Medical misinformation: vet the message!

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‘Mrs Jones, based on your risk factors for having a heart attack, I recommend that we start you on a statin’.

‘No, thank you, doctor. I’ve read too many scary things about those drugs on the internet. Plus, I worry that some in your profession make these recommendations for reasons of personal financial gain. I also found that online’.

Undoubtedly, the majority of cardiologists have had conversations just like this, urging a patient to take a statin, powerful cholesterol-lowering drugs with robust mortality benefit. Part of the reason these oftentimes ‘no brainer’ recommendations are rejected derives from widely disseminated incorrect information which vastly over-states the risks of these drugs. (Of course, like anything in life, statin use is...
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not entirely risk-free; their application should always entail a thought-
ful analysis of risks vs. benefits.) Most patients do not recognize that
the benefits of statin use are invisible (‘I didn’t have a heart attack or
stroke this past year’), whereas the small and typically reversible risks
(e.g. muscle pain) are readily apparent. Many patients who would
benefit from statin use do not take them.

Cardiovascular disease is the no. 1 killer of both men and women
around the world. Robust scientific advances, published in the pages
of our journals, have fostered significant improvements that benefit
individuals and society. Yet, cardiovascular disease continues to trans-
form itself, emerging in new forms, such as heart failure. The struggle
has shifted to new battlefields.

These successes derive from an armamentarium of powerful
tools—medicines and devices—and awareness of lifestyle-related
hazards, such as high blood pressure, high cholesterol, and smoking.
Sadly, however, we do not take full advantage of the tools at our
disposal.

One significant cause of suboptimal utilization of our prodigious
tool chest is medical misinformation hyped through the internet, tele-
vision, chat rooms, and social media. In many instances, celebrities,
activists, and politicians convey false information; not uncommonly,
authors with purely venal motives participate.

We can point to numerous other examples, including the entirely
unfounded concerns regarding vaccinations. The notion MMR (mea-
sles, mumps, rubella) vaccination causes autism was based on a single,
flawed study, long since refuted, and its publication retracted.
Seventeen much larger and properly controlled studies have proven
otherwise. Nevertheless, the internet shouts unfounded warnings.
Once again, celebrities, actors, activists, and politicians with no specif-
ic knowledge or training use their fame to promote a message that
causes serious harm. Individuals who are neither physicians nor scien-
tists, but often with a specific agenda, have outsized influence over
our lives. They dispute scientific evidence without ever having studied it.1

Recognizing that it is impossible to prove ‘never’, scientists appro-
priately couch their statements in statistical terms, which may come
to across to the public as equivocation. The nuanced voices of scientists
often do not resonate with the public as much as the strident alarms
sounded by people of fame, speaking in absolute terms.

Further, scientists are appropriately sceptical, as any individual scien-
tist or study can be wrong. Yet, science ultimately self-corrects. When
a scientist gets it wrong, as happens, people sometimes vilify the entire,
self-correcting scientific enterprise. We trust aeronautical science
when we board an aeroplane; we trust the science buried within our
cell phones; we trust mechanical engineering science when we cross a
bridge; yet, many are uniquely sceptical of biological science.

Sadly, we cannot exclude that some in the professions of science
and medicine act based on motives driven by financial considerations;
incomplete declarations of potential conflict of interest persist.2 Recent examples of dramatic price hikes for important medications
have reinforced this notion. Indeed, many physicians have had

conversations with patients who believe that our recommendations
stem, at least in part, from the prospect of personal financial gain.

We, the editors-in-chief of the major cardiovascular scientific jour-
nals around the globe, sound the alarm that human lives are at stake.
Pointing to the two examples elaborated above, people who decline
to use a statin when recommended by their doctor, or parents who
withhold vaccines from their children, put lives in harm’s way.

The media must do a better job. It is unacceptable to posit false
equivalents in these discussions, often done to foster debate and con-
troversy. It is easy to find a rogue voice but inappropriate to suggest
that voice carries the same weight as that emerging from mainstream
science. (We can easily point to examples outside the medical do-
main, as well, such as climate change, evolution, nutraceuticals, and
GMO foods where false equivalents are frequently posited.)
Furthermore, recent evidence suggests that misinformation travels
faster through social networks than truth.3 We must work to en-
hance science literacy in our world; one place to start is by doing a
better job of teaching the scientific method in our schools so that the
lay public is aware that science is accomplished in fits and starts, but
in the end, gets it right.

Purveyors of social media must be responsible for the content
they disseminate. It is no longer acceptable to hide behind the
cloak of ‘platform’. We, as editors, are charged with evaluating the
validity of the science presented to us for possible publication,
and we work hard to fulfill this heady responsibility. Recognizing
that lives are at stake, we reach out to thought-leading experts to
evaluate the veracity of each report we receive. Here, we chal-
lenge social media to do the same, to leverage the ready availability
of science-conversant expertise before disseminating content
that may not be reliable.

Without exaggeration, significant harm, to society and individuals,
derives from the wanton spread of medical misinformation. It is high
time that this stop, and we lay at the feet of the purveyors of internet
and social media content the responsibility to fix this.

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