queues so the provider can see what outstanding items there are.
- Always these systems include some form of authentication to make sure the information is coming from a certified user.
- As soon as the data is complete, the electronic systems can transmit the data to the various outside parties.
One thing to keep in mind is that after the state vitals office has the data it is transmitted to a variety of state and federal organizations who use the cause-of-death information for analysis.

At CDC many different groups use the data to track a wide-variety of medical events.

NCHS issues an annual “VITAL RECORDS” report and many researchers do studies based on the Cause-of-death information provided by the state records.

This information may guide studies, help determine policies and funding expenditures for public health programs.
Advantages of EDRS

- In a well-designed EDRS,
- The screens and workflows make it easier for each provider to focus on just their portions.
- There are validations built-in to help eliminate confusions and misspellings right away, and common data issues are handled at the beginning not through later follow-ups.
- The typed information is more legible than the hand-written stuff was.
- Turn-around times for follow-up queries is much faster.
- Updated records are handled smoothly with little extra effort.
- The cleaner data entering the system is ready for surveillance purposes sooner.
EDRS DO’S AND DON’TS

- To create a successful EDRS:
  - DO involve your data providers and other users as “stakeholders” early in the process and often. Their feedback and buy-in is critical.
  - DO plan for robust validations and edits as an integral part of the system, cleaning up data right away, at the source, not waiting for follow-ups much later on.
  - DO consider the implementation stages, as it’s likely you will be running some users still in paper and some with EDRS as the system rolls out over time to users.
EDRS DO’S AND DON’TS

- DO plan for training, particularly focusing on train-the-trainer type operations where you get someone at each major institution trained so they can show others.

- DO check with outside organizations such as NCHS and NAPHSIS for assistance with planning, requirements and even perhaps some contract provisions as these have worked with others before. (Learn from others mistakes.)

- DO check with prior users of systems with your vendor for their experiences and lessons learned.

- DO be creative with screen layouts and remember the readability. Consider magnifying the fields in focus.
EDRS DO’S AND DON’TS

- DON’T forget the management of updated records. Particularly, the idea of only releasing medical records for NCHS when medical items change.

- DON’T forget data entry operations and how they tie-in with EDRS during the interim roll-out phases. Data entry from existing records is quite different in terms of interface needs than the usual ongoing EDRS needs.

- DON’T get contractually locked into expensive tweaking charges as soon as system rolls out. EVERY system needs a bit of fine tuning once it is turned on and this can be costly with a “difficult” contract for support.
EDRS DO’S AND DON’TS

- DON’T forget the query process and how that needs to work in conjunction with your EDRS system design.
- DON’T forget to provide lots of on-screen help such as mouse-over tips, more information buttons and a link to user guides where possible.
- DON’T encourage ambiguous abbreviations. The provider’s intent is often misunderstood when abbreviations are used.
FILLING OUT CAUSE OF DEATH IN EDRS

- Usually, an EDRS screen for medical cause entry is designed to look a lot like a normal death certificate, just shown on the screen instead of on paper.
There are obvious advantages in legibility, as typed information is easier for users coding the data to understand the provider’s intent.
VALIDATED IS BETTER

- Good robust edits and validations including at a MINIMUM spellchecking is a must. Without these validations, you will have to reprocess and clean up the data at the vital records office, using SuperMICAR.
- Going beyond simple spellchecking you can have confirmations for:
  - Possible rare causes (was that actual PLAGUE or PLAQUE)
  - Possible inconsistencies (Pregnant but 80 years old.)
  - Wrong or rare words (BRAN DAMAGE likely did not occur from muffin-based assaults and HART ATTCK likely did not really involve a strange deer incident.)
OUNCE OF PREVENTION

While this may mean more prompting for clarity at the data provider input stage, this is often far superior in terms of time and effort on their part to having them queried weeks or months later to iron out false positive rare causes, false positive data inconsistencies or to iron out what was intended for an abbreviation.
NCHS EDRS ASSISTANCE

- NCHS will assist with EDRS testing.
- NCHS will have to verify the data files being sent and the quality of data meet correct formats and minimum standards, before the state vitals office stops using SuperMICAR.
- NCHS can also help with the rules needed for validations and edits.
- NCHS can even provide the VIEWS system, to serve as the core validations engine for your EDRS.
- Some useful EDRS recommendations can be found in this document paying close attention to page 137+

NCHS VIEWS

- VIEWS (Validations and Interactive Edits Web Service) is a validation engine designed to integrate with EDRS to provide the comprehensive data quality checks recommended for EDRS.
- VIEWS includes:
  - Spellchecking focused on mortality medical information.
  - Rare word looking for BRAN Damage, SHOT BY RAFFLE and so on that spellcheckers will never find.
  - Rare Causes, medical edits and surveillance confirmation.
  - Abbreviations assistance.
  - Non-specific, trivial or ill-defined data problems.
NCHS TURBODEATH

- NCHS is launching a project to come up with a second-generation interface for collecting cause-of-death information.
- TurboDeath, like TurboTax, eliminates the provider needing to know the format of the death certificate and get the right conditions in the right by in much the same way TurboTax eliminates you needing to know which numbers go where.
- TurboDeath asks simple direct real world, mortality medical focused questions of the provider, keeping him focused on his expertise and knowledge and then TurboDeath will format the certificate for him based on his answers.
NCHS RESOURCES

- VIEWS http://www.cdc.gov/NCHS/data/dvs/views.pptx
- Shipment Guidelines http://www.cdc.gov/NCHS/data/dvs/GUIDELINES.pdf
- Steve Rushing SRUSHING@CDC.GOV