A Proposed Solution for Addressing the Challenge of Patient Cries for Help Through an Analysis of Unsolicited Electronic Mail

Donna M. D’Alessandro, MD*; Michael P. D’Alessandro, MD‡; and Stephana I. Colbert, JD§

ABSTRACT. Background. Unsolicited electronic mail (e-mail) is e-mail sent to a physician from a person unknown to the physician, who is seeking professional help. The purpose of this project was to analyze unsolicited e-mails sent to a digital textbook author to: 1) characterize the e-mails, 2) determine what resources would be necessary to answer the e-mails, and 3) propose a standard approach to reply to e-mails in a helpful yet medicolegally-responsive manner.

Materials and Methods. All e-mails (315) sent to a digital textbook author from October 1995 through October 1998 were abstracted. Variables included: date and location, sender type, patient age, subject, medical content, and resources necessary to answer the question. Data frequencies were obtained.

Results. The most common location was the .com domain (47.6%). The most common senders were laypersons (66%). Overall, 44.4% of the e-mails concerned children. Detailed, patient-specific information was sent in 63.2% of the e-mails. The most common subjects were overviews of a disease or problem (32.4%), differential diagnosis (16.8%), and therapy/treatment questions (15.9%). The medical content covered a broad range of specialties. Specialists were overwhelmingly the resource necessary to answer the e-mails (74.9%).

Conclusions. Pediatricians with educational information on the Internet can expect an increase in the number of unsolicited e-mails as Internet usage expands. Laypersons regard even short passages to mean the author is an expert in that particular area. Pediatricians need to consider the ethical and medicolegal implications of responding to unsolicited e-mails. A nonpersonalized, standard e-mail reply is proposed that directs the sender to quality information resources that may be of further assistance. Pediatrics 2000;105(6). URL: http://www.pediatrics.org/cgi/content/full/105/6/e74; unsolicited electronic mail, e-mail, medical informatics, legal issues, ethical issues, digital libraries.

ABBREVIATION. e-mail, electronic mail.

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Electronic mail (e-mail) is a revolutionary new way for pediatricians to communicate with their patients about their care. E-mail offers numerous advantages, including its asynchronous nature, which allows the convenience of replying when one chooses; easy clarification of meaning or instructions; and retention of the interaction, especially information conveyed, which would need to be referenced in the future. Disadvantages of e-mail include: again, its asynchronous nature leading to a variable delay between message receipt and reply, the inability to document that the message has been received and reviewed, and concerns about privacy.

Recently, the American Medical Informatics Association Internet Working Group put forth guidelines to help physicians with the clinical use of e-mail with their own patients that are now being widely recommended and adopted. However, these guidelines did not comment on the standards that physicians should follow when unknown patients approach them for professional help via e-mail on the Internet. These unsolicited e-mails raise numerous ethical, compensatory, legal, confidentiality, and information quality issues when they are received by physicians.

Studies of solicited and unsolicited e-mails are few. A study of unsolicited e-mails to a digital health sciences library found that most senders were patients/family members, who were seeking information on general overviews of a disease or treatment information. One third of these e-mails were pediatric-related. Another study of solicited pediatric e-mail consultations from unknown patients found that most information requests come from patients and family members who sent detailed patient-specific information that was also consistent with a study of unsolicited e-mails sent to the authors of a tutorial on the temperomandibular joint. Another recent report studied how physicians and Web masters (persons who run Internet sites) handled unsolicited e-mails and found a wide variation in practice. Clearly, there now exists a need for guidelines to help pediatricians manage unsolicited e-mails.

Therefore, the purpose of this project was to analyze unsolicited e-mails sent to a pediatric radiology digital textbook author to: 1) characterize the e-mails, 2) determine what resources would be necessary to answer the e-mails, and 3) propose a standard approach to reply to the e-mails in a helpful yet medicolegally-responsive manner.
METHODS

The e-mails were sent to the personal e-mail account of 1 of the investigators (M.P.D.) from October 12, 1995 to October 12, 1998. He is the author of several pediatric radiology textbooks that exist only in digital form on the Internet on the University of Iowa’s Virtual Hospital digital library. They cover a significant portion of the field of pediatric radiology. These digital textbooks initially included a hypertext link to the author’s e-mail account at the bottom of every page. On March 6, 1997, the style of the Virtual Hospital digital library was revised, and the hypertext links to the author’s e-mail account in the digital textbooks were eliminated. All e-mail messages received during the study were archived and then printed. Data from the e-mails were abstracted onto a separate abstraction form to aid data entry. A coding categorization scheme was modified from a previous study of e-mails sent to a digital health sciences library developed from a review of articles in the literature. A detailed coding manual was prepared and used during the data abstraction process. The abstraction forms were pilot-tested and modified. Abstraction forms were coded by 1 investigator (D.M.D.). All data on 10% of the abstraction forms were reviewed by another investigator (M.P.D.) and showed accurate coding. The coding of the resources necessary to answer the question posed in the e-mail on 100% of the abstraction forms was also reviewed by the same investigator (M.P.D.). Variables included the date of the e-mail message; location of the sender; whether the e-mail was codable; e-mail sender (eg, parent/family member, friend, physician, etc); patient age; whether detailed, patient-specific information was sent; e-mail subject (eg, overviews of disease, pathophysiology, therapy, treatment, etc); medical content (eg, radiology, cardiology, pediatrics, etc); and resources necessary to answer the question posed in the e-mail. The necessary resources were categorized into 1 of 4 categories (general/medical librarian using general and medical information from standard references and search techniques; allied health professional; generalist physician; and specialist physician or allied health professional such as a specialty nurse or pharmacist) in a step-wise manner. The question was asked, “Could the question posed in the e-mail be answered by ___?” The blank was initially filled in by a general/medical librarian. If the answer was yes, the e-mail was coded as general/medical librarian. If the answer was no, then the question was again posed and filled in with allied health professional, generalist physician, or specialist in a similar manner.

Data were coded into the most specific category available. Each individual e-mail may not include all data because specific data were inappropriate, missing, or unclear. Data of this type were coded as indeterminate.

All data were entered into a spreadsheet (Excel, Microsoft Corporation, Bellevue, WA) running on an Apple Macintosh computer (Apple Computer, Cupertino, CA). Frequencies were obtained using the same software program.

RESULTS

Between October 12, 1995 to October 12, 1998, 316 e-mails were sent, of which 1 e-mail sent from Honduras was not codable because it was written in the Spanish language. A total of 315 were further analyzed. Figure 1 shows the number of e-mails received per quarter. The most common domains from which e-mails originated were .com with 47.6% and .net with 19.1% of the e-mails, respectively. Overall, 24.1% of the e-mails were international in origin.

The most common e-mail sender was a family member constituting 43.2% (n = 136) of the e-mails.
Patients themselves sent 13% \((n = 41)\) and friends 9.8% \((n = 31)\) of the e-mails. Health care providers accounted for 12% \((n = 38)\) of the e-mails. Other e-mail senders \((n = 18)\) were students, lawyers, persons in the computer field, writers/reporters, a researcher, a medical librarian, and a legislator. The e-mail sender could not be determined or was not applicable for 16.2% of the e-mails.

Table 1 shows the distribution of the ages of the patients in the e-mails. Overall, 44.4% of the e-mails concerned children and adolescents and 20% concerned adults.

Detailed, patient-specific information was sent for 63.2% of the e-mails, with 21% not sending detailed information and another 15.8% being not applicable.

The subjects of the e-mails are shown in Table 2. Requests for general overviews of a disease or problem occurred 32.4% of the time with differential diagnosis questions occurring 16.8% of the time and therapy/treatment questions occurring 15.9% of the time. Other topics included technical comments or questions, praise for the textbooks, and seeking an expert witness.

Medical content of the e-mails is shown in Table 3. A broad range of pediatric specialties was represented with the most common content areas being neurology/neurosurgery \((11.8\%)\), allergy/pulmonary \((10.5\%)\), and orthopedics \((10.2\%)\). Only 14 e-mails concerned radiology \((4.4\%)\). The most common diseases comprising 4 or more e-mails were Kartagener’s syndrome, bronchopulmonary dysplasia, hyaline membrane disease, pectus excavatum/carinatum, Crohn’s disease, patent ductus arteriosus, craniosynostosis, cystic adenomatoïd malformation, esophageal atresia, gastrochisis, hiatal hernia, Legg-Calvé-Perthes disease, lymphangiectasis, and phrenic nerve paralysis.

Specialists were overwhelmingly the resource necessary to answer the e-mails with 74.9% coded into this category. A general/medical librarian was the second most common resource \((13.3\%)\), followed by a generalist physician \((7.6\%)\), and an allied health professional \((3\%)\).

**DISCUSSION**

The first goal of this project was to characterize the e-mails sent to a single author of pediatric radiology digital textbooks. The number of e-mails sent grew steadily over time, until March 6, 1997, when the style of the digital library was revised and the direct e-mail hyperlink to the author was eliminated making it more difficult for a sender to contact the author by e-mail. Since that date, and since the addition of 3 additional digital textbooks in July and August 1997, the number of e-mails sent has again continued to grow steadily (see Fig 1). Most of the unsolicited e-mails were sent from the United States, with ~24% being international in origin. Most concerned children \((44.4\%)\), but 20% concerned adults with traditionally pediatric problems (eg, adults with congenital heart disease, cystic fibrosis, etc). Most of the unsolicited e-mails were sent by laypersons (family members, patients themselves, and friends \([66\%]\)) who sent detailed, patient-specific information \((63.2\%)\). The e-mails covered a broad range of pediatric specialties with a general overview of the disease or problem being the most common question asked \((32.4\%)\). Most of the diseases or problems were uncommon. These findings are consistent with previous studies,\(^3,13\) including 2 evaluating the overall usage of a digital health sciences library\(^1^4\) and the e-mail the digital library receives.\(^5\) In contrast, the most common medical problems in the e-mails were quite different from the most common problems seen in a general pediatrician’s office\(^1^5\) or in a pediatric telephone triage line,\(^1^6,1^7\) which are primary care problems.

There were a strikingly low number of e-mails \((4.4\%)\) that concerned radiology. This number is not erroneous. For example, a characteristic e-mail said:

> “My niece has a condition called Kartagener Syndrome or lifeless cilia. She therefore suffers from one infection after another and exhibits cystic fibrosis like symptoms. I feel so helpless, she is 15 and has seen so many doctors and we are...”

**TABLE 1.** Patient Ages

<table>
<thead>
<tr>
<th>Age</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children NOS</td>
<td>16</td>
<td>5.1</td>
</tr>
<tr>
<td>Fetus</td>
<td>11</td>
<td>3.5</td>
</tr>
<tr>
<td>Infant (1–3 y)</td>
<td>46</td>
<td>14.6</td>
</tr>
<tr>
<td>Toddler (3–5 y)</td>
<td>23</td>
<td>7.3</td>
</tr>
<tr>
<td>Preschool (5–7 y)</td>
<td>12</td>
<td>3.8</td>
</tr>
<tr>
<td>School age (5–12 y)</td>
<td>18</td>
<td>5.7</td>
</tr>
<tr>
<td>Adolescent (13–18 y)</td>
<td>14</td>
<td>4.4</td>
</tr>
<tr>
<td>Adult</td>
<td>63</td>
<td>20</td>
</tr>
<tr>
<td>Not applicable or indeterminate</td>
<td>112</td>
<td>35.6</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>100.0</td>
</tr>
</tbody>
</table>

NOS indicates not otherwise specified.

**TABLE 2.** E-mail Subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>General overview</td>
<td>102</td>
<td>32.4</td>
</tr>
<tr>
<td>Differential diagnosis</td>
<td>53</td>
<td>16.8</td>
</tr>
<tr>
<td>Therapy/treatment</td>
<td>50</td>
<td>15.9</td>
</tr>
<tr>
<td>Other information resource referral</td>
<td>37</td>
<td>11.7</td>
</tr>
<tr>
<td>Hospital/physician referral</td>
<td>21</td>
<td>6.7</td>
</tr>
<tr>
<td>Diagnostic testing</td>
<td>13</td>
<td>4.1</td>
</tr>
<tr>
<td>Pathophysiology</td>
<td>8</td>
<td>2.5</td>
</tr>
<tr>
<td>Other</td>
<td>28</td>
<td>8.9</td>
</tr>
<tr>
<td>Not appropriate or indeterminate</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**TABLE 3.** Medical Content by Specialty

<table>
<thead>
<tr>
<th>Medical Area</th>
<th>Total (N)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurology/neurosurgery</td>
<td>37</td>
<td>11.7</td>
</tr>
<tr>
<td>Allergy/pulmonary</td>
<td>33</td>
<td>10.5</td>
</tr>
<tr>
<td>Orthopedics/podiatry</td>
<td>32</td>
<td>10.1</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>31</td>
<td>9.8</td>
</tr>
<tr>
<td>Hematology/oncology</td>
<td>29</td>
<td>9.2</td>
</tr>
<tr>
<td>Cardiology/cardiovascular surgery</td>
<td>27</td>
<td>8.6</td>
</tr>
<tr>
<td>Neonatology</td>
<td>20</td>
<td>6.4</td>
</tr>
<tr>
<td>General pediatric surgery</td>
<td>18</td>
<td>5.7</td>
</tr>
<tr>
<td>Nephrology/urology</td>
<td>15</td>
<td>4.8</td>
</tr>
<tr>
<td>Radiology</td>
<td>14</td>
<td>4.4</td>
</tr>
<tr>
<td>Genetics</td>
<td>11</td>
<td>3.5</td>
</tr>
<tr>
<td>All other specialties</td>
<td>22</td>
<td>7.0</td>
</tr>
<tr>
<td>Not appropriate or indeterminate</td>
<td>26</td>
<td>8.3</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\(N = \) number of e-mails.
This is not a pediatric radiology question but a pediatric pulmonary question and, therefore, would be coded into that category. If the e-mail had noted something about radiographic evaluation, etc, then it would have been coded into the pediatric radiology category. A previous study that investigated how individuals had been referred to digital textbooks in a digital library showed that 40% of individuals arrived at a textbook chapter by an Internet search engine, with the balance arriving by following links from Internet indices or other digital libraries. This reliance on Internet search engines often results in the individual finding information without understanding the context in which the information is being presented. The person in the case above misidentified the author as an expert in the field of Kartagener’s syndrome. This is characteristic of the e-mails reviewed in this study, as laypersons regarded even short passages in the digital textbooks to mean that the author was an expert in that particular area. Many e-mails contained statements such as, “As a leading expert in X, could you please answer my question about . . . ?” This is in contrast to a study of e-mails sent to the authors of a single Internet site focusing on cardiac arrhythmias, who found that 96% of their e-mails concerned cardiology issues. It is consistent with a study of unsolicited e-mails to a digital health sciences library that provides a broad range of medical information. Consequently, it seems that when presented with a broad range of information, such as that in the pediatric radiology digital textbooks or a digital health sciences library, laypersons have difficulty in determining the appropriateness and relevancy of the information and of whom they are asking questions. This dependence on the use of Internet search engines to locate information on the Internet may also account for the finding that the most common diseases referred to in the e-mails are in fact quite uncommon. The rarer the disease, the less information there is likely to be found on it on the Internet, and, therefore, the more likely the information on the disease in the author’s digital textbooks was likely to rank high on an Internet search engine’s hit list.

The second goal of the project was to determine what resources were necessary to answer the e-mail. The e-mails posed very sophisticated questions with many of the patients having already been evaluated in tertiary care hospitals. Unable to have their questions answered to their satisfaction locally, they decided to seek an answer globally. Therefore, the questions posed most often could not be answered by a general nurse or a general physician. Furthermore, “Frequently Asked Questions” lists as used by some pediatric web sites (Kidshealth. Available at: http://www.kidshealth.org/ and Mayo Health Oasis. Available at: http://www.mayoh health.org/) would also not be sufficient to answer these questions. The knowledge of a specialist was required to answer ~75% of these e-mails. These findings are also consistent with previous reports.

The third goal of the project was to develop an approach to replying to the e-mail in a thoughtful yet medicolegally-responsive manner. Initially, from 1995 to 1997, the pediatric radiology digital textbook author did not reply to any of the e-mails. In January 1998, the investigators developed a short reply that was a simple disclaimer statement (“I am sorry, but due to a lack of time and numerous ethical and legal complexities, I am unable to personally answer your medical question.”) but did not offer any generalized help to answer the senders’ questions. Over time, the investigators noticed how consistent the e-mails were. They were from laypersons with patient-specific cries for help that the investigators found difficult to ignore. Many times there was a grave or desperate tonal quality to the e-mails, similar to the illustration above and consistent with a previous study. This disclaimer, therefore, proved personally unsatisfactory to the investigators. With the help of the legal counsel of the University of Iowa, the investigators began developing a standardized reply to the unsolicited e-mail that would offer generalized help to answer the senders’ questions. While in the course of developing this standardized reply, it was realized such a reply had to consider and incorporate the following ethical, compensatory, legal, confidentional, and information quality issues.

**Ethical Issues**

E-mail is a very powerful tool to use to help pediatricians with their own patients. But how should it be used to help strangers? An informal survey of colleagues who are printed textbook authors revealed that they never answered questions sent to them by patients or health care providers who had read their textbooks. The opposite view is maintained by the American College of Physicians who state: “By history, tradition, and professional oath, physicians have a moral obligation to provide care for ill persons. . . . Each individual physician is obliged to do his or her fair share to ensure that all ill persons receive appropriate treatment.” They also say, “[Physicians] should support public health endeavors that provide the general public with accurate information about health care and comment on medical subjects in their area of expertise to keep the public properly informed.” Physicians clearly have a duty to serve those in need in the community. Currently, the American Academy of Pediatrics has no similar policy statement. Pediatricians clearly have a duty to serve those in need in the community. A similar sense of duty is held by health science librarians. However, the Internet community is a world-wide community and its scale complicates the issue as the Internet gives patients easy access to physicians whom they would never have had access to before. Clearly, a case can be made that pediatricians have a duty to respond in some way to unsolicited e-mail. However, with the number of individuals on the Internet doubling every year, even the most idealistic and conscientious pediatrician with the best intentions will eventually be overwhelmed responding to unsolicited e-mails. Therefore, a stan-
solicited reply to unsolicited e-mail is the only prac-
tical approach.

Compensatory Issues

To answer the unsolicited e-mails in a personal-
ized manner necessitates resource expenditures.
How would an individual be compensated for such
work? In a study of pediatric e-mail consultation,
Borowitz and Wyatt found 82.5 hours of work re-
sulted in 3 referrals to their practice. To answer the
majority of the e-mails, specialists are required. They
generally also require the most compensation for
their expertise. Currently, there is no universally ap-
plied business model for recovering the costs of an-
swering these e-mails. Some consider e-mail part of
the overhead of the individual’s practice, similar to
the way written and telephone correspondence is an
expected cost of medicine. Others view these e-mails
as requesting the services of a second opinion or
expert witness and believe they should have com-
ensation associated with the level of service pro-
vided. Institutions may come to regard digital text-
books as a form of marketing and/or goodwill to
patients and may consider underwriting the mone-
tary cost of a panel of specialists to answer these
e-mails, in the hope that such answers may generate
referrals. Compensation may also come in the form
of academic credit for serving on a panel for those
specialists who work in an academic environment.
Professional societies providing an e-mail consult
service would promote their organization through
provision of quality information to laypersons seek-
ing help. Any financial arrangement between a pe-
diatrician and an e-mail sender should be clearly
established in advance and should reflect the ser-
ices provided.19

Legal Issues

The legal issues of unsolicited e-mails are nu-
erous and well-outlined in several articles.22–25 A
pediatrician does not legally have to reply to an
unsolicited e-mail either with a standardized or per-
sonalized reply, but if a reply is sent then the pedi-
atrian may be entering into a contract depending
on the specific question and the reply sent. Unsolic-
ted e-mails are more like phone calls and letters that
are unsolicited by the pediatrician. Pediatricians do
not have a legal responsibility to answer them and if
they do answer, may or may not be entering into a
contract with the writer or caller. This is true even if
only some of the e-mails, phone calls, or letters are
answered and others go unanswered. If a pediatric-
ian chooses to reply to an e-mail, there should be a
disclaimer in the e-mail3 and all correspondence
should be saved as that of any other medical record
correspondence. All Internet information authored
by a pediatrician should also have a disclaimer be-
cause there is the potential for liability.22 Unfortu-
nately, the ultimate solutions to limiting liability are
to limit access to the author’s work (such as only to
professionals) or to remove it from the Internet, nei-
ther of which is a satisfactory solution. The area of
Internet medical practice regulation is in its infancy.
Definitions of medical practice vary from state to
state. Some states may even consider responding to
unsolicited e-mail to be practicing medicine across
state lines and a form of telemedicine; some states
have regulations regarding this, whereas others do not.

Confidentiality Issues

Senders are submitting detailed e-mails concern-
ing their problems: in essence, medical records,
which are not encrypted or secure. Any reply that is
sent is also not encrypted. Therefore, pediatricians
need to consider this when formulating a reply. The
original message and reply should be printed and
treated in a manner similar to any other medical
record. Similarly, the e-mail should not be released
to other individuals without the consent of the sender,
such as posting the message to a newsgroup.1,23,25

Information Quality Issues

Pediatricians who provide health care information
on the Internet should be keenly aware that layper-
sons have a difficult time discerning the quality of
the information. As noted, laypersons often think
that someone who has written even a short piece of
information is an expert in that area, so it is easy to
see how difficult it is for them to gauge the quality of
any Internet site or its information. One way to po-
tentially decrease problems is to subscribe to infor-
mation quality standards that are being devel-
oped.26–29 One example is the code of conduct of
Health on the Net Foundation, which expects that an
Internet site will minimally include: name of person
or organization creating the information, date of cre-
ation, date of last modification, support for the web
site, clear references to source data, and web site
contact information.30 Pediatricians can also direct
laypersons to information on how to judge the qual-
ity of information on the Internet.31

The end result of this process in April 1998 was a
standard reply (Fig 2), which is a general statement
that offers pointers to other quality information re-
sources for the sender. These resources include em-
phasis on the child’s primary care provider, the staff
of local or regional children’s hospitals, and regional
medical libraries. They also include information for
rare disorders. They go on to emphasize how to learn
to evaluate the quality of medical information on
the Internet and then point the sender to comprehensive
pediatric Internet indices and Internet medical
search engines as well as public access Medline. As
with all writings and other material once created and
placed in tangible form, this standardized reply is
copyrighted. However, there is no restriction on use
and/or modification by readers to suit their own
circumstances, and permission to do so is readily
granted. The investigators cannot scientifically state
how helpful the standardized reply is to the senders
except for the anecdotal receipt of some additional
e-mail from senders thanking the investigators for
the standardized reply. This standardized reply has
subsequently been adopted for use as the standard-
ized reply to all unsolicited e-mail sent to the Virtual
Hospital digital library.
Dear Sender,

I am sorry, but due to a lack of time and numerous ethical and legal complexities, I am unable to personally answer your medical question.

Allow me to take a moment to suggest some other resources you may use to answer your question:

1. An excellent resource to begin with is your child's primary care doctor. You can discuss your concerns and have your questions answered to your satisfaction. Your child's doctor can often be very helpful in explaining your child's overall condition, treatment goals and options. Your child's doctor can also be an excellent source for referrals to appropriate specialists in your area or for second opinions.

2. Another resource would be the staff of the appropriate department in your local or regional children's hospital. You can find a list of these institutions at http://www.uab.edu/pedinfo/Hospitals.html

3. The National Network of Libraries of Medicine is "dedicated to making the world's biomedical information available throughout the United States. If you are without access to a medical library, we can help you." Contact them at 1-800-338-7657 or at http://www.nlm.nih.gov/

4. It is important to learn how to evaluate the quality of medical information on the Internet. The Medical Library Association has a guide at http://www.mlanet.org/resources/medspeak_intro.html

5. If you haven't already, you might try the Virtual Hospital search page at http://www.vh.org/Misc/Search.html or the Virtual Naval Hospital search page at http://www.vnh.org/Misc/Search.html

6. Some main indices of pediatric information on the Internet which are comprehensive pediatric resources:
   - GeneralPediatrics.com at http://www.generaldiatrics.com
   - HealthFinder at http://www.healthfinder.gov
   - Pedinfo at http://www.uab.edu/pedinfo/index.html
   - Pediatric Points of Interest at http://www.med.jhu.edu/peds/neonatology/poi.html

7. For rare disorders, the National Institutes of Health offers Online Mendelian Inheritance in Man at http://www.ncbi.nlm.nih.gov/Omim/

8. The Internet's medical search engine is a resource - Medical World Search at http://www.mwsearch.com/


I wish you the best of luck in finding the information you are seeking.

Sincerely,

Physician name

*This standardized reply is copyrighted. However, there is no restriction on use and/or modification by readers to suit their own circumstances, and permission to do so is readily granted.
Limitations of this study include:

1. A sample of e-mails sent to a single author of pediatric radiology digital textbooks. Another individual author may have different content analysis results.
2. All study questions were not answered by each individual sender’s e-mail because information was inappropriate, missing, or unclear. Each e-mail did not need a preset number of variables to be included in the study.
3. Medical content was also coded into 1 specialty only; therefore, an individual specialty may be overrepresented or underrepresented.
4. Content analysis provides much information but lends itself to the potential of inaccurate coding. Coding was performed by 1 person, and accuracy was checked by a second person.32

CONCLUSION

With the continued growth of the Internet, any pediatrician publishing educational information on the Internet will be confronted with an increasing number of cries for help from laypersons in the form of unsolicited e-mail. Ethically, pediatricians have a responsibility to answer these e-mails but cannot be expected to be compensated for doing so and have finite resources to devote to the process. Therefore, we have taken a first step in proposing a standardized, nonpersonalized reply to unsolicited e-mail. Such a standardized reply should have a disclaimer statement that has been reviewed by legal counsel. The e-mails should be treated as medical records and confidentiality and documentation of the interaction should occur. Finally, pediatricians can use such a standardized reply to begin to educate laypersons about medical information quality on the Internet, by directing laypersons to resources that address this issue.

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