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July 29, 2020

Stephen M. Hahn, M.D.
Commissioner
Food and Drug Administration
U.S. Department of Health and Human Services
10903 New Hampshire Avenue
Silver Spring, MD 20993

Jeffrey Shuren, M.D., J.D.
Director
Center for Devices and Radiological Health
Food and Drug Administration
U.S. Department of Health and Human Services
10903 New Hampshire Avenue
Silver Spring, MD 20993

RE: FDA's Response to Public Citizen's Report on FDA Oversight of Implanted Spinal Cord Stimulators for Pain Relief

Dear Commissioner Hahn and Dr. Shuren:

We are writing to express our great disappointment regarding the Food and Drug Administration's (FDA's) June 25 letter (copy enclosed) reacting to our June 10 report, *Implanted Spinal Cord Stimulators for Pain Relief: Illustrating the FDA's Dangerously Lax Oversight of High-Risk Implantable Medical Devices*. We found the terse non-responsive letter from the FDA's Dr. Carlos L. Peña to be utterly dismissive about the detailed observations, concerns, and recommendations presented in our report and to lack any hint of thoughtful introspection about weaknesses in the agency's oversight of high-risk implantable medical devices and the potential opportunities to address those weaknesses to better protect patients treated with these devices.

In his letter, Dr. Peña asserted that our "report contains a number of inaccuracies and misinterpretations of the statutes and regulations that guide FDA's oversight of medical devices, including the review of premarket submissions, postmarket surveillance, and compliance enforcement." But Dr. Peña failed to specify what those inaccuracies and misinterpretations were, nor did he address any concerns he may have considered accurate.

By referring us to the Center for Devices and Radiological Health's (CDRH's) Division of Industry and Consumer Education, as well as other well-known sources for information about CDRH, he implied that we lack specific knowledge about the agency's authority and mission and

that this might be the basis for the "inaccuracies and misinterpretations of the statutes and regulations" that he purportedly identified in our report.

However, a careful reading of our report and the cited source documents would have revealed that the report essentially recounts key information regarding deficiencies in the classification and regulatory oversight of these devices over the past four decades — evidence presented in the agency's own records. Moreover, although we included in the report citations of certain statutes and regulations related to FDA oversight of medical devices, we refrained from offering interpretations of those statutes and regulations. We therefore respectfully request that the FDA explain whether any of the following key findings presented in our report are inaccurate, and if so, provide evidence of why that is the case:

(1) The FDA divided implanted spinal cord stimulators for pain relief into Class II (product code GZB) and Class III (product code LGW) based, respectively, on whether the devices have an external transmitter and power source or are totally implanted.

(2) The FDA classified spinal cord stimulators with an external transmitter and power source for bladder evacuation as Class III devices.

(3) The risk profiles for the Class II and Class III spinal cord stimulators for pain and for the Class III spinal cord stimulators for bladder evacuation are similar.

(4) The FDA has approved six original premarket approval applications (PMAs) for totally implanted spinal cord stimulators for pain relief.

   (a) Of the first two approved original PMAs for totally implanted spinal cord stimulators for pain relief, the clinical studies submitted in support of the FDA's approval for one are not available on the agency's website; for the other, the agency's approval was based on a seriously flawed clinical study of the actual device for which approval was being sought.

   (b) For three of the subsequent four original PMAs for totally implanted spinal cord stimulators (and for one of the two approved indications for the fourth subsequent original PMA), the FDA based its approval on clinical data derived only from published scientific medical literature for *other* spinal cord stimulator systems, and the studies of those other spinal cord stimulator systems had major flaws and limitations.

(5) From 1980 to 2019, the FDA approved 945 of 1,008 submitted PMA supplements for the six PMAs for Class III totally implanted spinal cord stimulators for pain relief.

   (a) In the most recent three-year period included in our analysis (2017-2019), the PMA supplement approval rate was approximately 1.5 per week, whereas prior to 2001 the approval rate averaged less than three per year, which represents a 28-fold increase in the rate of approvals.

(b) Numerous new models of totally implanted spinal cord stimulators for pain relief have been approved via PMA supplements, and the FDA's review process for PMA supplements appears to be even less rigorous than the review process for original PMAs.

(c) In contrast to the approval of original PMAs, the FDA in general does not make publicly available on its website either Summaries of Safety and Effectiveness Data or summary review memos for approved PMA supplements, except for a small fraction of PMA summary review memos for 180-day design changes for approved PMA devices.

(6) Published reviews indicate that use of implanted spinal cord stimulators have been associated with an overall complication rate of 30% to 40%.

(7) A search of the MAUDE database for the period of 2004 to 2019 revealed a total of 40,457 medical device adverse event reports (including 38,545 reports of injuries and 174 reports of death) for the Class II spinal cord stimulators with external transmitters for pain relief (product code GZB) and 179,917 reports (including 118,272 reports of injury and 757 reports of death) for the totally implanted spinal cord stimulators for pain relief (product code LGW).

(8) For the Class II implanted spinal cord stimulators with external transmitters for pain relief (product code GZB), there have been a total of five recalls from 2004 to 2019. For the Class III totally implanted spinal cord stimulators for pain relief (product code LGW), there have been 44 device recalls from 2004 to 2019. Notably, there were no Class 1 recalls (a situation in which there is a reasonable probability that the use of, or exposure to, a violative product will cause serious adverse health consequences or death) for either class of implanted spinal cord stimulators.

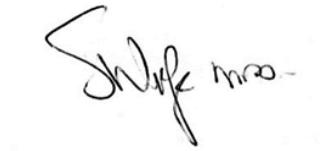
We stand by our assessment that the FDA's regulatory oversight of implanted spinal cord stimulators for pain relief has had serious, wide-ranging deficiencies since the enactment of the Medical Device Amendments of 1976 and is emblematic of what is wrong with the agency's oversight of medical devices and the serious harm to patients that can result. Importantly, many of the issues documented in our report — including problems regarding device classification, the evidentiary basis for approving original PMAs, and the lack of transparency for PMA supplement approvals — reflect CDRH-wide policies, and these issues need to be addressed at the Center level or higher.

In closing, the FDA's troubling lack of receptivity to constructive criticism of the agency's oversight of medical devices does the American public a great disservice. We therefore urge you to take a more careful look at our report and give more thoughtful consideration to the recommendations in it.

Thank you for your attention to these important public health issues regarding implanted medical devices.

Sincerely,

Michael A. Carome, M.D.
Director
Public Citizen's Health Research Group



Sidney M. Wolfe, M.D.
Founder and Senior Adviser
Public Citizen's Health Research Group

Enclosure

cc: Carlos L. Peña, Ph.D.

June 25, 2020

Michael A. Carome, MD
Health Research Group
Public Citizen
mcarome@citizen.org

Dear Dr. Carome:

Thank you for your June 10, 2020 letter to Stephen M. Hahn, MD, Commissioner of the Food and Drug Administration (FDA), and Jeff Shuren, MD, JD, Director of the Center for Devices and Radiological Health (CDRH), which encloses a report from Public Citizen on implanted spinal cord stimulators for pain relief. Your correspondence has been referred to CDRH, which has responsibility for the regulation of medical devices at the FDA.

While we appreciate the work of Public Citizen's Health Research Group to advance public health and safety on this front, the report contains a number of inaccuracies and misinterpretations of the statutes and regulations that guide FDA's oversight of medical devices, including the review of premarket submissions, postmarket surveillance, and compliance enforcement. For questions related to medical device topics including how we regulate devices, we encourage you to reach out to CDRH's Division of Industry and Consumer Education (DICE).

CDRH does not agree that a serious safety signal exists outside the known and mitigated risks associated with spinal cord stimulators at this time. To assure the safety and effectiveness of devices once they are on the market, CDRH uses a multifaceted approach that relies on various scientific methods and techniques under our current authorities, including:

- Medical device reports (MDRs),
- Medical Product Safety Network (MedSun),
- Post-approval studies,
- Postmarket surveillance studies (also referred to as "522 studies"),
- Premarket approval application annual reports,
- Review of the scientific literature,
- Inspection of device establishments for compliance with quality system and other applicable requirements,
- Manufacturer reports of corrections and removal, and
- Complaints and allegations made by members of the public, often by competitor companies.

While useful, these tools may have inherent limitations. That's why the FDA continues to take steps to significantly strengthen the infrastructure to assure medical device safety and effectiveness in recent years. Some key enhancements to our infrastructure include:

- Improving regulatory clarity regarding use of real world evidence,
- Signal Management Program, and
- Recalibrating the benefit-risk framework for device oversight in the pre- and postmarket settings.

To learn more about our approach to ensuring safety and effectiveness of devices on the market, please refer to our 2018 Medical Device Safety Action Plan. If you wish to obtain records related to the review, assessment, and monitoring of implanted spinal cord stimulators indicated for pain relief, you may submit a Freedom of Information Act (FOIA) request. More information on how to submit a request can be found on CDRH's FOIA webpage.

We appreciate you taking time to contact us. We hope this information is useful in affirming our continuing commitment to protecting the health of patients.

Sincerely,

Carlos L. Pena -S

Carlos Peña, Ph.D.
Director
Office of Health Technology 5: Neurological and Physical Medicine Devices
Office of Product Evaluation and Quality
Center for Devices and Radiological Health