

## **Appendix 2.5 - 1996 Board of Scientific Counselors Review**

*Review Team Report*

*HHE Program Response*

## **HHE Review Team: Revised Draft Report**

**January 2, 1997**

### Background

The HHE is a legislated activity requiring NIOSH to respond to requests from employers, unions or employee representatives to concerns about the toxic effects of chemicals in the workplace. Over the past two decades there have been 10 evaluations of the program of varying scope, and substantial changes. The current Review Team, consisting of Mark Cullen (chair), Rick Fulwiler, Jim Weeks and Letitia Davis, was commissioned by the Director in July 1996 to provide an appraisal of the current status, and direction for future initiatives within a four month time frame. This report summarizes the major observations and recommendations of the Team.

### Methods

The Team embarked on this task fully cognizant of limited time and resources, and with a limited agenda. In particular, we decided at the outset that the focus of our effort would be on the *product* of the HHE activity, namely its impact on requesters, the workplaces from which requests come, on workplaces with similar hazards, and on advancement of occupational health more generally. As surrogates for those endpoints, we agreed to address issues of the quality of reports and materials produced, as well as other measures of productivity such as research papers, Alerts etc. Issues internal to NIOSH, such as the organization of the work, resource allocation, performance of personnel and related issues were of interest only insofar as they could be seen to directly affect these central endpoints of concern.

All members of the Team had substantial familiarity with the HHE program based on their work in academic, industry, union and public health department settings. The initial task of the Team was review of an extensive body of documents requested from the Institute, including:

- all prior reviews
- documents describing the current structure, budgets, personnel and activity of the Program, both as it exists at HETAB (DSHEPS) and within Clinical Studies Branch at DRDS.
- representative final reports and other HHE documents
- descriptions of a variety of new initiatives including the triage system for work allocation, the template system for final report preparation, the initiative for handling requests regarding indoor environmental quality, etc.

After review and discussion of these documents, and interviews with NIOSH leadership, a field visit was arranged to Cincinnati for a two day intensive meeting with leaders of the program from DSHEFS and DRDS, and project officers from each division. In addition, the Team made an open invitation to have confidential meetings with individuals within each Division; approximately 20 individuals took up this offer and

were interviewed. During this 2 day period numerous reports and documents were shared with the Team by leadership and project officers spanning an extraordinary range of topics, including indoor air, ergonomics, lead, tuberculosis, histoplasmosis, noise, psycho-social issues, silica and oil mist. In addition, reports of several preselected “complex” HHEs were presented, including the Brigham and Women’s Hospital, Microfiber, and the K-25 facility at Oak Ridge. A presentation was also made by field officers from two regional sites, Denver and Atlanta, to describe this component of the HHE program.

Subsequent to this, 12 HHEs were randomly selected by the Chief of HETAB from among the 400 begun in 1995. The files of these 12 were distributed among the team to provide some additional overview of the HHE process from request through reporting as documented by the files, with additional input sought where appropriate from relevant outside parties.

Finally, the Team had the fortuitous opportunity to review the interim draft report of Research Triangle Institute (RTI) regarding evaluation of the HHE Program. RTI had been commissioned early in 1996 by CDC as part of an ongoing quality improvement program to provide an analysis of strategies for assessment of the HHE Program on an ongoing basis. The draft report became available in September coincident with the Team visit to Cincinnati, and was an invaluable source of additional source of information and ideas.

### Observations

1. The most striking observation was the impressive skills, professionalism, knowledge and esprit among those who perform the HHEs and manage the Program at DSHEFS and DRDS. This professionalism results from a valuable combination of expertise and experience.
2. There are many in the current HHE staff who are approaching retirement age and will have to be replaced. Historically, newcomers have learned from the experience of senior staff in an apprentice-like system, a system which appears to work well but would be jeopardized if retirements precede the training of new staff.
3. For various reasons related to resources and priorities in the past, very little meaningful information has been collected about the impact of HHEs on the workplaces in which they were performed, nor any other quantitative expression of outcome measures. While there have been surveys to assess satisfaction and perceptions of outcome which may serve as a guide, objective data about the impact of the Program is largely nonexistent.
4. Globally there appears to be a very high workload, yet a high proportion of the effort appears to be directed at relatively perfunctory HHEs with small potential for major impact. It is likely that many important workplace problems never come to attention because of limited marketing of the Program. This situation has been partially addressed through internal initiatives aimed at better targeting of resources, such as the triage system and templates for reports, but there was agreement that further steps to focus effort on the highest impact areas would be valuable.
5. Leadership and many project officers are exploring strategies for dissemination of the results of HHEs beyond the requesting workplaces. However, this effort remains quite

limited relative to the extraordinary repository of information and experience which is available among the staff and in their (largely inaccessible) databases. The effort on indoor environmental quality represents a successful model for such development.

6. Although surveys taken in the past identifying the lack of timeliness and inappropriateness of HHE reports have resulted in significant improvement, there are still evident opportunities for dissatisfaction among HHE requesters. Areas of particular note are 1) workplaces in which no significant hazard has been quantified, but health complaints persist 2) HHEs enshrouded from the outset in organizational or psycho-social issues; and 3) workplaces deemed (probably correctly) as inappropriate for a site visit.

#### Identification of Objectives for the HHE Program

Given our understanding of the goals for the HHE Program in the OSHA Act, the internal goals for the HHE Program, our observations and the mission set forth by the NIOSH Director, we identified the following objectives for the HHE Program

1. To enhance the responsiveness of the Program to the needs of the requesters (customers) of HHEs
2. To identify emerging occupational health problems and find workable solutions to these problems
3. To document the impact of HHEs on the requesters, including evaluation of the effectiveness of solutions which have been recommended
4. To disseminate the results of HHEs in a variety of forms to other employers, worker organizations, health and safety professionals and public health officials to maximally impact health and safety practice
5. To maximize the ability to accomplish the above objectives within the constraints of limited resources

#### Recommendations

1. The most critical step for enhancing the responsiveness of the HHE Program to the requesters is restructuring the communications process from the first contact through the final report. Recognizing that the HHE staff have put substantial thought and effort into this issue, we have identified four key components which merit special attention:

a. The *agenda* of the requester- that set of issues which collectively leads to the decision to request an HHE must be more clearly evaluated early in the conduct of each HHE. A formal protocol should be developed aimed at determining the degree to which labor-management, political, work organization and psycho-social factors are at. Successful administration of such a protocol may require a training program for project officers without experience or expertise in these domains to improve efficiency and skills

b. With better appreciation of the agenda, the mix of activities planned, choice of the team to undertake the HHE and the specific objectives for the HHE, even the triage decision, may need to be reevaluated. *After a determination is made, plans need to be fully communicated to the requesters and all of the other relevant parties.* The more

limited the expectations of the HHE team being able fully to resolve the requesters agenda, the more clearly these (limited) expectations need to be articulated at the outset.

c. The strategy for communication of health risk information, from the triage stage through the closing conference and reports, needs to be improved for all HHEs, especially those in which no environmental risk factor for adverse health or safety is identified and/or no health effects documented. While the committee recognizes that significant effort has already been made in this regard, our observations suggest that messages continue to be delivered in a highly variable manner, hinging largely on the perceptions and risk communication skills of the individual project leader. Undoubtedly with the best of intentions, recommendations for change often contradict or belie conclusions stated elsewhere, e.g., “we found nothing wrong but we recomniend...further testing.... further improvement of air quality etc.” resulting in highly confused messages.

The approach to formulation of these messages and their foundation in the observations of the HHE team need to be consistent throughout the HHE Program. We propose at a minimum that a standardized approach include 1) an unambiguous statement about whether the health concerns raised by the requester are or are not most likely attributable to observed or measured environmental conditions; 2) if not, a statement regarding alternative possibilities or approaches which could be undertaken to further evaluate the causes; 3) an explicit statement as to whether or not environmental conditions have been observed or measured which merit further evaluation or remediation, based on clear criteria, whether or not these are the cause of the health concerns.

We propose that a special project in risk communication be undertaken, possibly in concert with the new Branch at HE Lab, to effect this enhancement.

d. Although the new format for HHE reports represents a major step forward, the reporting process still needs improvement. In particular, the final reports need to be accompanied by smaller, easier to interpret formats which are readily accessible to requesters and other lay audiences. When HHEs are closed out with a letter in lieu of final reports, the same approach should be taken, and the contents of the letter abstractable for encoding on the overall HHE databases. The content of all letters and reports, and the accompanying summaries, should be reevaluated as part of the risk communication activity proposed above.

2. The objective of identifying and solving emerging and important occupational health problems for the country will require a series of steps, first to reduce the current effort devoted to efforts which do not contribute to this objective, then to attracting referral of HHEs which can fulfill this vital function. We propose the following:

a. A large portion of the current burden of HHEs are routine and do not serve to identify new hazards or their solutions; these need to be off loaded. Many could be triaged into ‘group 2’, i.e., resolved without an on-site investigation. For HHE requests regarding problems with which NIOSH has extensive experience, packages of materials comparable to those currently used for IEQ should be developed, along with special guidelines to assist less experienced organizations (such as state or local health

departments, private consultants or company personnel) to perform standardized evaluation methods. For other HHE requests, in which preliminary investigation indicates that alternative avenues are available to provide assistance and that the substance of the complaints are predictably routine, suggestions for additional assistance should be made including such resources as state department of health and labor programs, universities, private consultants etc.

b. It is apparent that many HHEs present issues or problems which are not amenable to successful evaluation or resolution in the HHE context, especially labor/management disputes and situations involving evident dysfunction of work organizations. Although there may be situations in which these issues are appropriate for study, or others in which there are clear-cut and discernible health questions in addition to these complicating factors, there are other situations in which HHE activities should be sharply curtailed to conserve resources. The committee feels strongly that there are times when NIOSH must “just say no”.

c. Once the above have been instituted, the next step is to expand the referral net for HHEs to insure a broader base for requests, especially when new and emerging problems are identified by workers, employers, health professionals and other agencies. To accomplish this a broad marketing campaign would be appropriate, with an emphasis on the types of requests which the agency considers appropriate. This campaign should be heavily targeted to certain groups which may be currently *underutilizing* the HHE process: small manufacturing companies, occupational medicine clinics, academic units and public agencies. This effort might be facilitated by establishing an HHE liaison officer, whose responsibility would be to screen inquiries and other data bases (e.g., state surveillance systems, poison control centers etc.) much as currently appears the informal approach at the NIOSH regional offices.

3. The overall success of the HHE Program, both in terms of the requesters as well as the other objectives stated above cannot be accomplished without institution of a formal, rigorous, ongoing program to evaluate the impact of HHEs. In an appropriate sample of site investigations there must be documentation about the degree to which change occurred at the site as a result of the HHE. Such a follow-up program would serve 1) as a mean for quality control and improvement for the HHE program itself; 2) provide a scientific basis for evaluation of proposed solutions to various occupational health problems; 3) provide a basis for improved marketing and solicitation of HHE requests including justification for triaging many into more limited activities, and 4) serve to enhance the documented value of the Institute and this highly visible, flagship Program.

After review of the preliminary draft document presented in September by RTI, it is the view of our committee that the approach suggested be undertaken as the most efficient approach to the development of a long term evaluation program.

4. The value of the HHE Program, and much of the knowledge and expertise which has been acquired, remains a well kept secret in the business and occupational health communities, to the detriment of everyone. We propose a major effort in output dissemination:

a. At the simplest level, the actual reports, coded by SIC, health effects investigated, major exposures, and appropriate key words (e.g., IEQ, biohazard) should

be available in hard copy and electronically to occupational and public health professionals in a routine and timely fashion. The recent effort to strengthen the HHE electronic database is a crucial, first step and provides an important foundation on which to build.

b. Recognizing that there has already been substantial effort in this direction, there should be a major push to develop documents which summarize the outcomes of various classes of HHEs with which the Program has extensive experience, as it has begun to do on such topics as lead in construction, ergonomics, histoplasmosis, TB, vibration, noise etc. In addition to the use of such documents to satisfy requesters in lieu of an on-site investigation (see above), these documents should be widely disseminated throughout targeted workplaces where comparable hazards are likely to occur to prompt preventive measures. Development of such documents should not await perception of a serious or imminent hazard, or appearance of new scientific knowledge, but rather should be planned routinely as an output whenever a body of relevant experience has developed which could be presented and summarized.

c. Annual summaries of the HHEs completed and begun during the year, with commentaries regarding changes in spectrum of hazards, perceptions of risk, new solutions etc., should be widely disseminated as part of the overall effort to enhance the visibility of the Program.

5. Accomplishment of the above will require some modifications in the organization of the program and resource allocation. In particular, the proposed efforts in 1) enhancement of risk communication skills and practice, 2) undertaking of the impact evaluation project, and 3) development of materials for dissemination will require a large human capital investment initially, and substantial ongoing FTEs, professional and administrative, for maintenance. Some of this may be offset by reduction of on-site investigations on routine matters, and reduced effort on those problems which are beyond the scope of the HHE Program to solve. However, most if not all of these “savings” should be “reinvested” in newly identified and targeted HHEs to achieve the second objective. Therefore, we propose the following:

a. The current dual administration of the program at both Morgantown and Cincinnati is inefficient and, despite some perceptions, not justified by other benefits. We propose that the whole program be managed by HETAB. DRDS should provide technical support to these HHEs as needed when areas of its expertise are involved, much as they do to other divisions at NIOSH and CDC generally at present. A possible area of exclusion from this merger may be requests from the mining industry, with which DRDS has a long and distinguished track record. With the acquisition of the research facilities from the former Bureau of Mines, which also handles large numbers of hazard consultations from mining sites, a new and separate HHE program for mines may be appropriate, which would include not only respiratory disease but other health and safety problems in the mining industry as well.

b. HETAB will need some new personnel to achieve the mission laid out. At least some of this must be in the form of an influx of junior physicians and hygienists who can develop experience before the current leadership team reaches retirement stage.

c. Novel arrangements for incorporation of some non-NIOSH personnel, such as trainees in academic programs or professionals from other agencies, into teams for the conduct of selected HHEs should be considered to the extent that dollar resources may be more available than FTEs. However, consistent with the unified management concept, we would not recommend that responsibility for any HHEs leave HETAB.

### Summary

Overall the committee reaffirms the extraordinary importance and potential of the HHE Program, and the high quality, dedication and accomplishment of those who direct and staff it. To fulfill its vital and legislated mission, and to remain the flagship Program of NIOSH- its eyes, ears and face- modest enhancements in approach, resource allocation, ongoing evaluation, outreach and organization have been recommended, consistent with efforts already emerging within the Program itself, and consistent with the broad goals for NIOSH itself in the coming years.

## **HETAB Response to the HHE Review Team's Report**

Recommendation No. 1: *The most critical step for enhancing the responsiveness of the HHE program to the requesters is restructuring the communications process from the first contact through the final report. The following four key components were identified by the HHE Review Team which merit special attention:*

- a. *Evaluate the "agenda" of the requester more clearly to determine the degree to which labor-management, political, work organization and psychosocial factors are at issue in each HHE request.*
- b. *After agenda determination, plans need to be fully communicated that limit expectations regarding the HHE Program's ability to resolve the requester's agenda.*
- c. *The strategy for communicating health risk information needs to be improved, especially those in which no environmental risk factor for adverse health or safety is identified and/or no health effects documented.*
- d. *Improve the HHE reporting process, in particular the final reports.*

Response to Recommendation No. 1(a): Such factors overlay nearly all HHEs and are routinely considered during the triage process. Concerns regarding these factors currently influence category and team member assignments and may be revisited after initial contacts with requesters and others have been made. We therefore do not see the need to develop a formal protocol.

Labor-management, work organization, and psychosocial factors are often inextricably intertwined with health hazard issues. For example, work organization and psychosocial issues, may determine exposure levels to hazards or may represent exposures themselves that contribute to health concerns. Generating recommendations that are likely to be effective and implemented by the employer requires a comprehensive understanding of the work situation and has become a priority area for the HHE program.

Response to Recommendation No. 1(b): While investigation plans are currently communicated to requesters (and all other relevant parties) by phone conversations and letters, we recognize a need for improvement.

Response to Recommendation No. 1(c): Because of the nature of many HHEs it is difficult to state unequivocally that the health concerns raised by the requester are or are not attributable to environmental conditions. We agree, however, that greater attention needs to be devoted to communicating to the requester (and others) why unequivocal statements cannot be made. The adoption of standardized language for such communications and the efficacy of risk communication training for project officers needs to be explored. We also recognize the need to communicate more clearly, in advance of the final report,

the type of information we can provide as a result of the evaluation methods we have chosen.

Response to Recommendation No. 1(d): HHE reports serve a multiplicity of functions and reach audiences with different needs and expectations. Meeting these needs and expectations in a resource-efficient manner in a single report format is a challenging problem that we have continuously tried to address. Alternatives need to be explored. Reports not only serve to communicate health risk but also serve to communicate information to organizations about recommended change. The efficacy of communications in the latter area is currently being evaluated (via contract with RTI) in a sample of HHE reports. An assessment of the health risk communications in this sample of HHE reports by the HELD Health Communications Branch could prove to be helpful.

## HETAB Response to the HHE Review Team's Report

*Recommendation No. 2: The objective of identifying and solving emerging and important occupational health problems for the country will require a series of steps, first to reduce the current effort devoted to efforts which do not contribute to this objective, then to attracting referral of HHEs which can fulfill this vital function.*

Identifying and solving emerging and important occupational health problems is an important objective for the HHE Program. Language in the OSHA Act which authorized the HHE program, suggests that Congress hoped this program would discover new occupational health hazards appropriate for OSHA regulations. In practice, however, the requests we receive ask for assistance in resolving both routine and “emerging and important” health problems.

The HHE Review Team recommended that we “off load” routine HHE requests. While doing this is reasonable from a resource conservation perspective, we disagree with saying “No” to all routine or service-oriented HHEs. HHEs that do not result in major impact on the occupational health field can still have substantial impact on working conditions at the evaluation site. Small business-related HHEs are a good example of this. We propose improving dissemination of routine HHEs with the goal of increasing our impact. Other benefits to be gained from conducting some routine evaluations include development of partnerships with organizations and employee groups. These partnerships are particularly evident at the NIOSH Field Offices. In addition, by maintaining a presence in these workplaces we remain well connected to the population we were created to serve — U.S. workers. An uncensored, “clear channel” to the workplace, like that provided by the HHE program, can sense emerging problems early, as well as indicate the extent to which routine problems are still real problems for many workers.

The issue of conducting service- vs. research-oriented HHEs, and “improving the mix” of HHE requests, has been discussed repeatedly over the years. While there is general agreement that the HHE program has been improved by recent efforts to triage some projects into category 2 — those which do not receive an on-site investigation — disagreement remains over what the proper mix of HHEs is. While some feel that the current balance is acceptable or appropriate, others feel the balance could be improved by triaging more deeply than we do now. A concern that some in the program have expressed, is that by triaging more deeply, we may discourage some requesters from asking for our help. Even if the information we send to those requesters who do not receive a site visit is appropriate and helpful, the overall perception is likely to be that NIOSH has become a clearinghouse for information rather than a source of professionals who can do on-site evaluations. We are unsure to what degree this perception has already spread throughout the market of potential requesters, and may be at least partially responsible for the recent decline in number of requests received.

Our ability to refer projects to universities, OSHA consultation groups, private consultants, and health departments has been limited for several reasons. First, many of the groups providing free consultation have limited capacity to perform hazard evaluations or have back logs of requests of 6 months or more. OSHA consultation groups vary in their capacity to conduct hazard evaluations and can accept requests only from employer representatives. In addition, few health departments have programs to do HHE-type investigations. Second, as a government agency, we must be cautious about recommending individual private consultants. Third, employee requesters have no authority and some small business owners have limited financial ability, to seek outside assistance. Finally, NIOSH cannot delegate its rights of entry and record access to other groups.

We agree that some HHEs do present issues or problems that may not be amenable to successful evaluation or resolution in the HHE context. However, this is probably a small percentage of the HHE requests, and the HHE Program should not refrain from accepting HHEs just because there may be ongoing labor and management disputes or evidence of work organization dysfunction. Work organization dysfunction is a source of workplace stress and a legitimate area of occupational health inquiry. If after obtaining additional information or making a preliminary site visit we are not convinced that a legitimate health or exposure concern exists, then we can limit the scope of our efforts. While this is often done, we feel that there are some HHEs where the scope of the effort could be further limited but is not always done at this point in the investigation. This is an area that can be improved and is associated with the communication issue of explaining what the HHE program can and cannot do.

With regard to expanding the referral net for HHEs to ensure a broader base of requests in new and emerging problem areas, we agree this is an area that can be improved. Based on past experience, we believe that broad marketing campaigns, using the media or the Internet for example, would likely generate many additional requests, but not necessarily the types of requests we are seeking. In addition, we run the risk of frustrating requesters if we are not able to provide the type of response they desire (i.e., a site visit). We favor a more directed marketing campaign to establish better contacts in specific areas or among key groups (e.g., state and local health departments, OSHA, poison control centers, small business groups, trade organizations, etc.). The NIOSH Field Offices have done this to a greater extent than the Cincinnati office, in part because they are less encumbered by other responsibilities common in Cincinnati. Their efforts have proven successful, as evidenced by the many HHE requests which come from established partners, and the fact that the location of the requests tend to decline with distance from the field office. Additional resources would be needed to expand outreach activities and communication throughout the country. This could be accomplished via an HHE liaison officer with responsibility for establishing new contacts and developing special emphasis areas. This is currently being done in IEQ, and has proven successful in developing contacts and fostering new HHE requests, as well as in referring HHEs to health departments and other groups. Additional field offices located in

underserved areas and expansion of existing field offices would also serve to increase the referral base and thus attract HHEs in desired areas.

Many of the HHE requests we receive come from phone discussions with individuals or established partners who call NIOSH personnel for guidance. The HHE program should work more closely with the people who answer NIOSH 800# calls to better “mine” these calls for information on new and emerging health problems, and to follow-up on callers who ask for a copy of the HHE request form. In addition, the people who answer 800# calls could be told about special interest areas and asked to refer such calls to the HHE Program. This would require few additional resources, and unlike external promotional efforts, the effort could be turned up or down according to program needs and available resources.

In summary, we agree that identifying and solving emerging and important occupational health problems is an important objective of the HHE Program. We believe that implementation of the suggestions presented here will contribute to this objective. However, we are concerned that extreme changes in the way we accept or recruit requests could change the basic philosophy of the program; such changes should be made with caution.

## HETAB Response to the HHE Review Team's Report

*Recommendation No. 3: An ongoing, formal process for evaluating the impact of HHEs can provide information to improve the HHE program, assess the efficacy of recommendations made in HHEs, suggest strategies for improved marketing of the HHE program, and supply documentation on the value of the program. We recommend pursuing the approach suggested by Research Triangle Institute (RTI), in developing an evaluation program.*

HETAB agrees with this recommendation. The contract with RTI was initiated on September 30, 1995, using \$127,000 of funding provided through the '1% evaluation program.' The purpose of the contract effort is to develop a process for NIOSH to conduct an ongoing evaluation of the effectiveness of the HHE program. The method employed by RTI involves a thorough review of background information on the HHE program, including the methods and results used in prior evaluation efforts. A series of interviews with external stakeholders, NIOSH managers and scientists, and staff members of the HHE program were held to gather information and perspectives about the HHE program. In September, 1996, a draft report of this phase of the project was presented and reviewed by the external review team. The team's reaction and resulting recommendation (above) was favorable.

Since that time, the contractor has identified nine recently-completed HHEs where he plans to conduct a pilot test of a follow-back, telephone-based questionnaire designed to gather information about the effectiveness of the HHE at that site. On February 6, 1997, contract staff from RTI visited Cincinnati to discuss a draft of the proposed telephone questionnaire, and interviewed available project officers from the HHEs selected for the pilot test. Current plans call for the pilot test to begin approximately March 1, 1997. This contract is currently scheduled to be completed by July 30, 1997.

We are reasonably confident that the approach being pursued by RTI will yield suggestions which will be useful for the design of an ongoing follow-back system for the HHE program, although it is likely that additional modifications in the proposed system may be necessary as it is implemented to ensure that it delivers the necessary information reliably, efficiently, and in a form which maximizes its utility for improving the HHE program. We are concerned that the loss of personnel in the HHE program, without the ability to replace key staff members, including critical support personnel, may jeopardize our ability to install and maintain a viable and valuable follow back system. Additional human capital would be required to implement the system, even if it contract support was used to collect and automate some of the data.

## HETAB Response to the HHE Review Team's Report

*Recommendation No. 4: The value of the HHE Program, and much of the knowledge and expertise which has been acquired, remains a well kept secret in the business and occupational health communities, to the detriment of everyone. We propose a major effort in output dissemination.*

HETAB agrees with this recommendation and have addressed this issue in our internal strategic planning efforts. During the first stage of strategic planning, the following proposals were made: hire a writer-editor to review HHE letters and reports and write simple, understandable, one-page summaries for inclusion in each report; improve the usefulness and accessibility of reports; and develop dissemination strategies for various audiences (e.g., fact sheets, full reports, trade journal articles, and professional journal articles). In addition, a few HETAB employees have been able to disseminate information efficiently as a NIOSH Hazard Alert through EID and we agree that our relationship with EID needs to be fostered so that more Hazard Alerts are generated from the HHE Program.

Also, we are currently developing a system for Intranet (all NIOSH) accessibility to all HHE final reports and close out letters in Word Perfect® format. All users with access to the HHE Tracking system will have this accessibility. Eventually, we hope to make this same information available on the Internet — the implementation of this is still in the planning stages. Another major effort is the compiling of all HHE reports on CD-ROM. In FY1997 all HHE final reports from 1990-1996 will be available on CD-ROM. (The reports from previous years will be compiled once this is finished.) Updates will be available as soon as there are enough reports to fill a CD — with present technology and HHE publications, this will be approximately every two and one-half years.

The HHE Review Team made three specific recommendations concerning dissemination: (1) make available all reports, in both written and electronic format, to all occupational and public health professionals, (2) develop summary documents for classes of similar HHEs, and (3) publish annual summaries.

We agree with the first recommendation, and expect that through CD-ROM and the Internet this will eventually be possible. All written reports are currently available to anyone who asks, but unfortunately not many people know to ask or know what is available for the asking. Hopefully, by implementing recommendations #2 and #3 and the proposals from our strategic planning efforts, and by improving the NIOSH Home-page, the awareness of what is available from the HHE Program will increase dramatically among occupational and public health professionals.

Regarding recommendations #2 and #3, we feel that in order to achieve any significant change in the types of HHE publications, new hires are required — a writer-editor, a science writer, and clerical personnel. Aside from improving our dissemination, many HETAB employees have stated the need for a full-time writer-editor to improve the quality of our current HHE reports. Although a writer-

editor could create a bottle-neck in the review process if the system is not set up appropriately, we feel that a writer-editor, with a scientific/public health background, is essential to a program that publishes as much as we do. To make the HHE reports more understandable and useful to the average worker, this writer-editor could also be responsible for writing a one-page, lay person summary to accompany each report.

To add the publication of summary documents and annual summaries, we would need to hire a science writer, who would work closely with the writer-editor, and have direct responsibility for writing an annual report that included commentaries about the year's HHEs, any changes in the program, categorization of HHEs within NORA Priority Research Areas, and individual documentation and information about each HHE conducted that year. (The annual reports that were made in the past were only a collection of summary pages from each HHE report.) This science writer would also be responsible for managing the publication of various documents to summarize similar classes of HHEs. Depending on the HHEs and how much information is really known concerning the given area, these documents could take the form of a fact sheet, a characterization of a type a work environment, or a long, detailed report of health effects, exposures, and recommendations. Each document would be developed with major input from the project officers involved in the HHEs that precipitated the need for the document. This system would need to be formal, such as if two similar requests that revealed a potentially serious or new problem, or four related requests concerning a more generic health hazard were received, then the science writer would be responsible for a new summary document or updating a previous one. Also, whenever a summary document was published, the science writer would submit a summary of the document to the appropriate trade journals if the relevant project officer(s) do not plan to publish the results in a trade journal. As always, publication of results in professional journals would be expected of the project officers.

These summary documents and the annual reports would eventually be available electronically along with the HHE reports, but would also be sent to all relevant unions and manufacturers' associations, state health departments, relevant federal agencies, and schools of public health. Also, the summary documents will be useful for responding to new Category II HHE requests (information provided, but no site visit conducted). However, not only will this increase in documents require new writing, editing, and clerical personnel, but also funds for printing and distribution. Also, the science writer and writer-editor must have sufficient education and experience in the field of public health to be able to perform these jobs adequately — a biology major and a journalism major with no public health experience would harm more than help the HHE program. Therefore, these must be professional, not technical or clerical, positions.

## HETAB Response to the HHE Review Team's Report

*Recommendation No. 5: Accomplishment of the above (other recommendations) will require some modifications in the organization of the program and resource allocation. Therefore, we propose the following:*

- a. *The current dual administration of the program at both Morgantown and Cincinnati is inefficient and, despite some perceptions, not justified by other benefits.*
- b. *HETAB will need some new personnel to achieve the mission laid out.*
- c. *Novel arrangement for incorporation of some non-NIOSH personnel, such as trainees in academic programs or professionals from other agencies, into teams for the conduct of selected HHEs should be considered.*

Response to Recommendation 5(a): Dual administration of the Morgantown and Cincinnati HHE programs is an issue which has been discussed previously. The Cincinnati office agrees with the Review Team's assessment that there are problems in the current management structure of the two programs, which can result in a loss of control over the planning, conduct, review, and timely completion of projects. For example, there is currently no management oversight of the Morgantown program by Cincinnati, with the exception of reviews of HHE reports in the latter stages of the completion process. Since project officers may be assigned from either Cincinnati or Morgantown, advice on the planning and conduct of HHEs may not be effectively utilized in some projects. Having the whole program managed by HETAB, as recommended by the Review Team, would help resolve confusion in the relationship of these two programs. Sources of confusion include whether there are two distinct programs; the types of HHEs which are assigned to each location ("respiratory HHEs", for example, are handled by both Morgantown and Cincinnati); the lines of responsibility for project completion; and the review procedures for written reports.

Response to Recommendation 5(b): HETAB agrees that additional personnel are needed. As shown in the adjacent chart, based on past attrition rates (HETAB personnel leaving for other jobs or retiring), it is projected that by the year 2002 the HETAB staff will decline to 33. *(It should be noted that many of the forecasted retirements will be with Commissioned Officers with 30 years of service, and these retirements will be mandatory.)* Although "junior level" personnel are needed, their addition will not necessarily address the dissemination improvement discussed by the HHE Review Team. Other disciplines or specialties, such as a technical writer, editor, and additional clerical staff, may be required to more effectively distribute HETAB final reports and market the program. In addition, experienced senior-level staff serving as program "liaisons" should also be considered.

Response to Recommendation 5(c): HETAB supports this recommendation. Both non-HETAB and non-NIOSH professionals have (and continue to) assist in selected HHEs. For example, NIOSH personnel from DSR, EID, DRDS, DBBS, DPSE, other branches within DSHEFS, and the Bureau of Mines have participated in several projects. Other federal agencies (OSHA and the U.S. Air Force) have provided professionals to HETAB for short-term training opportunities in both industrial hygiene and occupational medicine. HETAB has also obtained successful results from foreign visiting scientists.

Because the CDC EIS program does not provide for a stable source of trainees, HETAB is currently examining relationships with other post-graduate training programs and with the University of Cincinnati Occupational Medicine residency program. Our experience with trainees assigned for relatively short periods (i.e., 1-2 months), however, prove that they are not a panacea for resolving NIOSH staffing difficulties.

**RDHETA Program Responses to  
the BSC Subcommittee Draft Recommendations  
and to the HETAB Comments Thereto**

- 1 )A We agree with HETAB that we do not see the need to develop a formal protocol that would evaluate the requesters agenda, with one addition. We recommend that the HHE request form be improved by asking the requester to rank order perceived health hazards. What physiological system is of most concern — skin, nervous system, skeletal, respiratory, etc? This would assist TRIAGE and project assignment.
- 1 )B We agree with HETAB that there is a need for improvement in communications with requesters. All parties should be made aware that the preliminary protocol for a medical or environmental investigation may be subject to change as more information is gathered. The HHE process is iterative - flexibility to modify plans based on information gathered along the way is important.
- 1 )C We agree with HETAB that greater attention needs to be devoted to communicating to the requester why unequivocal statements cannot be made, although it should be recognized that a balance should be struck in regard to minimizing the length of reports and adding more detail.
- 1 )D We agree with HETAB that alternatives to reporting the results of investigations need to be explored. We should explore the feasibility of a 1 page tear-out sheet for both final reports and letters which would contain the summary and “box” for the investigation.
- 2) We agree with HETAB that identifying and solving emerging and important occupational health problems is an important objective of the HHE program and with their proposed suggestions to accomplish this objective. We also agree with their concern to exercise caution regarding any extreme changes in the way NIOSH accepts or recruits requests. The need for targeting invitations for new requests should be emphasized - don't forget the lesson of the IEQ blitz. Involve staff from Health Communications Branch of HELD in targeting.
- 3) We agree with HETAB that good program evaluation methods should be developed, except that the RTI draft report (9/96) does not clearly indicate how the efficacy of medical or environmental recommendations in HHEs will be evaluated. Will hard data be available or simply worker or company perceptions of efficacy? In those cases where a health hazard was determined and recommendations were subsequently instituted, perhaps a resurvey is warranted to document success.
- 4) We agree with HETAB that better methods of dissemination of information generated by the HHE program needs to be developed, except:

a) NIOSH should better manage the information already available on its home page. We know of several HHE reports that have recently been completed, but abstracts are not being quickly updated on the Internet

b) Consider involving both EID and HELD (Health Communications Branch) personnel in assembling, targeting, and distributing information from completed HHEs.

c) We disagree with including on-going HHEs in summary reports.

5)A The DRDS RDHETA team agrees with the BSC sub-committee and HETAB comments to the extent that we believe that changes can and should be made to the HE program overall that can facilitate efficiency, communication and collaboration between the team in Morgantown and the team in Cincinnati. We disagree with HETAB that the sole purpose of the DRDS RDHETA team is, or should be, technical support. We also acknowledge the divergence of opinion within DRDS regarding the role and purpose of the HHE team.

A few observations:

1) Although the BSC sub-committee held a meeting via envision with available DRDS project officers, all but 3 were away from the office on IDY. No additional follow-up was made by the BSC sub-committee to the Morgantown facility.

2) The first observation of the BSC subcommittee was - "The most striking observation was the impressive skills, professionalism, knowledge, and esprit among those who perform the HHE's and manage the Program at DSHEFS and DRDS."

The DRDS RDHETA team would suggest that a single management already exists in many facets of the program:

1. HETAB receives and records all HHE requests and maintains the tracking system.
2. HETAB engages in triage of these requests
3. HETAB reviews and clears DRDS HHE reports.
4. HETAB is responsible for the printing and dissemination of final reports.

We propose that to begin the process, HETAB, RDHETA team, and Regional HHE program personnel be allowed to identify and resolve any perceived problems in a mutually agreeable manner. This should be a TQM process where initially HETAB, RDHETA team, and regional office project officers identify problem areas and then work toward solutions together. Examples include 1) involvement of RDHETA team and Regional personnel in TRIAGE of requests, 2) establish and disseminate the mission of each program component (HETAB, RDHETA team, and Regions), 3) streamline report review process. The best suggestions for

program improvement are likely to come from the program itself, not from external groups. We feel strongly that the HHE program was intended to be, and should remain, a service which stimulates and drives the research efforts of the Institute.

- 5)B The HHE program as a whole, and the DRDS RDHETA program in particular, is in immediate need of medical officers and nurses to conduct HHEs.
- 5)C Agree. Usefulness of external personnel is limited if not for at least 6 months, preferably 1 to 2 years. Must keep in mind restrictions of access to trade secret and confidential information. Need to guard against conflict of interest.