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### The Literature of EOH. IV.: The Case Study

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## Editorial

# The Literature of EOH. IV. The Case Study

In the literature of environmental and occupational health, there is always room for a good story. It is perhaps surprising that we have not developed a standardized format for case studies as we have for original research papers. Because all stories are different, we have let the narrative be told as best suits the story.

A case study is a systematic narrative that includes the most relevant details of a particular situation or event, excludes details that are irrelevant to the author's purpose, and touches on topics of interest to others. This interest may arise from the fame, notoriety, or peculiarity of the incident, in which case the author usually has no problem attracting readers. Interest also may arise from the generalizability of a case study, when it is representative of similar situations but unusually well studied. In such cases, an author must attract reader interest and earn editors' confidence by describing early on the usefulness of the case study. To just "write something up" because it happened is not enough. Case studies can be immensely valuable history, teaching aids, and cautionary tales in describing what can go wrong or as quasi-experimental interventions, documenting what went right.

In writing the case study, the author should be clear in intention. The author usually either has first-hand experience, in which case there may be a personal motive for presenting one side or another, or is reconstructing a historical event, in which case there must be a reason the author is interested. The author should intend the case study to be used for a definite purpose, and this should be clear.

Right away, this decision constrains the author and forces choices. The inherent tension in writing a case study is how complete it should be, how much background information to provide, what details should be left out, and what details should be kept in. As the author formulates the story, he or she may tell a different story and leave a very different impression depending on which details are emphasized and which are omitted.

A good case study is difficult to write because the author always has a point of view or reason for telling the story, and therefore the narrative is always slanted. However, authors write case studies for reasons that do not necessarily match readers' intended use: one of several paradoxes of

the case report is that the reader may be seeking in it something entirely different than the author intended in writing it. Choices are forced on the author in what to use and what to leave out, and so readers seeking something other than what the author deemed important may not find what they are looking for. If, in a 15-page article, the reader is looking for historical pollutant levels and the author is interested in how the community organized, someone is likely to be disappointed. For this reason, editors should be tolerant of multiple publications from the same authors that cover the same general ground but address different issues or submissions from different authors that take different points of view.

Some of the most compelling case studies describe disastrous outcomes and explore why they occurred. Catastrophes usually are obvious. Documenting success when things go right is harder. For this, a systematic evaluation is required. This leads to a natural typology of case studies: those reporting (1) unevaluated narratives, (2) data from a formal evaluation process put into place before the event or intervention occurred, and (3) ad hoc evaluation data, using whatever information is available after the fact to construct an assessment.

However complicated they may be, unevaluated case studies are simply narratives and should be judged primarily as historical documentation. If authors had first-hand experience, is the case report self-serving or neutral? Was their experience unique or representative, comprehensive or narrowly engaged, well informed at the time or elaborated after the fact? Some authors write historical case studies on the basis of new or previously inaccessible information. The new information can be right or wrong, reliable or unreliable, biased or neutral. Historical reconstruction is inevitably incomplete, however, and is sometimes a veiled way to make a contemporary point. Context is critically important for all case studies but especially for historical reconstructions because attitudes, standards, and expectations change.

Case reports are similar to plays. Thinking of the *dramatis personae*, the sets, the plot, and above all, the intrinsic

conflicts that make for drama is often helpful. In case studies, we are interested in the actors—especially the target population—the setting, what happened, and how the issues emerged and were resolved.

Sometimes, one just needs to tell a story from beginning to end.

Many years ago, on the banks of Calgary's Bow River, a wood-preserving plant contaminated a large parcel of land with creosote that had been both spilled and dumped, turning the ground into a hazardous waste site. The polycyclic organic compounds in the soil had sufficient mobility to be carried to a seep under the waterline, where little globs of creosote entered and fouled the water. There began a story that continued for more than a decade and involved former landowners, government agencies, a local auto dealer who occupied part of the site (nobody actually lived on the site or close by), and, for reasons long ago forgotten, the Chinese community in the city. Boreholes and water-monitoring data showed what needed to be done. Massive excavation eventually remediated the site. Was it worth the effort? The people who lived downstream certainly thought so.

One may take this basic skeleton of a story and on it layer historical detail, monitoring data, risk assessment, regulatory

actions, civil liability, policy analysis, remediation options, financing of brownfield recovery, river ecosystem effects, risk/benefit analysis, and aerial photographs. However, the basic storyline must be clear, or the case study falls apart.

There are tricks to writing a good case study. One is to prepare a timeline, clearly detailing the chronology of events. Another is to recognize when a subplot or secondary contributes little or nothing to the case study and can be omitted safely. But perhaps the best trick is to tell the story out loud to colleagues and anyone who will listen and to use each retelling to prune away what is not necessary and to get to its essence.

Besides, stories are always better when they are spoken out loud.

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Editor in Chief

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