5 Questions: Ioannidis on the need to test medical 'truths'

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(Medical Xpress) -- How many established standards of medical care are wrong? Disturbingly, no one knows for sure, but one study suggests that it could be almost half, according to a commentary published in the Jan. 4 issue of the *Journal of the American Medical Association*. In many instances, physicians are prescribing treatments or therapies for which there is little or no evidence to support their use. And when evidence emerges that the harms posed by an established treatment may outweigh its benefits for certain patients, some physicians are reluctant to change the way they've practiced medicine during their careers.

John Ioannidis, MD, director of the Stanford Prevention Research Center and senior author of the *JAMA* commentary, believes it's high time that physicians do a reality check to determine which treatments have solid evidence behind them, and to "abandon ship" on those that don't. This effort can be boosted, he said, by strengthening the standards for approving drugs and devices, working harder to remove bias from clinical trial design and limiting the role of the industry in funding clinical research. Ioannidis spoke with writer Susan Ipaktchian about the need to test established medical "truths."

Q: Your commentary cites an alarming evaluation of 35 trials published in 2009 testing established clinical practices, which found a little less than half of those practices didn't provide the stated benefit. What are

the key reasons that so many of these practices don't work?

Ioannidis: I think that many of these practices were adopted long ago based on thin or no evidence, and with high hopes rather than real data, and then they became entrenched in the system. In other cases, it is possible that these treatments worked when they were first adopted, but are no longer useful because of changes in the overall management of the disease, availability of other treatments and/or changes in the profile of patients being treated.

Q: Why are physicians unwilling to change their clinical practices when a new study shows that a specific treatment isn't effective?

Ioannidis: I think this is because they are used to it, it forms an integral part of their practice: This is what they have learned to do, what they get paid to do and what they built their practice with. Sometimes the changes require physicians to redefine what they practice. One can't change jobs easily.

Q: What can be done to motivate doctors to "abandon ship" on treatments that aren't supported by strong evidence of effectiveness?

Ioannidis: It takes re-training and exposure to solid evidence against countering messages and advertising that try to maintain the status quo. Eliminating insurance reimbursement for these interventions would also make a difference. Similarly, regulatory agencies could help by revoking the licensing of these interventions when evidence shows that they are ineffective for specific indications

Q: Should patients be less trusting of the treatments suggested by their doctors?

Ioannidis: I would not wish the patient-physician relationship to be eroded; trust is essential. Trust is likely to be strengthened when patients are more knowledgeable, when they question their physicians about the evidence pertaining to their condition and when physicians give them the full, unbiased picture about this evidence.

Q: You mention that allowing companies to design clinical trials of their therapies and devices is like asking a painter to judge his or her own work for an award. Do you think the role of pharmaceutical and device companies in clinical trials should be limited?

Ioannidis: Pharmaceutical and device companies should be free to do early, high-risk R&D research, rather than be forced to cheat the system by designing clinical trials in ways that will get the answer they want.

In the translational research framework, it is weird that T0 and T1 research (discovery) is funded by the public through governmental agencies, even though this research cannot directly and immediately harm or benefit people, while T2 and T3 research (clinical evaluation and implementation) is funded and controlled primarily by the industry. The public should control primarily the design and conduct of T2 and T3 research which has direct, major, immediate consequences for people's health. The industry can contribute some funding toward a public-controlled pool for conducting impartial, randomized trials and can then shift their attention to basic discovery and innovation.