

Circulation: Cardiovascular Interventions The First 10 Years

David P. Faxon, MD; Jane A. Leopold, MD; J. Dawn Abbott, MD; Doff B. McElhinney, MD;
David O. Williams, MD

Success is the journey, not a destination.

—Arthur Ash

C*irculation: Cardiovascular Interventions* published its first issue in August of 2008. It was 1 of 6 new journals started by the American Heart Association to address the needs of the major subspecialty areas in Cardiology. It joined the established journals of the American Heart Association: *Circulation*; *Circulation Research*; *Arteriosclerosis, Thrombosis, and Vascular Biology*; *Hypertension*; and *Stroke*. The 6 daughter journals were initially under the umbrella of *Circulation*, and there was a natural close relationship between the subspecialty journals and *Circulation* because nearly all the initial subspecialty editors were members of the Editorial Board of *Circulation*. Under the guidance of *Circulation*, this remarkable experiment exceeded expectations and quieted skeptics. All the daughter journals have grown to be among the top 25 Cardiology journals in the world as measured by impact factor.

Before 2008, there were only 4 dedicated interventional cardiology journals: *Catheterization and Cardiovascular Intervention* (formerly *Catheterization and Cardiovascular Diagnosis* published from 1975 to 1998), *Journal of Invasive Cardiology* (1990–), *Journal of Interventional Cardiology* (1991–), and *EuroIntervention* (2005–). Today, there are a total of 9 interventional journals listed on PubMed and many others online. *Circulation: Cardiovascular Interventions* and *JACC: Cardiovascular Interventions* are leading in metrics, and both rank within the top 10 Cardiovascular Journals overall.

We set out to publish original experimental and clinical investigations that would lead to improvements in care in the field of interventional cardiology.¹ In 2008, we received 158 submissions and published 35 original papers. This past year, we received 1226 papers and published 92 original papers. Our acceptance rate fell from 28% to 13% during this time, and our impact factor rose from 4.34 in 2010 to 6.598 in 2016 (Figure). Our goal was to publish papers as quickly as possible, and we

achieved this by reducing the time from submission to first review from 34 to 20 days. In 2015, we transitioned from bimonthly to monthly publication, and at the same time moved to an online-only format. The content during this time also changed, closely reflecting the evolving field of interventional cardiology.

In 2008, percutaneous coronary interventions (PCI) dominated coronary revascularization procedures in the United States, having seen an exponential growth over the 40 years since Andreas Greutzig introduced the technique. PCI accounted for 75% of the >1.2 million revascularization procedures performed in 2006.² It is estimated that 5 million people will undergo PCI worldwide this year and that figure will grow to 5.7 million/y by 2022.³ It is not surprising that 84% of the original papers published in *Circulation: Cardiovascular Interventions* in our first year were on coronary interventions.

We have witnessed some major changes in PCI since the journal began 10 years ago. Drug-eluting stents have become much more deliverable because of lower profiles and thinner struts. The improvements in stent design and the development of biocompatible durable polymers, biodegradable polymer, or polymer-free stents have lowered stent thrombosis, surpassing bare metal stents.⁴ Biodegradable stents have been intensely studied and, while they have fulfilled some of their promise, late stent thrombosis remains a limitation.⁵ The treatment of chronic total occlusions has made remarkable progress, with success rates rising from 50% to 80%–90% now because of advances in antegrade and retrograde techniques.⁵

Perhaps the greatest change has been the growth of structural heart interventions. Since transcatheter aortic valve replacement (TAVR) was introduced in 2002, it has grown to an estimated 200 000 procedures worldwide, and it is anticipated to grow to 300 000 by 2020.⁴ TAVR has become the standard of care for inoperable and high surgical risk patients with aortic stenosis. Newer lower profile devices have improved safety, with reduced mortality, vascular complications, perivalvular aortic regurgitation, and stroke.⁶ The technique is now being applied to lower surgical risk patient groups with excellent short-term outcomes.⁷ In the United States, the volume of TAVR more than doubled in the Medicare population between 2009 and 2015, from 27.5 to 88.9 per 100 000 Medicare beneficiaries.⁸ Currently, TAVR is performed almost as frequently as surgical aortic valve replacement and more often in the elderly patient. Other applications of TAVR, such as valve-in-valve placement for degenerated bioprosthetic valves, have been approved in the United States and have become the treatment of choice. Clinical trials of mitral repair techniques have shown promise, and early trials of transcatheter mitral valve replacement have begun.⁹ We have strived to include structural interventions in

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From the Department of Medicine, Brigham and Women's Hospital, Boston, MA (D.P.F., J.A.L., D.O.W.); Department of Medicine, Division of Cardiology, Brown University, Providence, RI (J.D.A.); and Department of Pediatrics, Division of Cardiology, Stanford University, Palo Alto, CA (D.B.M.).

Correspondence to David P. Faxon, MD, Department of Medicine, Brigham and Women's Hospital, 1620 Tremont St, BC-3-12N, Boston, MA 02120. E-mail dfaxon@partners.org

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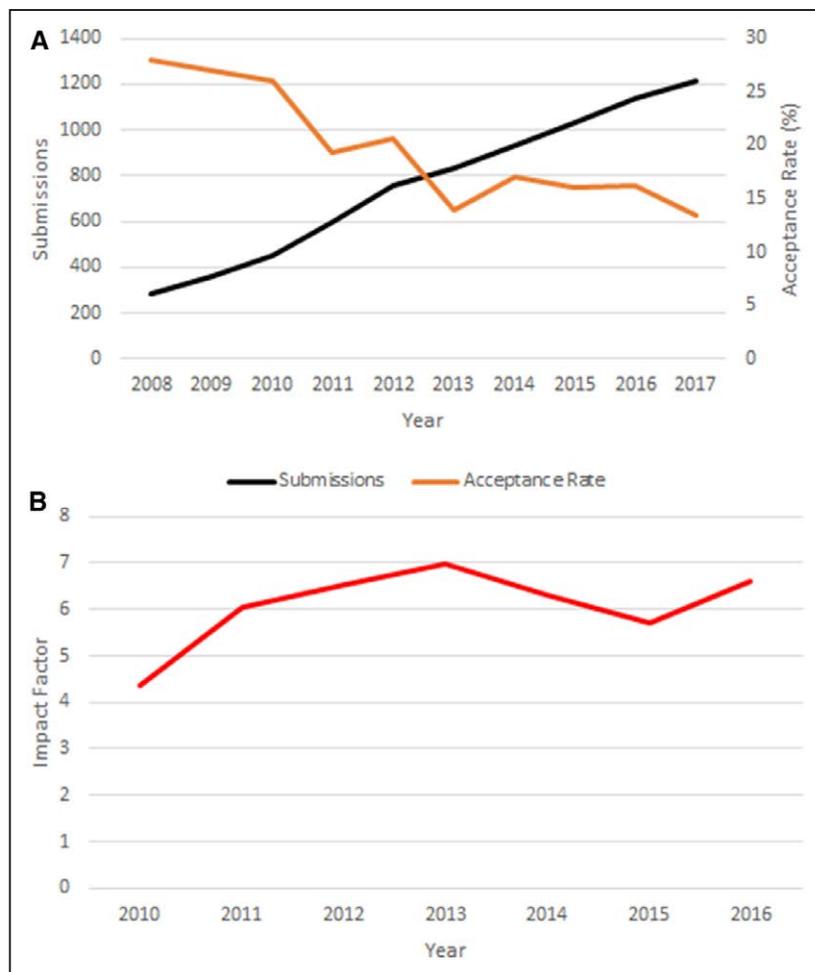


Figure. *Circulation: Cardiovascular Interventions*: (A) growth of submissions, fall in acceptance rate, and (B) the rise in impact factor from 2010 to 2016.

congenital/pediatric patients as well. It is not surprising that 40% of the papers published in *Circulation: Cardiovascular Interventions* last year were focused on structural heart interventions, up dramatically from 16% in 2008.

Industry sources suggest that the structural heart intervention market will increase 30% over the next 2 to 3 years while the PCI market will grow only 3% to 5%.³ Many speculate that interventional procedures will dominate over surgical techniques even more than they do today and that the 2 fields will be much more aligned. The widespread adoption of the Heart Team approach has already brought us together. These changes will also mean a change in the types of papers submitted, with a broadening readership of *Circulation: Cardiovascular Interventions* in the future.

Changes in global scientific discovery will shape the future of publishing. Submissions to *Circulation: Cardiovascular Interventions* from countries other than the United States have doubled over our tenure, and now only 50% are from the United States. The number of papers submitted from Asia has significantly grown from 2.6% in 2009 to 20% in 2017. The greatest increase of submissions has been from China. In 2009, we had 9 papers submitted from China and in 2017 we had 77. Other trends will play a role in changing publishing as well, such as continued growth in online-only journals, expansion of the open access journal sector, and changes in the cumbersome peer review process.¹⁰

The future of *Circulation: Cardiovascular Interventions* will be to adjust to the dramatic changes that are likely to occur in the field. The journal is now in the capable hands of the new Editor-in-Chief, Dr Sunil Rao, and his impressive group of Associate Editors, who are clearly ready to lead the journal into the future. We wish them the best, and we are confident that they will bring a fresh direction to the journal. We thank our readership and our Editorial Board members for their support over the past 10 years of our journey. Scientific publishing is a demanding job, but one that has enormous rewards and, most importantly, leads to the advancement of science and clinical medicine.

Disclosures

None.

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