Electronic Publication of Biomedical Research

The proposal by Harold Varmus to initiate E-Biomed by May 5, 1999, as a central repository for biomedical papers is the next logical step from medieval letter printing through the current bulk of biomedical journals to the next age of information. Also if the current NIH initiative fails the transition to a virtual library is inevitable.

Such a proposal has long been awaited by many buyers and sellers in the biomedical market. An electronic archive will cut down the immense costs of journals to a nearly free service, speed up publication from nearly one year to less than a few weeks and will make new services like instant reader notification possible. However some others, mainly proprietors and distributors, will not be very happy with this proposal, since they stand to lose their shared capital. I appreciate this new world of free information, as I am not very much interested in paying further page charges as an author, postage as a reviewer, and subscription as a reader of biomedical journals. However, I am not convinced that it is as simple as it looks at first glance. My main questions are:

(i) How should the submission be organized? It will be critical to develop client software that will give authors freedom for summing up their results in their own way while ensuring that standards for the integration of graphics, tables, etc. will be maintained. It is critical that sender identity be certified by an authority or a trusted sponsor, since the system will be vulnerable to scientific misconduct. Also document integrity should be signed with digital keys by the author, reviewers and the archive curator using strong cryptography.

(ii) Who should review these hundreds of papers that will arrive by email every day? The expertise of the editorial boards of the major journals will be invaluable as a future resource. A careful peer-review process will be key, in particular in the case of clinical studies. There are also difficulties in centralizing this process at one institution. In addition, the copyright issues of electronic publications are very complicated. What about a one year grace period before the papers are handed over from the journals to E-Biomed? Faced with all these problems at the beginning, I suggest starting with the non-peer reviewed section of E-Biomed. This simplified endeavor will also require strict rules, for instance that only research with minimum technical and ethical standards be accepted. On the other hand, the non-peer reviewed section shouldn’t be turned into the wastebasket for rejected studies. I don’t have an answer about which policy should be adopted to achieve this goal, however a consensus could be developed at a congress of all interested parties, as suggested by the editors of The Lancet.

(iii) Who will control access to this archive? As Pat Soutter has already mentioned, the world community probably does not want the sum of its scientific knowledge on one NIH computer. Mirror servers on all continents connected by Internet 2 lines will be essential for computer access. While page statistics would be helpful, anonymous access will be essential. Most of us are not interested in reading papers at the computer screen, therefore printed editions will be necessary for offline use.

(iv) The added suggestion from Dr. Varmus to use E-Biomed as a communal site for a meetings calendar and job opportunities does not seem to be very centered on the main topic. Instead, it would be more helpful if the archive could be linked to a

register of ongoing studies supported by granting agencies like the NIH to eliminate unnecessary double research.

Taking some of these caveats into account, E-Biomed will offer a lot of benefits at minor costs.

Munich, 4. June 1999
Matthias Wjst, MD
Head Molecular Epidemiology Group
GSF - National Research Center for Environment and Health
Ingolstaedter Landstrasse 1
D-85764 Neuherberg/ Munich, Germany
http://cooke.gsf.de/wjst

WJST\D:\daten\e-biomed\E-b2_draft.doc "7.6.1999“