resolves after pregnancy, some have reported that up to 10% of these women per year will develop new-onset type 2 diabetes.

Thus by 5 years from the affected pregnancy there is a 50% risk of type 2 diabetes. The overall impact of this observation is that in the United States there are an estimated 150,000 women per year with the diagnosis of gestational diabetes and half of these women will eventually develop type 2 diabetes [3]. Now that there is a clear means of intervention and thus prevention of the inevitable, we can finally impact on the rising rate of type 2 diabetes.

Lessons learned from this new study, Pioglitazone in the Prevention of Diabetes (PIPOD), are applicable to other patients with a high risk of developing type 2 diabetes. Xiang and coworkers obtained three main results:

— The first and most robust concerns stabilization of pancreatic β-cell function: the previously documented decline of 33% over the first year after a pregnancy complicated by gestational diabetes was stopped with pioglitazone therapy.
— There is a strong relationship between an initial reduction in insulin output and the risk of diabetes: diabetes incidence rates were the lowest in the third of women with the greatest reduction in insulin output after only 1 year of treatment.
— The rate of 4.6% is much lower than the reported rate of 12.1% per year without treatment.

These three findings are finally good news in the field of type 2 diabetes. We have only recently learned that the explosion of type 2 diabetes has resulted in over 230 million individuals afflicted by the disease. To turn the tide of this trend of type 2 diabetes, we must institute prevention strategies. Pioglitazone is a safe and efficacious therapy for decreasing the risk of type 2 diabetes in high-risk populations.

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The DAWN study: patient and provider perceptions of care

Original article:
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Summary and Comment:
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DAWN study, chronic care model, diabetes prevention, health care delivery, provider perceptions, patient perceptions

Summary

This study was designed to explore provider and patient perceptions of diabetes care. Face-to-face or telephone interviews were done in 13 countries in Asia, Australia, Europe and North America to gather information on areas that are essential to successful chronic care models. Questions were designed to address targeted areas that apply to chronic disease management, such as: is care accessible, comprehensive and collaborative; is prevention focused?

Reports from countries differed on all outcomes, and the relationship between the respondent characteristics and outcomes varied by country. Providers rated systems and remuneration as mediocre. Patients reported favorably to access; however, finances and complications were major barriers. Sadly, those who needed it most — the poor and those with complications — reported more difficulty with access.

Team care was more available for type 1 patients, but primary care providers reported low availability of other team disciplines on site. Patients varied in their perceptions of provider collaboration. Although all of the countries' responses varied significantly, all had a high endorsement for prevention strategies.

Sadly, those who needed it most — the poor and those with complications — reported more difficulty with access

The authors concluded that each country needs to identify gaps and develop country-specific strategies.

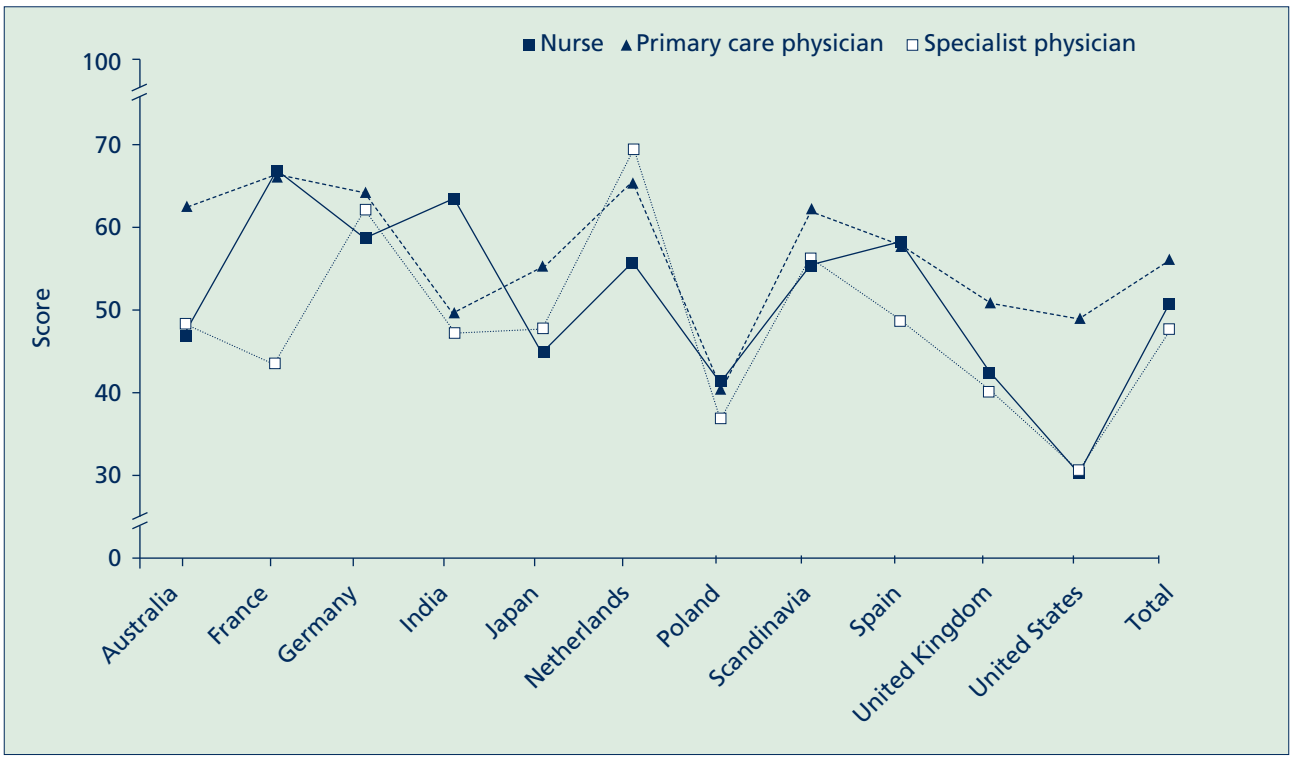

Fig. 1: *Health care provider ratings of the chronic care system in 11 regions, representing 13 countries. Scores range from 0 to 100, with higher scores representing better organization.*

Comment

This global study provides valuable insight for countries struggling to identify the best approaches to chronic disease management as the diabetes pandemic continues [1]. As one would anticipate, providers and patients from different countries had varied responses; however, consistent themes emerged in the findings.

In countries with socialized systems, such as the Netherlands and Scandinavia, providers rated their care systems higher than those with payer systems similar to that of the United States, which had the lowest ranking

The overall rating of chronic care systems and remuneration by providers was reported as mediocre. The term 'mediocre' was used to convey the finding that overall responses to the questions were at midpoint on the scales. However, when carefully reviewing the responses from specific countries, what is most interesting is that in countries with socialized systems, such as the Netherlands and Scandinavia, providers rated their care systems higher than those with payer systems similar to that of the United States, which had the lowest ranking (*Fig. 1*).

This study missed an incredible opportunity as we address gaps in chronic disease management and explore implementation of methods such as the team care approach: not surprisingly, but unfortunately, the remuneration question applied only to physicians. It would have been interesting if a question regarding remuneration or payment for services had been asked of the nurse and patient participants as it applied to them. One can only surmise what nurse or patient responses would have been if a question had applied to support for other disciplines, such as payment for education services or patient rewards (for example reduced insurance co-payments for the US population). It is not unexpected that overall physicians perceived payment as a barrier to quality care. This message has already been taken seriously in the US: for example, physician incentive programs are already underway in several states. The study findings would have been much more provocative if a broader question in support of team care and patient rewards had been asked.

Curiously, primary care physicians overall rated care systems higher than did diabetes specialists and nurses. One cannot help but wonder whether primary care providers are well versed in all of the essential elements in chronic disease management. In studies investigating attitudes and barriers to diabetes care, primary care providers scored poorly in areas related to

patient psychosocial needs and autonomy [2, 3]. Primary care providers are also reported to have poor adherence to evidence-based guidelines [4] — another indication of their limited appreciation of critical elements, such as decision support, in chronic care models [5].

Overall, patients did not report problems with access. One must wonder whether patients really know what services they should be routinely receiving. In a study by our team at the University of Pittsburgh, when exploring opportunities to improve self-management education resources in a poor rural community, we realized that patients did not know what support services were necessary [6]. When education was offered, it was disappointing that only a small number of patients attended the programs. Since there was a long-standing lack of provision for education in the community, we concluded that both providers and patients were unaware of the benefit of education.

Unfortunately, those who most likely require the most attention, i.e. those in lower socioeconomic groups and with complications, reported problems with access. With increasing rates of diabetes in developing countries [7], it is no surprise that access and financial barriers were reported. What was surprising was that those with complications reported less access.

With myriad complications, one may not be able to work and subsequently pay for all of the related services that are required, thereby linking financial barriers directly to the complications issue.

As one might expect, team care was more available to patients with type 1 diabetes. Patients with type 1 diabetes are frequently cared for by specialists and typically have access to a range of disciplines. As the number of patients with type 2 diabetes grows and the complexity of their regimens increases, implementing team care for type 2 diabetes is of great interest. The findings from this study reiterate that patients perceive collaboration when team members are on site. Sadly, on-site team care is rarely available in the offices of primary care providers [8] where 90% of type 2 patients receive their care [9].

Within the structure of the chronic care model, now recognized as best representing the care needs of people with diabetes [10], exploring new methods for care delivery is recommended. Wagner et al. [11] stressed that effective chronic illness management requires attention to delivery system design.

Team-based care has repeatedly been shown to improve outcomes [12–14], yet it is often unavailable in primary care practice settings [8]. We have successfully integrated nurse educators into primary care practices and have repeatedly demonstrated its effectiveness and sustainability [15–17].

Nurses were reported to provide better education, spend more time with patients, were better listeners, and knew their patients better than did physicians

In looking at a subset of US responses in the Diabetes Attitudes, Wishes and Needs (DAWN) study, nurses and physicians also agreed that nurses should take a larger role in managing diabetes [18].

Nurses were reported to provide better education, spend more time with patients, were better listeners, and knew their patients better than did physicians. Specialist nurses talk to patients about self-management, teach medication management, have a higher level of involvement in medication prescribing and are more willing to take on additional responsibilities.

Nurses in many parts of the world continue to struggle for professional respect. Many believe that their expertise is not valued by or is a threat to physicians. This is particularly true in some countries where cultural and societal issues hinder nurses' professional growth. This lack of respect contributes to the underutilization of nurses' skills, particularly in the areas of medication management and addressing psychosocial issues.

In spite of their willingness, only about one-third of specialist nurses reported being involved in medication management [18].

This study also demonstrated united support for prevention. Yet health systems rarely build and provide the infrastructure and finance for prevention programs and staff. Given the number of patients with diabetes and the limited time that providers have to spend and access issues, in particular for the poor and those with complications, implementing novel, less expensive strategies is critical. Until these issues are addressed, the problems will remain.

Wise health care leaders will use the findings from studies such as DAWN to identify gaps in care and build chronic disease management programs to meet the needs of their citizens.

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