THE AUTHORS REPLY: We welcome vigorous debate about all aspects of assessment of health system performance, with the ultimate goal of improving the health of populations. The World Health Report 2000† generated a rich discussion that advanced this field of study enormously, leading to a 927-page volume published by the WHO in 2003 and feeding into health care reform initiatives in China, Mexico, Iran, and elsewhere.

Musgrove criticizes our Perspective article for citing rankings from the 2000 report. It is important to note that he was one of the report’s lead authors and that 3 years after its publication, he took the unusual step of criticizing his own report. At that time, we published a thorough rebuttal.4

The United States spends more on health care and yet has worse rates of death and a higher disease burden than countries that spend far less. Apologists for the U.S. system tend to ignore these facts and attempt to distract observers from the real challenges the country faces. If we do not build a strong evaluation component into reform, we will miss opportunities for learning through implementation, correcting the course if needed, promoting accountability, and mustering public support. Unfortunately, on these critical points, Musgrove is silent.

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Since publication of their article, the authors report no further potential conflict of interest.

Figure 1. Associations between Single-Nucleotide Polymorphisms (SNPs) and Ischemic Strokes in Persons of European Ancestry, According to Study.

The forest plots show the odds ratios for the association between ischemic strokes and the minor allele (A) of both SNPs. No risk effect of these alleles was detected for either SNP. Data from 8915 persons with ischemic strokes are shown. The comparison group is 30,510 stroke-free controls. Individual studies (blue boxes) are plotted against the individual effect sizes (odds ratios). The red diamonds indicate overall odds ratios. The size of the blue boxes indicates study-specific weights for the meta-analysis. Horizontal lines indicate 95% confidence intervals. The dashed vertical line shows the lack of any effect on the risk of stroke (odds ratio, 1.0). ESS denotes Edinburgh Stroke Study, GCNKSS Greater Cincinnati/Northern Kentucky Stroke Study, ISGS Ischemic Stroke Genetics Study, MCISS Middlesex County Ischemic Stroke Study, MGH Massachusetts General Hospital, MIGen Myocardial Infarction Genetics Consortium, SWISS Siblings with Ischemic Stroke Study, UMD-SPYAS University of Maryland Stroke Prevention in the Young Study, VISP Vitamin Intervention for Stroke Prevention Trial, WGHS Women’s Genome Health Study, WTCCC2:GER Wellcome Trust Case–Control Consortium 2, German data, and WTCCC2:UK Wellcome Trust Case–Control Consortium 2, United Kingdom data.
not significant (\(P>0.20\) for heterogeneity, proportion of total variation in study estimates because of heterogeneity in the meta-analysis \(I^2<20\%\)), although we did identify significant heterogeneity in the original report’s meta-analyses for rs11833579 (\(P=0.07\) for heterogeneity, \(I^2=56.1\%\)) and rs12425791 (\(P=0.15\) for heterogeneity, \(I^2=42.1\%\)).

Our well-powered meta-analyses did not validate previously reported associations between two SNPs (rs12425791 and rs11833579) and stroke.\(^1\) This lack of validation is most likely because of a false positive result in the previous meta-analysis. Differences between our predominantly case–control sample and the cohort sample of the original study may also have been factors. Given the power of our meta-analysis, a false negative finding is unlikely. Our results strongly suggest...
Autologous Pancreatic Islet Transplantation for Severe Trauma

TO THE EDITOR: Autologous pancreatic islet transplantation has been successfully carried out after total pancreatectomy for chronic pancreatitis, and allogeneic islet-cell transplantation has had limited success.\(^1\)\(^2\) We report a case of successful islet transplantation from the pancreas after total pancreatectomy because of trauma.

A 21-year-old airman serving in a remote part of Afghanistan was hit by three high-velocity bullets on November 21, 2009, and was rapidly transferred to Walter Reed Army Medical Center. As part of needed rescue surgery, a portion of the stomach, the gallbladder, the entire duodenum, and the head of the pancreas were removed. In addition, the patient required left hemicolectomy and resection of a portion of the small bowel.

During the attempt to reconstruct the intraabdominal structures, the remnant pancreas (weighing 63.5 g, approximately half the entire pancreas) was found to be damaged from the effects of the gunshot wounds and was leaking pancreatic enzymes and dissolving critical abdominal structures and blood vessels. We decided to remove the entire remaining pancreas to prevent further leakage, breakdown, and bleeding, which could be fatal. The pancreas was flushed with University of Wisconsin solution, packed in ice, and transported to the University of Miami. The islets (221,250 islet equivalents of 40% purity and 90% viability) were shipped back to Walter Reed, where by laparotomy they were injected back into the patient's main portal vein so as to seed in the liver. Portal pressures remained normal throughout the infusion.

Levels of C-peptide in basal and stimulated (after an oral glucose-tolerance test) conditions were 0.5 ng per milliliter with a glucose level of 80 mg per deciliter (fasting) and 3.9 ng per milliliter with a glucose level of 184 mg per deciliter (stimulated). As of postoperative day 114, the patient had normal islet function. Liver enzymes peaked on day 3 (800 IU for aspartate aminotransferase and 900 IU for alanine aminotransferase) and normalized on day 8. The patient was able to discontinue insulin on day 24. Initially, he required a small amount of insulin (1 to 2 units per hour) for total parenteral nutrition and 11 serial surgical procedures to close his abdomen. As of day 20, the patient was eating a normal diet.

In this patient, we were able to isolate and transplant insulin-producing cells after a severe trauma requiring complete removal of the pancreas. This procedure may prevent diabetes and secondary complications if even a small portion of pancreas can be salvaged. We also showed the feasibility of sending a pancreas to a remote location for islet isolation and purification and then transporting the islets back for successful infusion within 24 hours.\(^3\)

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Disclosure forms provided by the authors are available with the full text of this letter at NEJM.org.

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