

**Quality Assurance Program:
Recruitment and Retention of CDER Reviewers
Final Report**

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Appendix 1 (Reviewer Retention Survey)

Appendix 2 (Histograms of Survey Results)

1. Introduction

On April 19, 2000, Dr. Woodcock announced the availability of multiple part-time details within the newly created CDER Quality Assurance Program. Her announcement explained that these details were intended to facilitate a critical assessment of a process or issue affecting the Center and that all interested employees were encouraged to apply. In response to that invitation, each of us independently volunteered to examine reviewer recruitment and retention. We have worked as reviewers within CDER for the past four (Dr. Molchan) and six years (Ms. Davi) and have experienced how disruptive excessive turnover can be. Given our common interest and our different professions, we felt we made an ideal team to address these issues, as Ms. Davi is a statistician and Dr. Molchan, a psychiatrist.

As noted in the Pink Sheet last spring (March 27, 2000), reviewer turnover has been documented in surveys of industry as "a troublesome impediment to many efficient and effective product approval processes." The public health too, is best served by the retention of reviewers with the appropriate scientific expertise and experience in drug regulation. While some turnover is to be expected and is healthy, with high turnover rates an undue amount of time is spent training new employees. Established reviewers must shoulder a heavier burden of the workload as new reviewers are brought up to speed. This is one way high turnover contributes to burnout and dampens morale. A substantial positive impact would be felt in the Center if a typical reviewer's tenure at CDER could be extended even by only one to two years.

Jobs are a balance between satisfying accomplishments, crisis management, and mundane tedium. Jobs also must be balanced with a personal/family life. We believe several things can be done within the Center to tip that balance in favor of more reviewers staying with CDER a while longer.

2. Review of Existing Data

Many people assume that the high salaries offered in industry are the primary reason for the exodus from CDER. Looking at the data compiled by the CDER personnel department for FY99 though, one can see that the number of reviewers who went to private industry (42) is not that much greater than the number who transferred to another Center within the FDA or another government agency (36). We know from Personnel data supplied to us for FY98 and FY99 that some people moved on for promotion. We know others made lateral moves, where pay/benefits would not have been the issue.

The personnel department provided us with data on turnover by Office and by discipline for FY98 and FY99. Unfortunately, the number of reviewers employed in each of these subgroups was not known, making calculations of the turnover rate impossible. In addition, we had some difficulty obtaining a list of reviewers that are currently employed in the Center. After cross-referencing lists from multiple sources, the final list of reviewers (on which we based our survey) still proved to be somewhat problematic in that it could not be used to completely distinguish supervisory or other non-reviewer positions from reviewers. It is important to determine rates of turnover by discipline and by Division, to begin to define what and where the problems are.

3. Survey Design and Results

We designed a 22 question survey in an attempt to identify factors that incline CDER reviewers to stay or to leave. A copy of the survey is attached (Appendix 1). Ms. Davi selected a random sample of reviewers (medical, statistical, pharmacology/toxicology, biopharmacology, and chemistry) in numbers proportional to those of their disciplines across the Center. The surveys were numbered and each number linked to a name so that we could email another copy of the survey to those whom did not respond. We distributed the survey by regular mail to approximately 40% of the reviewers in CDER, with a cover letter assuring anonymity of responses and a return envelope to Dr. Molchan. We were pleased with our response rate of 72% (136 of 188). Several survey recipients called us after we had completed the data analysis and we encouraged them to send us their comments anyway, which pushed our response rate to 76%.

In a final question on our survey, reviewers were asked to note the number of years they expected to continue working for CDER. Confirming the concerns of FDA and CDER management, 75% (72/96) of those who responded to that question plan to stay for less than 5 years.

Histograms showing the frequency of each response for each of our survey items are attached (Appendix 2), both for the overall sample and then broken down by discipline.

Many reviewers took the time to write extensive comments. We incorporated comments into the discussion below if they expanded or clarified the sentiments of reviewers on the issues. In addition, due to the large number of comments, we included them only if similar comments were made by more than a few people and cut across divisions.

3.1 Money

As is well known salary and monetary bonuses were high on the list of why people think about leaving CDER. The survey results indicated that salary is a "strongly influential" or "somewhat influential" reason for leaving CDER for approximately 75% of reviewers. Nearly 100% of the survey respondents "strongly disagreed" or "disagreed" with the statement that a reviewer's monetary compensation is comparable to peers outside the Agency.

Not surprisingly, our survey indicated that a monetary bonus/retention allowance influenced the decision to stay in those disciplines that receive one and were a reason to leave in the others. There were a fair number of negative responses to this item even within the disciplines that receive bonuses. We conjecture that these responses are attributable to those who did not meet the required criteria and hence are not receiving the retention allowances. The fact that some reviewers receive bonuses and others do not affects morale among those who do not. A physician reviewer made the good point that the ten years of FDA experience required for Title 38 pay does not take into account prior federal service and other valuable prior work experience.

3.2 Flexiplace and Flexible Working Hours

As predicted, flexible working hours and the opportunity to do some work at home were two of the strongest reasons for staying in CDER. Approximately 80% and 60% of reviewers rated flexible work hours and working at home, respectively, as “very influential” or “somewhat influential” reasons to stay with CDER. In the past few years, it is clear that the Center has dedicated significant amounts of resources to these programs and should be applauded for doing so. However, a small number of survey respondents indicated that some Offices/Divisions discourage or restrict Flexiplace arrangements. The Office of New Drug Chemistry was specifically mentioned in this regard.

3.3 Nature of Review Work

Over half of our respondents agreed review work is tedious to the point of factoring into a decision to leave. We know that some take jobs as reviewers as a springboard to industry. For others the trade-off is a reasonable workload and/or flexible hours/Flexiplace. One reviewer wrote: “There is a perception that a bulk of review work is not intrinsically professional but rather ‘paralegal’.” Several reviewers commented that “more diversity in the nature of work” and “growth opportunities” would help.

3.4 Professional Development/Workload

One obvious way of enhancing the diversity of the work and growth opportunities is through professional development activities. Such activities also help to strengthen CDER’s science base, as noted in a May 24, 2000 document “Improving and Maintaining CDER’s Science Base.” As that document states, staffing should be adequate to allow time for professional development activities. Time for professional development activity is too often treated as a reward. In reality, it is a necessity if reviewers are to even begin to keep pace with advancements in science and medicine.

In our survey, about 60% of reviewers did not feel that they had adequate time for professional development activities. For about half, this translated into a “very influential” or “influential” reason to leave CDER. This may be an underestimate as some reviewers did not answer this question or rated it “Not influential,” noting it was not applicable due to lack of time. Tying in with this, our survey factor “workload” was endorsed as a reason to think about leaving CDER for over half of our respondents.

As evidenced by the written comments from the survey, some managers/Divisions discourage professional development activities. Some only allow activities that they perceive as directly related to the reviewer’s current work. Reviewers commented that they should be treated as the professionals they are. In some extramural jobs at NIH, for example, doctors and scientists may do two or more days weekly of professional development. In some non-review offices within CDER, for one CDER review Division director, and within some CBER Divisions, professional development time can be clumped into blocks of four weeks or longer for specific projects. Professional development activities should be more valued by management; as expressed by one reviewer, there is a “refusal to acknowledge academic research for evaluation.”

3.5 Awards

Most reviewers indicated that one-the-spot cash or time-off awards and Center or Agency level honor awards were “not influential” in their decision to continue employment with CDER. However, cash and time-off awards were a bit more strongly endorsed as positive than Agency/Center level awards.

3.6 White Oak

The survey also confirmed that the move to White Oak factored heavily into over half of our respondent’s plans to depart.

3.7 Communication with Supervisor

For approximately 40% of our respondents, communication with their supervisor on issues such as job satisfaction was rated as inadequate. About 50% reportedly do not discuss professional development/career plans with their supervisors. Discussions between team leaders/supervisors and each individual twice a year or even once a year would require little in terms of resources. These discussions are officially required at the time of distribution of PEPs and Commissioned Officers’ Effectiveness Reports but often these meetings are cursory or do not happen at all. Unless there is an overt problem with a reviewer’s work, there may be no communication other than that required for dealing with the technicalities of individual submissions. It would be helpful if team leaders were aware of each individual’s career goals and level of job satisfaction. This ties in with vision. As leaders, those in supervisory positions should take the time and have the capacity to think beyond the moment.

Optimal communication occurs in an atmosphere of mutual respect and trust. Such an atmosphere does not always exist, as exemplified by issues identified by reviewers in the following three sections.

3.8 Other Managerial Problems

Micromanagement was noted as a problem by some reviewers. Specific examples include the “editing” of reviews by Team Leaders, Deputy Division Directors, and Division Directors, followed by “requests” to change an opinion. The problem of micromanagement aside, such “requests” are prohibited in the CFR (section 10.70), which, if not upheld, detract from an atmosphere of trust and respect within the organization and for CDER itself. Other reviewers consider the Center handling of “hold” and “refuse-to-file” actions as micromanagement and pressure to favor the desires of sponsors over science and the public health. One reviewer wrote: “There is a perception that there is a military model of hierarchical administrative authority which has been rigidly superimposed on many aspects of the professional work.”

A medical officer stated: “We are not in medical school anymore, don’t treat us like interns and residents. Give us some good opportunities beyond the primary review which will give us visibility in the organization and beyond.” Some team leaders have trouble “letting go.” After a few years of experience, reviewers can often take on more of the interesting aspects of the work, such as taking more of a primary role in meetings with industry or presenting at professional

meetings. Of course, not all reviewers may be interested in these activities, bringing us back to the importance of communication.

Several people suggested that reviewers should be given the opportunity to regularly evaluate their supervisors and Office level management. For useful information to be gathered, it is important that such evaluations be anonymous. As past experience illustrates, people will not respond if forms are bar coded or numbered. No one is perfect and everyone should be receptive to feedback. "A change in leadership at the Office level may encourage me to stay longer," commented one reviewer. One dysfunctional or unfair individual in a position of administrative or managerial power can contribute to the exodus of many.

3.9 Promotion

Over two thirds of our respondents felt that opportunities for career advancement within the Agency were inadequate. Half felt that promotion procedures were unfair. Several pharmacology/toxicology reviewers particularly noted that the promotion process by peer review was unfair and noted problems ("not technically qualified," "unbearable," "abusive supervisors/managers who create a toxic atmosphere," "tyrannical behavior and . . . cronyism") with senior management. A number noted they were currently looking for new jobs out of frustration over this issue. Another pharmacology/toxicology reviewer noted that "Depth and breadth of one's knowledge, ability to evaluate submissions, and the scientific quality of one's reviews seem not to matter at all for promotion." Another noted that "Management needs to understand the difference between the "review process and a drug approval process."

A medical officer stated: "Remove management that is cruel to their employees. We should not have to work under someone who is not a good steward, but just wants to be emperor of his little corner of the world. Not addressing personnel problems sends the wrong message to the workers." Feelings of a number of reviewers were strongly expressed by one: "We need to stop this personality contest stuff!!! Employees should be promoted on merit . . . it is demoralizing to the workers."

One reviewer made the point that " This 'military' model (of promotion) tends to favor people whose overall post-training experience outside of the agency has been small . . . besides their 'FDA experience' they have had little else. At the other extreme are individuals with significant CVs from academia, private practice and industry who have to start their 'residency' from scratch . . . a happier medium between the two extremes should be sought, . . . in order to enhance the 'cerebral' nature of the institution."

Though not totally in the Center's or Agency's control, the quota-based PHS promotion process was noted to be arcane. Much time (and paper) is wasted year after year as 50 copies of promotion packages must be submitted when it is clear that one will again be informed that though qualified, one will not be promoted. Some officers feel that they must move to supervisory positions in order to be promoted in a timely way. Some feel they must move to another part of HHS. "Mobility" like this is considered a plus for promotion, a remnant of military promotion practices.

3.10 Other Issues Affecting Job Satisfaction

To the Center's credit, nearly 80% of respondents felt that their opinions were valued by their immediate supervisors. Fewer (two-thirds) felt valued by staff at higher levels and that their opinions impacted regulatory decisions.

About one third of our respondents did not feel comfortable expressing their differing scientific opinion. Along the same lines, over one third felt that decisions such as holds, refuse-to-file actions, and non-approvals are stigmatized in the Agency. Over one third felt that their work has more impact on a product's labeling and marketability than it does on public health. A number of reviewers added comments stating that decisions should be based more on science and less on corporate wishes. A medical officer commented that it would help if there were "more recognition and utilization of past research training and experience."

4. Observations Regarding Recruitment

A recent FDA recruitment ad in JAMA was very wordy and had a typo (admittedly the latter was probably the printer's fault). It would help if ads were cleaner, shorter, and emphasized the positive aspects of working at the FDA—benefits package, flexible work schedules, and some other positives are buried in the verbiage. Others, such as the opportunity to do some work at home and opportunities for professional development activities/clinical work, are not mentioned at all. The ad also noted that the FDA was "continually" recruiting physicians. This may be a red flag for some people who may wonder why the Agency can't hold onto personnel.

Ad placement in the seemingly ubiquitous journal *Federal Practitioner*, distributed to doctors in the VA, DOD, and PHS systems may yield more applicants that are already committed to staying within the federal system and/or committed to working in a public health arena.

The inefficiencies of government personnel systems are legion. Hiring often takes an eternity. This is well known but a number of us, in exploring job prospects at the FDA, have also had the experience of receiving letters from Personnel informing us that no positions were available for our qualifications. Upon calling a specific Division though, we were told they were indeed recruiting and were (much) later hired.

5. Exit Interviews

Exit interviews are not conducted to any extent. Many reviewers will be exiting to industry where a good working relationship with the FDA is desirable and understandably may be hesitant to report information of a negative nature. Some way of collecting such information anonymously may be helpful. Exit interviews with personnel making lateral moves to other Centers or agencies may be particularly enlightening.

6. Recommendations

In summary, we suggest that CDER take a number of actions to try and enhance reviewer retention beyond efforts to increase salaries and monetary bonuses. One final comment on the latter—given the report in the Pink Sheet we cited above, our colleagues in industry may be increasingly willing to provide funds to supplement compensation and to ensure adequate numbers of reviewers in order to enhance retention. That said:

- The personnel department should accurately track reviewer turnover by discipline and division. Someone in authority should evaluate this information and follow-up when problems seem to be arising. Information from staff evaluations of supervisors and managers as well as exit interviews may help flesh out problem situations.
- Reviewers should have the opportunity to evaluate supervisors and management personnel in an anonymous way. Perhaps evaluation forms could be distributed on the web site and returned through the regular mail system. The information could be collected and acted on by someone in an Inspector General type of position from outside of the Office/Division from whence the evaluations came.
- Personnel in supervisory positions should be well qualified scientifically and should have good communication skills. Ineffective and unfair managers should be counseled and/or removed.
- Enhance fair promotion practices.
- Flexiplace and flexible working hours should be available to all reviewers who desire such arrangements as long as work continues to be completed on schedule. Divisions or Offices not allowing these arrangements should be encouraged to do so.
- An increase in the number of reviewers participating in professional development activities and a liberalization of the time that may be spent on them may be a relatively low cost way of enhancing both retention and CDER's science base.
- Tying in with having time for participation in professional development activities, staffing levels must be adequate to handle workloads.
- Communication between supervisors and employees on issues such as job satisfaction, professional development and career plans should be encouraged.
- Encourage freedom of expression of scientific opinion.
- Resources used to administer awards programs may be better directed.
- Communicating the Center's plans to all personnel for addressing employee retention issues is essential.
- Enhance the form, content, and placement of recruitment ads.
- Find ways for the speedy hiring of qualified personnel.

CDER has demonstrated a capacity for positive change time and time again. The top-notch professionals who are reviewers could have responded to our survey with apathy. Instead, they responded with much thought and genuine concern. Addressing the issues that reviewers' got off their chests will delay more of them from expressing their opinions with their feet.

Finally, the last word from one of our survey respondents:

“Nobody seems to care to explain why suggestions for improvement cannot be implemented.”

Thanks to Dr. Mark Goldberger and Judy McIntyre of the QA program for their insights and help in completing this project.

Appendix 1

CDER Recruitment & Retention Survey

Division (optional): _____

Discipline: _____

Please indicate the impact each of the following items has on your decision to continue your employment within CDER.

(1.) Flexible working hours

- o Very influential reason to leave CDER*
- o Somewhat influential reason to leave CDER*
- o Not influential*
- o Somewhat influential reason to stay with CDER*
- o Very influential reason to stay with CDER*

(2.) Working at home

- o Very influential reason to leave CDER*
- o Somewhat influential reason to leave CDER*
- o Not influential*
- o Somewhat influential reason to stay with CDER*
- o Very influential reason to stay with CDER*

(3.) Professional development

- o Very influential reason to leave CDER*
- o Somewhat influential reason to leave CDER*
- o Not influential*
- o Somewhat influential reason to stay with CDER*
- o Very influential reason to stay with CDER*

(4.) Tedious nature of review work

- o Very influential reason to leave CDER*
- o Somewhat influential reason to leave CDER*
- o Not influential*
- o Somewhat influential reason to stay with CDER*
- o Very influential reason to stay with CDER*

(5.) On-the-spot cash or time-off awards

- o Very influential reason to leave CDER*
- o Somewhat influential reason to leave CDER*
- o Not influential*
- o Somewhat influential reason to stay with CDER*
- o Very influential reason to stay with CDER*

(6.) Center or Agency level honor awards

- o Very influential reason to leave CDER*
- o Somewhat influential reason to leave CDER*
- o Not influential*
- o Somewhat influential reason to stay with CDER*
- o Very influential reason to stay with CDER*

(7.) CDER moving to White Oak

- o Very influential reason to leave CDER*
- o Somewhat influential reason to leave CDER*
- o Not influential*
- o Somewhat influential reason to stay with CDER*
- o Very influential reason to stay with CDER*

(8.) Salary

- o Very influential reason to leave CDER*
- o Somewhat influential reason to leave CDER*
- o Not influential*
- o Somewhat influential reason to stay with CDER*
- o Very influential reason to stay with CDER*

(9.) Workload

- o Very influential reason to leave CDER*
- o Somewhat influential reason to leave CDER*
- o Not influential*
- o Somewhat influential reason to stay with CDER*
- o Very influential reason to stay with CDER*

(10.) Office space

- o Very influential reason to leave CDER*
- o Somewhat influential reason to leave CDER*
- o Not influential*
- o Somewhat influential reason to stay with CDER*
- o Very influential reason to stay with CDER*

(11.) Monetary Bonus / Retention Allowance

- o Very influential reason to leave CDER*
- o Somewhat influential reason to leave CDER*
- o Not influential*
- o Somewhat influential reason to stay with CDER*
- o Very influential reason to stay with CDER*

Please rate each item according to your current perceptions.

(1.) Communication with my supervisor is adequate regarding issues such as job satisfaction.

o Strongly Disagree o Disagree o No Opinion o Agree o Strongly Agree

(2.) My supervisor and I discuss my professional development and career plans.

o Strongly Disagree o Disagree o No Opinion o Agree o Strongly Agree

(3.) My work-related opinions are valued by my immediate supervisor (i.e., team leader).

o Strongly Disagree o Disagree o No Opinion o Agree o Strongly Agree

(4.) My work-related opinions are valued by those above my immediate supervisor in the Agency and impact regulatory decisions.

o Strongly Disagree o Disagree o No Opinion o Agree o Strongly Agree

(5.) Procedures for promotion within the Agency are fair.

o Strongly Disagree o Disagree o No Opinion o Agree o Strongly Agree

(6.) I have adequate time to participate in professional development (e.g., clinical practice, research, teaching, additional training).

o Strongly Disagree o Disagree o No Opinion o Agree o Strongly Agree

(7.) I feel comfortable expressing my scientific opinion when it is in disagreement with the views expressed by others in the Agency.

o Strongly Disagree o Disagree o No Opinion o Agree o Strongly Agree

(8.) I feel decisions I make that are at odds with the desires of sponsors (e.g., holds, refuse to file actions, non-approvals) are stigmatized in the agency.

o Strongly Disagree o Disagree o No Opinion o Agree o Strongly Agree

(9.) I am frustrated by the feeling that the work I do has more impact on a product's labeling and marketability than it does on the public health.

o Strongly Disagree o Disagree o No Opinion o Agree o Strongly Agree

(10.) I receive compensation comparable to my peers working outside the Agency.

o Strongly Disagree o Disagree o No Opinion o Agree o Strongly Agree

(11.) My opportunities for career advancement within the Agency are adequate.

o Strongly Disagree o Disagree o No Opinion o Agree o Strongly Agree

Please respond to each of the following items according to you current expectations.

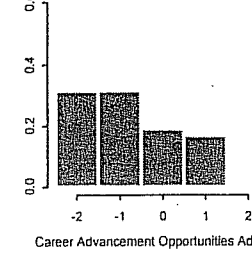
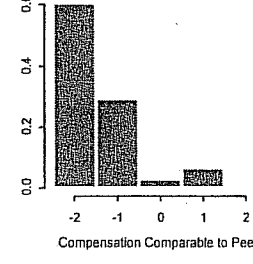
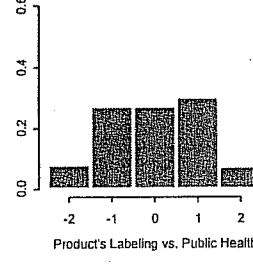
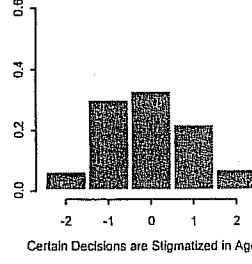
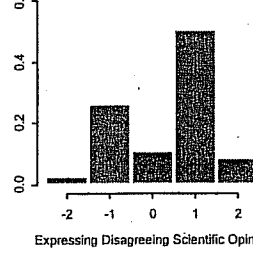
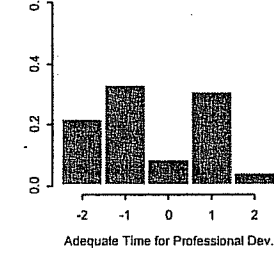
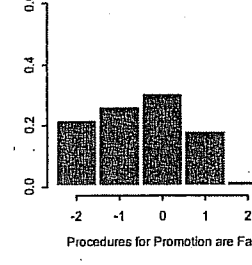
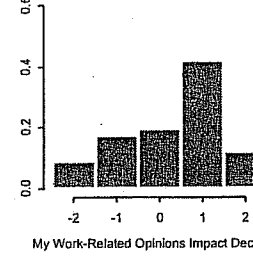
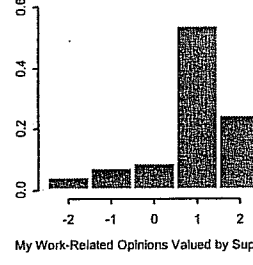
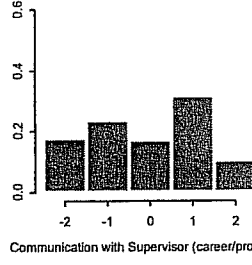
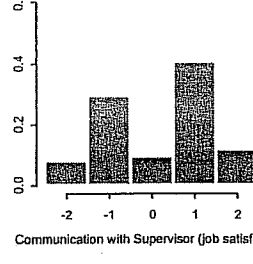
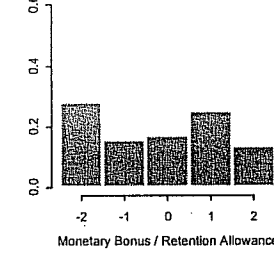
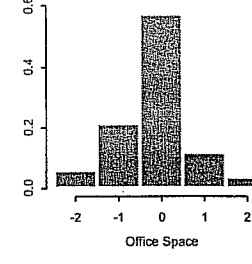
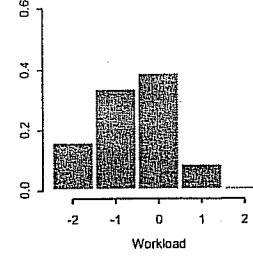
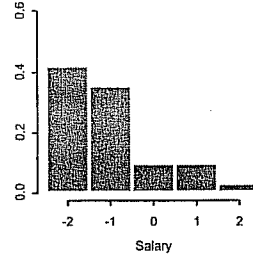
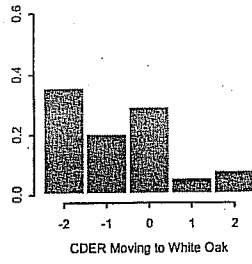
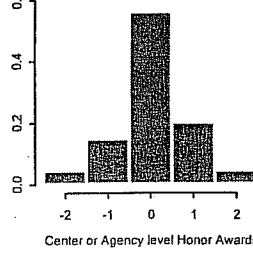
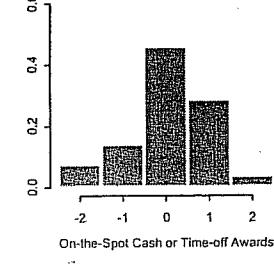
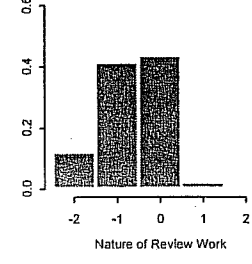
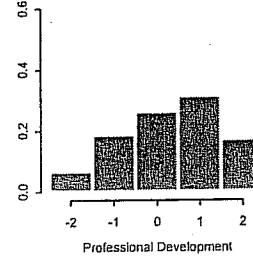
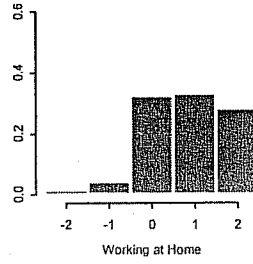
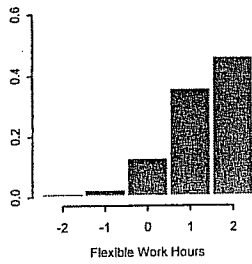
(1.) I expect to continue to work within CDER for _____ years.

(2.) Other factors that would have a major impact on my leaving or staying with CDER include:

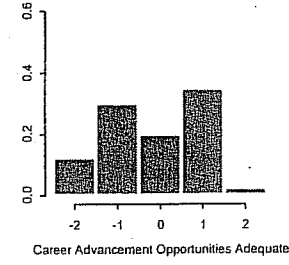
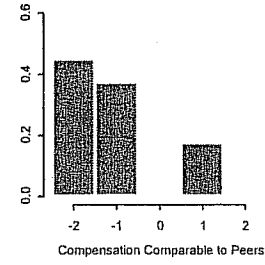
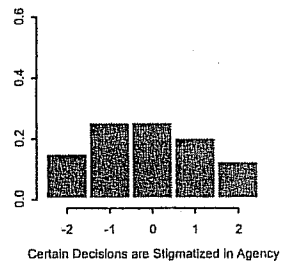
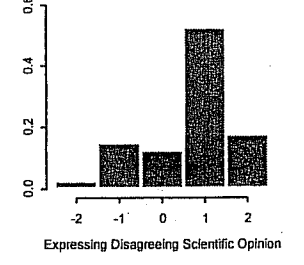
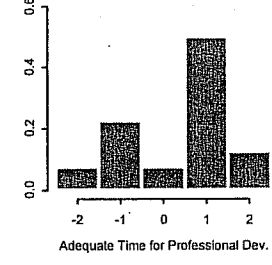
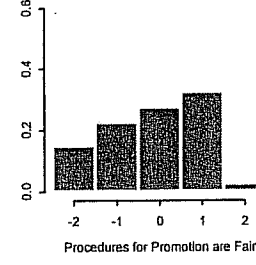
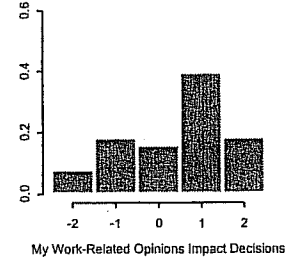
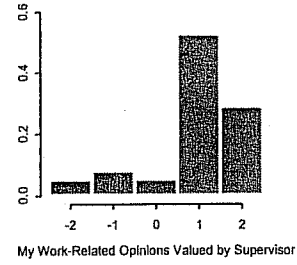
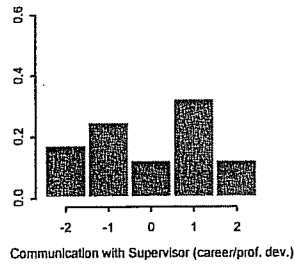
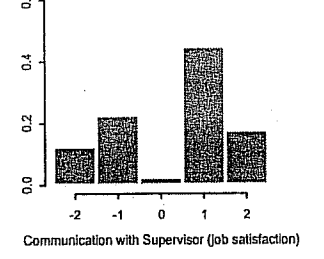
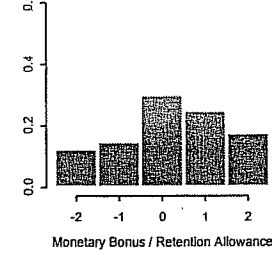
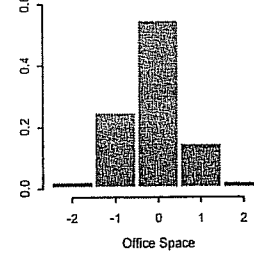
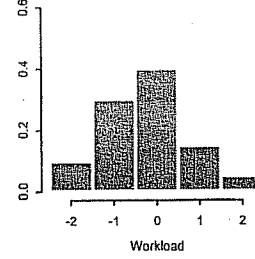
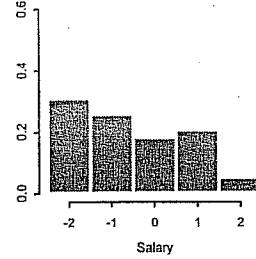
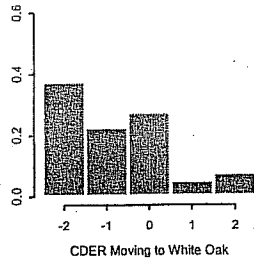
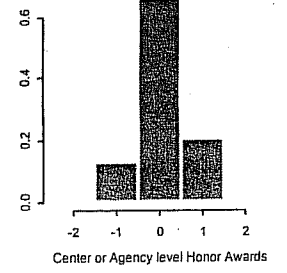
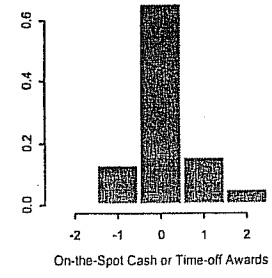
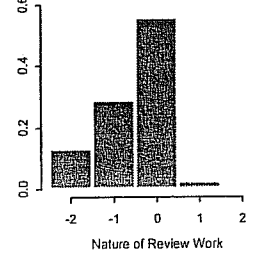
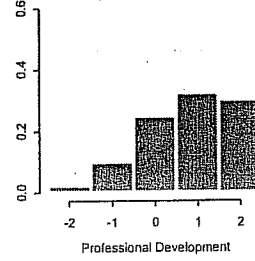
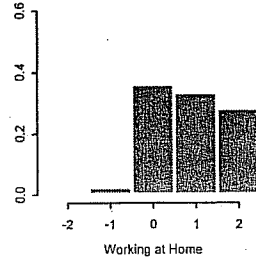
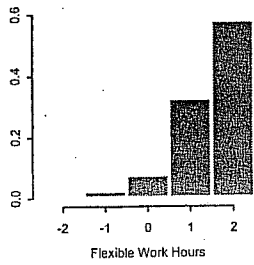
Thank you for completing this survey!
Your efforts will impact CDER's plans for improving retention of reviewers.

Appendix 2

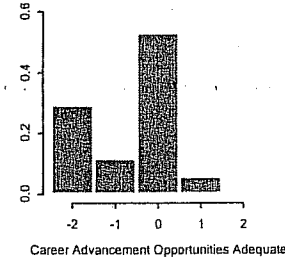
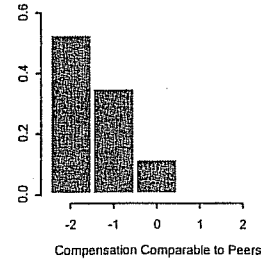
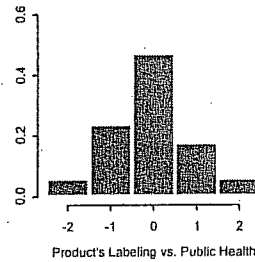
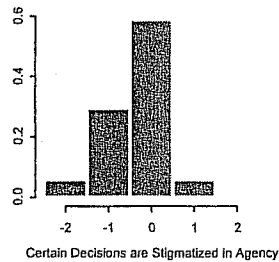
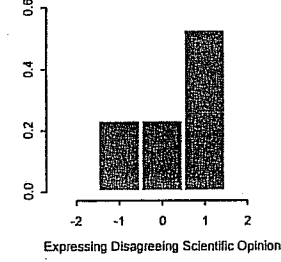
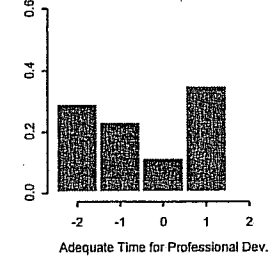
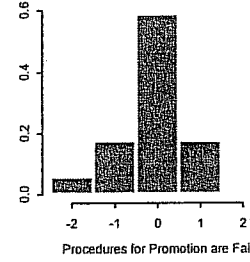
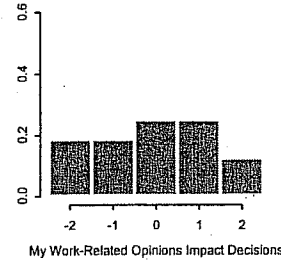
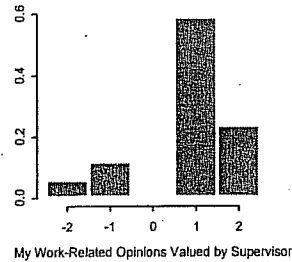
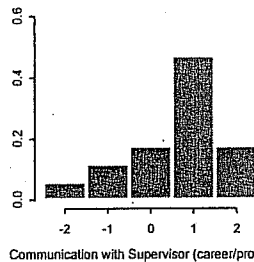
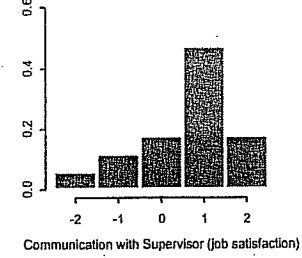
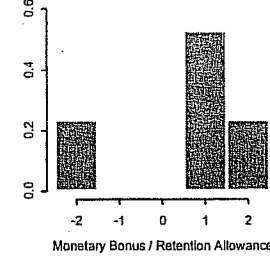
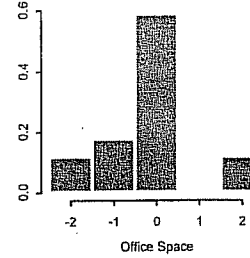
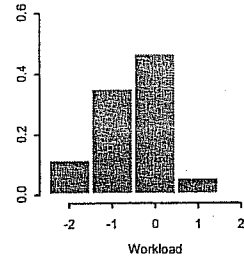
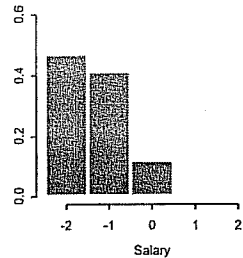
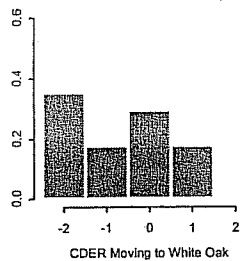
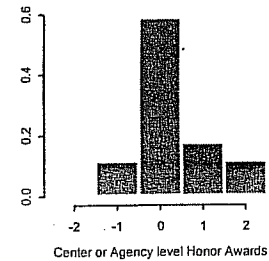
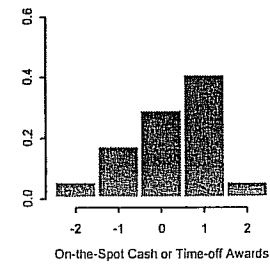
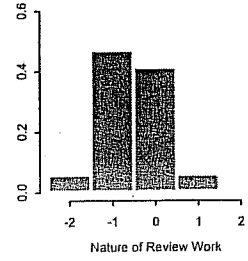
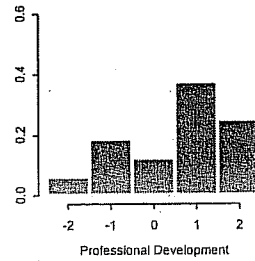
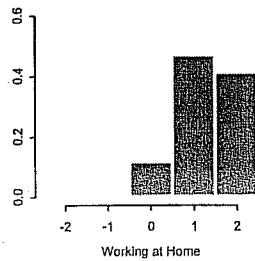
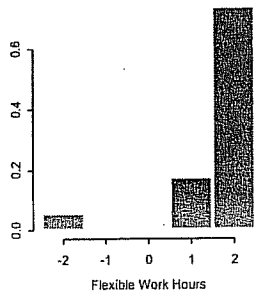
Overall (N=136)



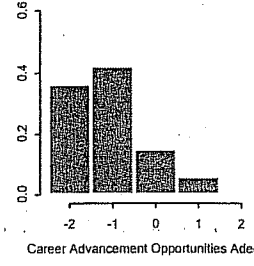
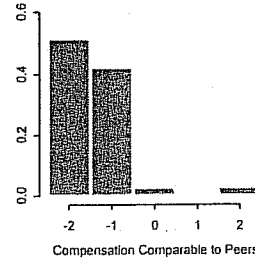
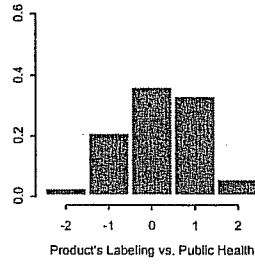
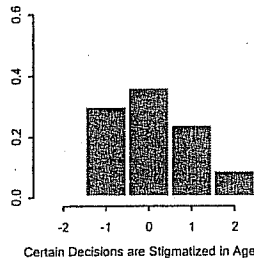
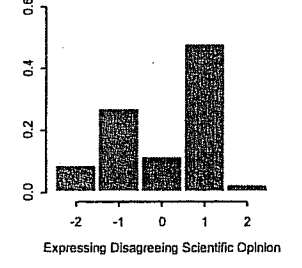
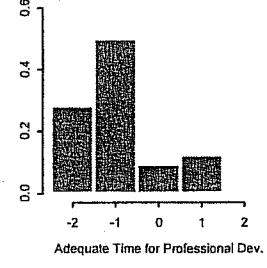
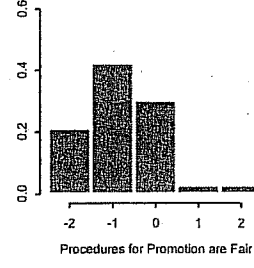
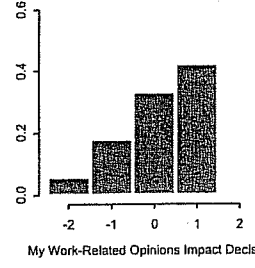
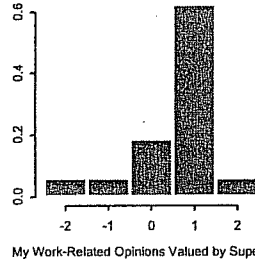
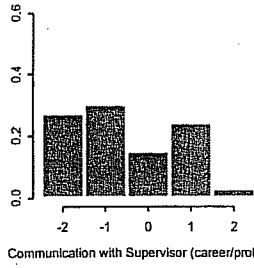
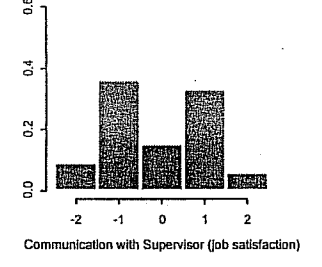
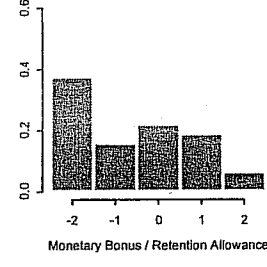
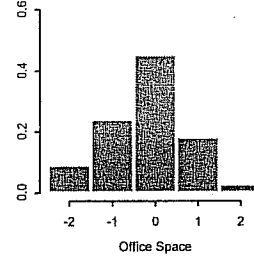
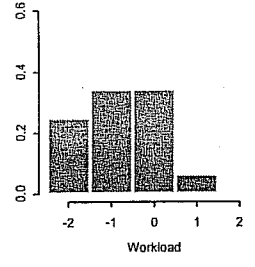
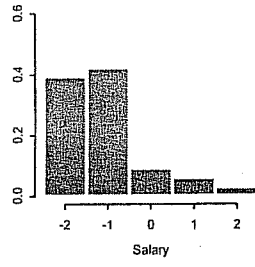
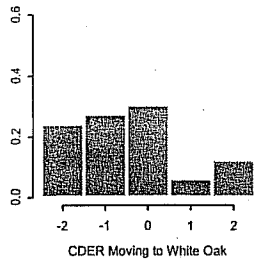
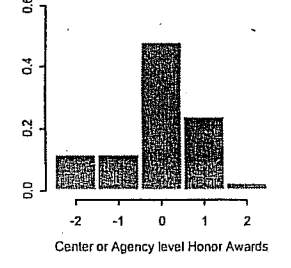
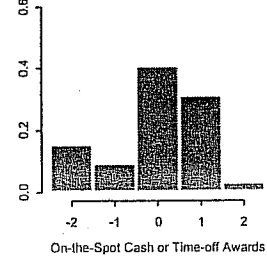
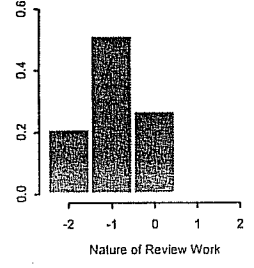
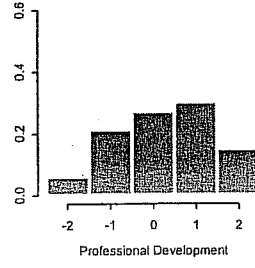
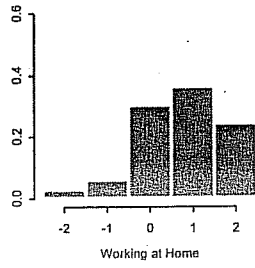
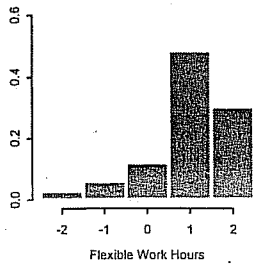
Medical (N=40)



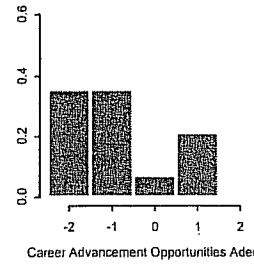
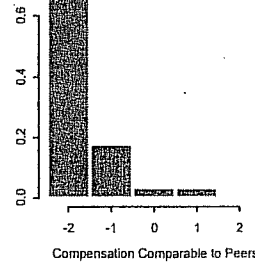
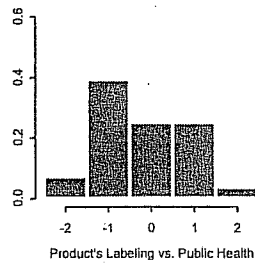
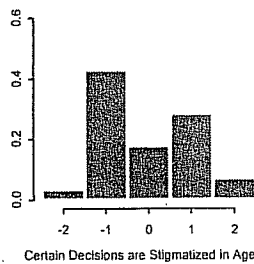
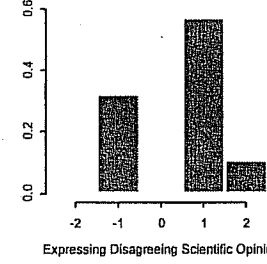
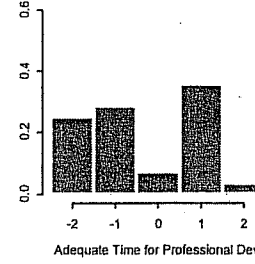
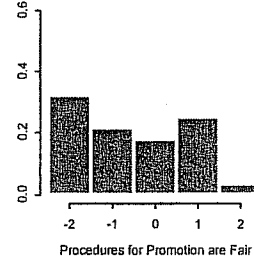
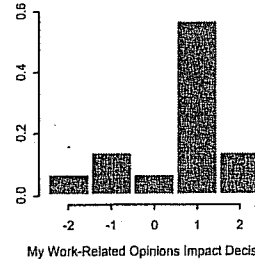
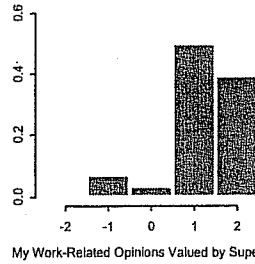
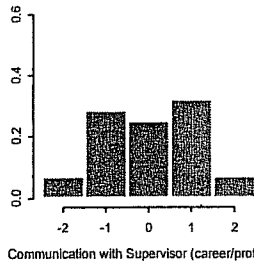
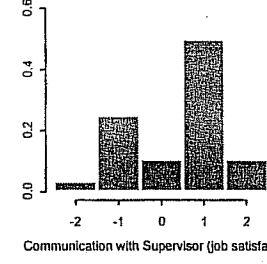
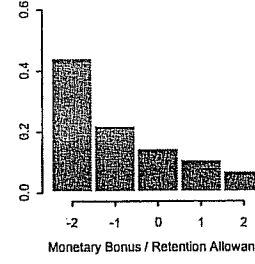
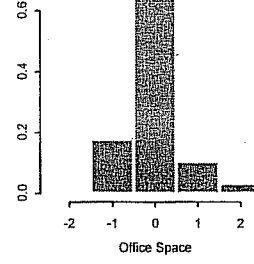
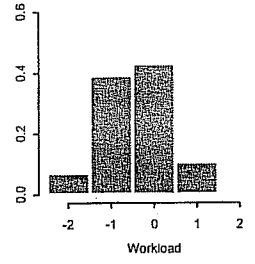
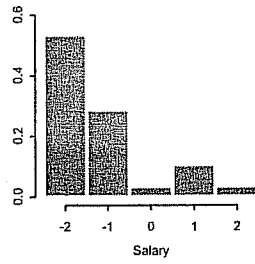
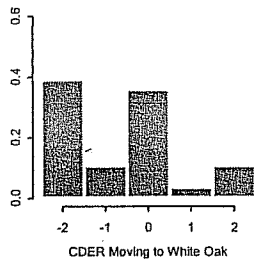
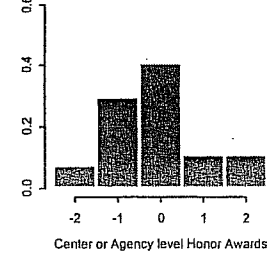
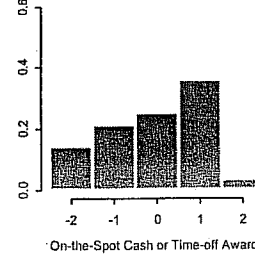
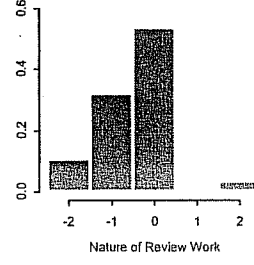
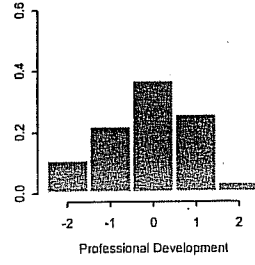
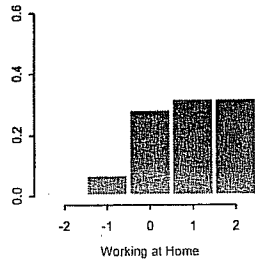
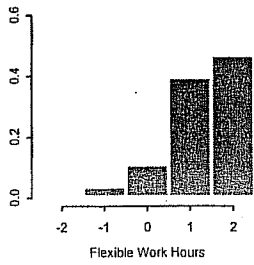
Statistics (N=17)



Chemistry (N=33)



Pharm Tox (N=28)



PK (N=13)

