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ABSTRACT

This column continues the report of a detailed, questionnaire-based, post-release feedback survey of 200 users of the AIDA version 4 educational diabetes simulator. AIDA is a software program—available without charge from www.2aida.org—that permits the interactive simulation of plasma insulin and blood glucose profiles for educational, demonstration, self-learning, and research purposes. The main goals of the questionnaire-based survey were: (i) to establish what people have thought about the AIDA software, (ii) to assess the utility of the program, and (iii) to ascertain how much people have actually used it. Three ancillary study objectives were: (a) to identify any problems that users may have experienced with the software since its launch, with the intention being for any critical problems to be addressed in future upgrades; (b) to identify features that users felt were important to have incorporated in later releases of the program; and (c) to establish the feasibility of undertaking such a post-release diabetes software survey primarily via electronic mail. In Part 1 of this column (Diabetes Technol Ther 2006;8:419–432) an analysis was undertaken of quantitative data from the first 200 feedback forms that were returned by AIDA users. In Part 2 of the column (Diabetes Technol Ther 2006;8:602–608) qualitative feedback comments left by users as part of the questionnaire-based survey were overviewed. The present column discusses the findings of the survey and highlights issues for future consideration. One concept that is introduced is the drug paradigm for assessment of medical software. Even after a drug has been tested, evaluated, and released—pharmaceutical firms still have systems in place to monitor usage and any complications. It is proposed that similar concepts should apply for medical informatics tools and software—with post-release monitoring of programs taking place routinely. This approach is exemplified for the AIDA software by data from the current post-release monitoring survey.

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The AIDA software referred to in this report is an independent, noncommercial development that is being made available free-of-charge via the Internet—at a dot org (.org) not-for-profit Website—as a noncommercial contribution to continuing diabetes education. Dr. Lehmann is a co-developer of the AIDA diabetes simulator, and Webmaster of the www.2aida.org Website.
INTRODUCTION

AIDA VERSION 4 (v4) is a freeware computer program that permits the interactive simulation of plasma insulin and blood glucose (BG) profiles for demonstration, teaching, self-learning, and research purposes.\(^1\text{-}\text{4}\) It has been made freely available via the Internet as a noncommercial contribution to continuing diabetes education.\(^5\) In the 10 years since its Web launch well over 700,000 visits have been logged at the AIDA Websites—including www.2aida.org and www.2aida.net—and more than 200,000 copies of the program have been downloaded free-of-charge. Further copies have been made available, in the past, on diskette by the system developers and from the British Diabetic Association (now called “Diabetes UK”), London, UK.\(^4\)

As part of an ongoing process of evaluation of the software a survey of 200 users of the AIDA v4 program has been performed. In Part 1 of this column an analysis was undertaken of quantitative data from the first 200 feedback forms that were returned by AIDA users.\(^6\) In Part 2 of the column qualitative feedback comments left by users as part of the questionnaire-based survey were overviewed.\(^7\) The present Diabetes Information Technology and WebWatch column discusses the findings of this feedback and highlights issues for future consideration.

As outlined previously,\(^6\text{-}\text{7}\) the main aims of the study were threefold: (i) to establish what people have thought about the AIDA software, (ii) to assess the utility of the program, and (iii) to ascertain how much people have actually used it. Three ancillary objectives for the study were: (a) to identify any problems that users may have experienced with the software since its launch, with the intention being for any critical problems to be addressed in future upgrades; (b) to identify features that users felt were important to have incorporated in later releases of the program; and (c) to establish the feasibility of undertaking such a post-release diabetes software survey primarily via electronic mail.

FINDINGS

The current pilot study has confirmed the feasibility of using a standardized questionnaire-based survey as a primary medium to obtain feedback from users of diabetes software. It has also provided useful and interesting information regarding what health-carers, patients, and other users have thought about the AIDA v4 software.

Survey population

Over 50% of those responding to the survey were people with diabetes, with the majority having insulin-dependent (type 1) diabetes mellitus. Other groups include doctors, nurses, and relatives of people with diabetes. It is clear from this survey, as well as other studies,\(^8\text{-}\text{15}\) that the software is being accessed by a wide range of individuals who have an interest in finding out more about the dynamics of glucose–insulin interaction in diabetes.

Educational value

Time restrictions on educator/physician–patient consultations, or lack of access to such educational sessions, may mean that some people with diabetes are not equipped with sufficient knowledge and skills to manage their own condition. The working hypothesis underlying the use of a program like AIDA v4 is that a diabetes simulator might be able to go some way towards helping to fill this knowledge gap. To some extent this is substantiated by the very high percentage of respondents who reported finding the program both educationally valuable (96.5%) and a useful adjunct to managing their condition (97%).\(^6\)

In answer to the question regarding continuing use of the program, over 93% (\(n = 186\) of 199) expressed a desire to continue using AIDA v4.\(^6\) This overwhelmingly positive response to the software seems to demonstrate a desire among many people with diabetes to learn more about their condition and its management, through all available means.

Self-empowerment

Clearly a program such as AIDA can never replace advice from an experienced diabetes educator or physician, and it is not intended to. Rather the software endeavors to empower patients with greater knowledge and experience.\(^9\)
The philosophy behind this “empowerment” is self-education. The participation of users in diabetes simulations allows them to experiment in a safe environment to achieve an understanding of the interplay between insulin and carbohydrate intake, and resulting BG levels. This can in turn, it is hoped, lead to a greater awareness of factors that may impair glycemic control—although it is fully accepted that randomized controlled trials (RCTs) are needed to establish the overall clinical/educational utility of the approach.

While many individuals with diabetes are under the care of a diabetes educator, physician, or general practitioner (primary care physician), it is usually patients themselves who must manage their condition on a day-to-day basis. It is hoped that acquisition of greater knowledge and skills may help individuals with diabetes to maintain a better balance between the demands of their lifestyle, and the need to keep BG levels as near normal as possible. It is further hoped that AIDA may help them in this process, although once again clearly RCTs are needed to formally establish the educational utility of the diabetes simulation approach.16,17

Wider application

Many respondents in this survey felt the program would be of interest to diabetes associations (n = 157, 79%) and their own diabetes educators (n = 139, 70%), and were in favor of more widespread distribution of the software (n = 183, 92.9%).6 The implication of this feedback is that a substantial proportion of people with diabetes who responded to the questionnaire might like to see computer technology further incorporated into their diabetes management. More research would need to be carried out to determine the optimum large-scale use that might be made of such software.

Possibly AIDA could be well utilized to include group-based teaching sessions led by a diabetologist or diabetes educator. This approach, which has been trialed by Tatti and Lehmann17 in one center in Italy, might facilitate learning for those who are unfamiliar with using computers, and might introduce the program to more individuals who may be able to benefit from it.

Other possible applications for the software include use by undergraduate and nursing students—to aid further understanding of the relationship between different insulin and dietary regimens and resulting BG levels.

Level of computer expertise

Over 99% of those surveyed had both Internet access and electronic mail facilities,6 which perhaps is not surprising for a program like AIDA v4 distributed via the Web and largely surveyed by email. In addition, at least 85% of respondents self-rated their level of computer skills as either expert or intermediate. Such statistics indicate a high level of computer literacy among those responding to the survey.

This in turn raises the question of whether such diabetes software programs can appeal to those with less computer experience and without Internet access. This has partly been answered by previous research with another diabetes simulator in which computer expertise was not a prerequisite to experiencing the educational benefits offered by such software,18 and is borne out by the current survey in which 12% reported having a low level of computer literacy—but they still seemed to manage to use the AIDA v4 program.

With future versions of AIDA, the plan is to make the software even easier to use, with a standard Windows graphical user interface and mouse control. This should help to ensure that even those who do not rate themselves as knowledgeable with computers should still be able to make good use of the program.

Furthermore, there is a version of AIDA v4—called AIDA online—accessible directly at www.2aida.net on the Web, which is completely Windows-based; all interaction takes place via a standard Web-based browser. This version of the simulator, which is fully mouse-controlled and uses a standard graphical user interface, has been available on the Web since 1997 and went formally live for general free-ware use from August 1998. It is hoped that this Web-based version of the diabetes model may facilitate use of the AIDA diabetes simu-
ulation approach until a dedicated, downloadable Windows-based version becomes available for more widespread application.

**AIDA as a simulator**

An interesting point to arise from this study is the modest proportion of simulations (43%) that subjectively closely matched the users’ personal data. Those using the program would be aware that the software is unable to take account of the many variables that may affect BG levels—such as exercise, stress, site of injection, etc. However, it is interesting that the relatively low level of matching simulations did not seem to negate the positive educational benefits experienced by the respondents.

It is emphasized throughout the AIDA v4 program, and at the www.2aida.org Website, that the software is intended solely as an educational/self-learning/teaching/demonstration/research tool and is in no way aimed to be a replacement tool for therapy planning or management. Despite these caveats, a small proportion of respondents ($n = 35$ of 197, 17.8%) had some concerns that the program might not be safe. Yet at the same time, the vast majority ($n = 180$ of 198, 90.9%) understood the purpose of highlighting these limitations.

As a result of this, and other survey feedback, the caveats/warnings have been strengthened even further at the AIDA Website with reinforcement of the limitations of the software now appearing with a dedicated warning on the pop-up window that is displayed when anyone tries to download the program (Fig. 1). Furthermore, despite some AIDA v4 users reporting frustration at the relatively larger number of caveat screens that are
displayed when AIDA v4 is first run (E.D.L., unpublished data), these warning screens have been retained and made even more explicit and clear to try and avoid any misunderstanding concerning AIDA’s purely educational role.

“Wish list” data

AIDA continues to be developed and evolves in response to user feedback. Indeed, one of the important original aims of this survey was to discover what users wanted from future versions of the software. The major demand on the part of users seemed to be for extra/novel functions. These would let users input a wider range of data including an expansion of dietary information and insulin regimens as well as incorporate the effects of other variables on BG levels.

It will take some time to develop such a comprehensive model that can include all these features. In this respect, while such comprehensive models have been described before in the literature\(^1\)\(^9\)—permitting each user individual interaction with such models, in the way that AIDA allows—still remains a challenge. Yet it is important to stress that the accuracy of the model does not necessarily relate to its effectiveness as an educational tool.

As has been intimated above, for an educational tool to be effective it needs to be realistic. Such realism, however, does not necessitate absolute individual accuracy in being able to simulate or predict a particular single person’s BG profile. This is substantiated by the positive educational benefits perceived by users in the current survey, even in the absence of absolute simulation accuracy.\(^6\)\(^7\)

Many of the “wish list” features suggested by respondents concerned the inclusion of new functions within the program. Broadly speaking, these fell into three main categories. The main request was a desire to have greater variation when inputting insulin injections into the simulator. Suggestions included the facility to inject larger doses and a wider variety of regimens. Users also wanted the inclusion of various parameters that might affect BG levels. These were factors such as exercise, stress, and variations in food intake, besides carbohydrate levels.

Furthermore, a smaller proportion wanted the program to allow the input of oral hypoglycemic agents, thereby more closely reflecting typical diabetes management in people with non–insulin-dependent (type 2) diabetes mellitus.

These particular requests seemed to reflect a wish on the part of respondents for the program to incorporate features that might broaden the range of simulations that could be offered. This might be to allow users to develop a greater understanding of their own particular fluctuations in BG levels, or to try and more closely match their own individual circumstances. It appeared quite understandably that respondents were keen to have access to a program with a graphical user interface, which was easy to use, and as closely as possible replicated their changes in diet and insulin regimen. In this respect, although the number of technical enhancements requested by users was relatively low,\(^7\) the largest number, understandably, was for a Windows-based version of the program.

It is interesting that users requested things as part of their wish list suggestions that the program can already do—not realizing perhaps that the features had already been incorporated within the AIDA v4 program. For example, wish list requests were made to “allow mg/dL use for application in the United States,” not recognizing that this facility has always been provided within the AIDA v4 downloadable software. Other requests were for a “longer simulation period”—not perhaps realizing that the simulations are steady state—therefore simulations take place over 48 h but only the second 24-h period is displayed.\(^2\)

These observations raise issues of user documentation and making the manual as easy to follow as possible. Furthermore, the comments probably confirm a widely recognized fact that people often do not actually read the user guide/documentation provided with software!

Simulating type 2 diabetes mellitus

It is interesting the number of survey respondents who had non–insulin-dependent (type 2) diabetes mellitus, but were still making use of AIDA. In this respect, even though
AIDA v4 does not include a representation for type 2 diabetes mellitus—still a substantial proportion of AIDA users are people with type 2 diabetes—which has been demonstrated in a variety of previous studies, using different survey methodologies.\textsuperscript{6,7,20} This is perhaps understandable because many of the principles of balancing insulin and diet in diabetes will be similar in type 1 and insulin-treated type 2 diabetes, and therefore respondents have found AIDA of use in type 2 diabetes mellitus, even without a dedicated function in the current AIDA v4 model for endogenous glucose production.

Limitations

Clearly a survey such as the present study has some limitations. Most obvious is the fact that, like most surveys, it is based upon user self-reported data, although the large number of responses received do go some way to offsetting this. Furthermore, respondents in this survey were self-selected—therefore biases arising from an individual’s decision to respond cannot be excluded. For instance, if people were more likely to reply because they liked the program, the feedback received may be biased by more positive responses. Nevertheless, this survey does highlight a substantial number of AIDA v4 users who seem to have found the software of use.

Electronic versus manual data collection

An important lesson to be learnt from the current survey includes the fact that while the feedback was provided in a semistructured format—based on the questionnaire—this was not in a computer-interpretable form. Manually completed hard copy/e-mailed feedback forms can take a long time to process and manually type in (enter) into an electronic database. In this study all the data had to be manually data entered into a Microsoft (Redmond, WA) Excel\textsuperscript{TM} spreadsheet, or a Word\textsuperscript{TM} file, and then checked. This introduced considerable delays into the data interpretation process, and has contributed to the delay in completing the analysis and write-up of the current study.

There are obviously advantages to making use of paper-based questionnaires for data collection. Although this has not been specifically studied in the current survey, it may be easier to obtain feedback on paper, as people can fill in a paper-based questionnaire anywhere. However, the big disadvantage of such a paper-based approach is that while it is perhaps easier for an end user, it is not easier for the researcher who has to analyze the end results—the manual data entry required taking time and manpower. Therefore, for future studies, an electronic means of data collection is envisaged and would seem much easier and less time consuming, overall. Indeed, computer-based data collection seems an absolute prerequisite for running further successful questionnaire-based studies—circumventing the need for any repeat (manual) data entry/typing.

Given this, in the future some method of collecting the data in a computer-readable/interpretable form will be adopted. This will necessarily involve the use of the Internet as the easiest way of acquiring the data—either using a simple Web-based database to store the user responses, or possibly making use of some type of on-line interactive “poll.” The attraction of the latter option is that, in this way, respondents should be able to view the survey results interactively and instantaneously online, in real time. Therefore theoretically for this no further offline data analysis should be required. However, further work would be needed to establish the feasibility of such an approach.

Notwithstanding this, for the current study the primary investigator (E.D.L.) was able to benefit from the feedback, as it was being received, particularly the free text comments—and take action to improve AIDA v4 based on this. However, the statistical analysis of the quantitative results clearly needed to await the manual data entry (and checking) of all the numerical/quantitative data.

It is hoped that the experience from this study may be helpful for others planning similar types of surveys. In this respect time and effort spent structuring data collection, electronically, beforehand should yield great rewards when it comes to analyzing results—saving time on manual rekeying or typing in of data—later.
Questionnaire issues

There are also important aspects of the organization and the design of the actual questionnaire that can aid its subsequent analysis. For future work it will be important to number all questions in sequential order in the questionnaire. In this respect it could aid and simplify subsequent analyses for all questions to have a unique question identifier. In the current survey there were a number of subpart questions a/b/c/d etc.—which complicated analyses.

For instance, question 10 in Fig. 4 of Lehmann et al. asked “If you are a diabetic patient, have you tried typing in your own data into AIDA? [Y/N]”, and then subpart: “if yes, did the simulations in any way match what actually happened to your blood glucose values? [Y/N]”. This was followed by a further subpart: “was it clear to you that AIDA was not intended for this purpose? [Y/N]”. Having all these subparts to questions, and conditional statements, complicated subsequent analyses.

In addition, it was found that questions where users had to give similar information twice always gave a chance for responses to be inconsistent or different—or for respondents to fail to complete later questions. Such issues need to be considered a priori in any future questionnaire design.

In this respect, separate from the method of data collection and analysis used, the study also raises issues about how to present and deal with so much largely descriptive feedback data. One hurdle with detailed questionnaires is to get users to complete the feedback forms. However, once they do, then another issue becomes how to handle all the data and analyze and summarize them all. Separately analyzing the quantitative and qualitative data—as has been done in this survey—may be a useful way to manage the plethora of data collected.

Practical benefit—a new release of AIDA v4

A practical benefit of this pilot survey, together with that of another study, was the realization that the vast majority of people downloading AIDA (>85%) had 32-bit Windows operating systems—a number that will have grown since completion of the current study.

As a result of feedback gleaned from this and other surveys a decision was taken to release an improved/updated version of the software with a dedicated, streamlined Windows-based setup procedure; the intention being that this would facilitate installation of the program for most users.

Therefore a practical benefit of the current survey has been to influence the development of future releases of the AIDA software. Further enhancements and upgrades to the AIDA program, in line with the current user feedback, are also planned.

FREE TEXT FEEDBACK COMMENTS

Much can be ascertained from the free text feedback comments that have been received. It seems that the AIDA v4 program is being accessed by a wide variety of individuals who feel it can be applied in different ways. Many individuals with diabetes see the role of AIDA as an educational/demonstration tool. It appears to allow them to gain a better understanding of the mechanisms underlying BG control and the complex interaction of factors that affect their diabetes control.

The simulator-based learning approach also seems to suggest that the user is encouraged to analyze the causes of variations in BG levels, and then attempt to correct these by altering carbohydrate intake or insulin therapy. Once users have gained experience with AIDA, it is hoped that they will be able to apply this knowledge to their own lifestyle.

The increased knowledge gained in this way may manifest itself in a number of practical ways. It could be avoidance of those factors that might cause extremes of BG as users begin to recognize situations in which their glycemic control may be impaired. Alternatively, users armed with a deeper comprehension of their condition may be able to adapt their diet or therapy on a small scale in response to changes in their daily routine. This may lead to improvements in management as BG levels are stabilized. Further studies are clearly required to specifically test out such hypotheses.

However, the free text feedback comments received do appear to reflect a newfound confidence among some individuals with diabetes.
Also, after use of the program users seem able to engage in more meaningful dialogue with their diabetes educator, nurse, or physician, which can only be a good thing.

Such improved communication could benefit both the healthcare professional, and the person with diabetes. Patients may be able to understand better the significance of clinical advice if they understand better the reasoning behind it. Diabetes educators may also find it easier to impart advice to a well-informed and motivated patient.

Naturally AIDA is not intended as a replacement for any therapeutic management approach (Fig. 1), but as users acquire knowledge, it is hoped this may have a positive impact on their diabetes control, although this remains to be objectively proven in an RCT setting. Nevertheless, it is expected that use of a diabetes simulator should complement (rather than in any way try and replace) traditional methods employed in diabetes education, providing a useful addition to what is already available.

Perhaps the most striking point to emerge from this feedback survey is the positive motivational effect of AIDA in getting users to think more about how they can improve their glycaemic control, and adapt the knowledge gained in simulations to their own lives in consultation with their healthcare team.

Feedback comments from diabetes educators

Diabetes education is undoubtedly a two-way process in which both educator and learner must acquire skills and knowledge. The role of AIDA in educating students and teachers may be one that could have considerable potential. Those actively involved in diabetes education are perhaps best placed to generate ideas about how use of AIDA can be optimized.

One possibility to emerge from the feedback comments includes the incorporation of AIDA into established programs of study for nursing, pharmacy, or medical students—which may perhaps be a worthwhile avenue to explore in future continued medical education programs.

Wider distribution

There is also considerable interest on the part of the AIDA developers as to how the program might be distributed to an even wider audience. Suggestions include making it a part of more standard diabetes education sessions, as well as translating the simulator into other languages to broaden its appeal.

The question of how to fit the program into the working pattern of a busy primary care physician’s/general practitioner’s clinic is one that still remains to be addressed. Further research is required to determine how this should best be done. What is clear, though, is that the level of ongoing interest in the software remains high.

As well as use for initial/”primary” teaching of people with diabetes—a simulator program like AIDA may also have application as a way of offering “refresher” courses for patients, as well as possibly students and junior doctors. Use of a Web-based tutorial via the Internet may also offer an optimal way of arranging such continued medical education.

Problems when using the program

A priori it was considered that problems experienced by users may possibly be related to the level of computer skills of the user. It was thought this may lead to a level of apprehension about using the program correctly. Even in today’s technologically advanced world, there are many individuals who may never have used a computer before. However, the numbers of people who are comfortable with computers and the Internet grows all the time. Nevertheless, people who have not previously used a computer may harbor an understandable fear of information technology.

Diabetes simulators need to be able to appeal to such individuals. This issue could be addressed by classroom teaching led by a diabetes educator. Also assuring the program is as user-friendly as possible in terms of its layout, user interface, and graphical design would help.

Notwithstanding this, there is a generation of children growing up who are far more experienced and at ease with computer technology than their parents—and for whom any “fear” of computers simply will not be an issue. Therefore it is to be expected that over time computer knowledge and skills will become the norm, rather than an exception.
Possible benefits of an educational simulator

That people seem to be finding AIDA of use and are benefiting from the program can be inferred from some of the free text responses that have been received to the current survey (accessible via the Web at www.2aida.org/survey-text). This free text feedback is in keeping with the wide range of other comments about AIDA that have been posted to public diabetes lists and discussion groups, as well as received from users directly by email. Overall, this experience seems to reinforce the view that patients are actually interested in getting more involved in managing their own insulin dosages. This may be of increasing importance as more DAFNE (Dose Adjustment For Normal Eating)-style structured educational programs are trialed and adopted.

Drug paradigm for medical software evaluation

Even after a drug has been tested, evaluated, and released—pharmaceutical firms still have systems in place to monitor usage and any complications. The same should be the case for medical informatics tools and software—with post-release monitoring of programs.

One concept that has become apparent from this study is the drug paradigm for assessment of medical software. It is proposed that similar concepts should apply for medical informatics tools and software—with post-release monitoring of programs.

One pilot questionnaire-based survey documented feedback from AIDA v4 users who between them used the program in total over 2,685 times and ran over 14,414 simulations, a not inconsiderable amount of usage.

Further feedback surveys are planned for future releases of the AIDA software—with the aim of securing more extensive feedback from an even wider range of software users.

In this respect the continued downloading and usage of the AIDA software, over 10 years after its original release, continue to pleasantly surprise—and there is a growing realization that diabetes simulations, such as those offered by AIDA, may actually increase patient empowerment. Therefore in the current study attempts have been made to find out in some detail what AIDA users have thought about the software, and how they see it possibly being improved.

This questionnaire-based survey approach does seem to have some particular utility especially in terms of more easily studying a large number of subjects and obtaining their feedback. Connected with this the survey has informed what users thought about the software and what they wanted to see in future versions of the program.

It has been highlighted that now that sound methods exist, patient surveys can facilitate

CLOSING SUMMARY

The detailed, questionnaire-based, post-release feedback survey of 200 AIDA users compliments previous surveys concerning AIDA v4 that have been run via the Internet at the point of software download—but provides new and interesting information.

The study has confirmed the feasibility of using mainly electronic mail to survey, at no real cost, a large number of diabetes software users. In addition, it has yielded interesting data in terms of who are the main users of the AIDA v4 program, and has also provided technical (computer) information that has aided the release of a freeware upgrade to the software (AIDA v4.3). There were generally apparent high levels of satisfaction among users who responded to the survey.

Although there have been a large number of visits recorded at the AIDA Website—and downloads of the software—since the completion of the data collection phase of this study, up to the end of the data collection period there were in fact only 12,613 downloads of the AIDA program logged. This suggests that in the current pilot survey it was possible to obtain feedback from approximately 1.5% of the total number of AIDA downloaders, up to that time.

Although there was a very wide spread in the number of times the program was run, and the number of simulations performed—this pilot questionnaire-based survey documented feedback from AIDA v4 users who between them used the program in total over 2,685 times and ran over 14,414 simulations, a not inconsiderable amount of usage.

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This questionnaire-based survey approach does seem to have some particular utility especially in terms of more easily studying a large number of subjects and obtaining their feedback. Connected with this the survey has informed what users thought about the software and what they wanted to see in future versions of the program.

It has been highlighted that now that sound methods exist, patient surveys can facilitate
medical improvements. We believe this applies not just to clinical care, but also to the development of software programs like AIDA. There may be a perception among some health-carers that computer programs, like AIDA, may be too complex or complicated for people with diabetes to use. Also, some healthcare professionals may believe that patients are not really that interested in getting so involved in their own diabetes care. However, surveys, such as the current study and those run via the AIDA Website do illustrate the large numbers of patients that seem to be actively seeking out more information about how to better manage their condition. In addition, the current pilot study adds to this "body of information" by showing in detail how a group of AIDA users have actually been utilizing the software in practice. The responses seem encouraging. Other developers of medical/diabetes software would also be encouraged to make use of a similar approach to survey users of their own programs.

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The authors would like to thank the 200 AIDA users who took the time and trouble to provide their feedback, and respond to this survey.

FURTHER TOPICS

If you would like to suggest further topics or Websites for future Diabetes Information Technology & WebWatch columns, please e-mail information—with a brief description of the site/suggestion—to Dr. E.D. Lehmann: info@2aida.org (please write Diabetes WebWatch in the subject line). You can also fax information to: (503) 218-0828, quoting Diabetes Information Technology & WebWatch.

REFERENCES


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