

ACEINSIGHTS

Driving better decision-making in healthcare

IN THIS ISSUE

Samuel, who suffers from ankylosing spondylitis, and Nurul, who suffers from relapsing-remitting multiple sclerosis, have experienced the unpleasant symptoms and incurred expenses from long-term treatments that chronic conditions often bring. With two drugs evaluated by ACE and approved for subsidy by MOH, the both of them can now enjoy some relief.

READ MORE ON PAGE 2.

Besides informing the recommendation of sodium-glucose co-transporter-2 (SGLT2) inhibitors for subsidy in public health institutions (PHIs), ACE undertook an analysis of data from PHIs to evaluate the [real-world impact of this recommendation on patient outcomes in Singapore](#).

ACCESS THE FINDINGS ON PAGE 3.

Taking place in September 2022 is ACE's inaugural Value-based Healthcare Conference where you can gain insights, network and engage with local and international industry peers and experts on sustainable quality healthcare.

FIND OUT HOW TO RESERVE YOUR SPOT ON PAGE 4.



PAVING THE WAY FOR SUCCESSFUL HEALTH TECHNOLOGY ADOPTION

Through calibrated assessments, ACE's new Horizon Scanning System gives healthcare policymakers and providers advance notice on health technologies that may potentially bring significant benefits to patients and the healthcare system.

Agency for Care Effectiveness's (ACE's) new Horizon Scanning (HS) System is an early awareness and alert system that serves to complement ACE's health technology assessment (HTA). It enables policymakers and healthcare providers to keep abreast of new and emerging health technologies with potentially high impact before its widespread adoption. This allows the healthcare system to be better prepared by receiving valuable insights in advance for resource planning. Furthermore, HS supports the uptake of innovative technologies that are safe and effective for patients.

ACE's scope of HS currently focuses on medical devices, diagnostics, medical services and procedures. The HS framework is guided by a systematic process of identification, filtration and prioritisation to identify and select potential health technologies for further assessment. In brief, health technologies that address conditions causing high disease burden in Singapore are identified, filtered to ensure relevance and prioritised for assessment. The assessment is conducted based on the clinical, organisational, social and ethical aspects of the technology, which will be summarised in the form of a HS report.

The HS reports will be presented to the Ministry of Health (MOH) Medical Technology Advisory Committee (MTAC) for recommendation on whether to support the uptake of the health technology upon entry into the local market. The reports and MTAC's decisions are disseminated to the relevant stakeholders, including policymakers and healthcare providers, to enable organisational preparedness and early resource planning.



**Full Horizon Scanning
Methods and
Process Guide**



**Horizon Scanning Briefs
and Overviews**



REAPING THE BENEFITS OF SWITCHING TO INFLIXIMAB BIOSIMILARS

A patient with ankylosing spondylitis shares how an infliximab biosimilar evaluated by ACE and approved for subsidy has significantly reduced the financial burden of his condition without compromising his treatment.

Diagnosed with an autoimmune disease known as ankylosing spondylitis (AS) at a young age, 32-year-old Samuel Koh Chong Wee has spent a large part of his life managing the pain, flare-ups and high treatment costs that come with living with the chronic condition. Most common in younger males, AS is a form of inflammatory arthritis that predominantly affects the spine, sacroiliac (buttock) joint and in some cases, the joints of the upper and lower limbs. Over time, it can cause some of the bones in the spine to fuse.

Mr Koh shares that he was hospitalised thrice due to acute pain in his joints and thighs before he was diagnosed at the age of 9. “I had very bad flare-ups where I was in pain all the time, whether I was breathing in or breathing out, standing or sitting down,” he recounts. “It is terribly difficult to concentrate and bear the acute pain when it flares up.”

Adjunct Associate Professor (Adj Assoc Prof) Bernard Thong, Divisional Chairman, Medicine, and Senior Consultant, Rheumatology, Allergy and Immunology at Tan Tock Seng Hospital has been treating Mr Koh since 2005. He says while the disease affected Mr Koh’s left hip and left sacroiliac joint, he has fortunately maintained most of his spinal mobility and has avoided a completely fused spine. In such instances, the calcification of ligaments and discs between the vertebrae causes them to merge. This fusing of the spine makes it less flexible and more brittle.

TREATMENT IMPROVES MOBILITY AND QUALITY OF LIFE

Several treatment options are available for AS, and the type of medications prescribed would depend on the patient’s condition. “Treatment reduces spinal pain and stiffness – especially upon waking up in the morning – and improves mobility,” explains Adj Assoc Prof Thong, whose work involves managing adults and teenagers with autoimmune diseases. “Together with regular spinal exercises, medications also improve physical function and quality of life.”

These positive treatment outcomes are evident for Mr Koh, who started taking infliximab (Remicade) in September 2008 and does stretching exercises daily. Administered intravenously to him every eight weeks, Remicade belongs to the class of biologics* known as tumour necrosis factor (TNF)-alpha blockers. “Being consistent with his follow-up appointments has helped Samuel successfully manage the condition through the period of his National Service and subsequent work life,” says Adj Assoc Prof Thong. “Treatment has reduced my pain drastically so much so that I’m able to go to work, go out with friends and also exercise,” Mr Koh shares.

MORE COST-EFFECTIVE BIOSIMILAR OPTIONS

In March 2018, after a decade on Remicade, Mr Koh switched to an infliximab biosimilar option (Remsima) when it was made available in Singapore. Biosimilars such as Remsima are



ADJUNCT ASSOCIATE PROFESSOR BERNARD THONG, Divisional Chairman, Medicine, and Senior Consultant, Rheumatology, Allergy and Immunology, Tan Tock Seng Hospital



With consistent treatments, Mr Koh is able to work and partake in daily activities without pain.

biological medicines that are clinically equivalent to existing biologics despite some minor differences between the biosimilar and its reference medicine. Controls are put in place to ensure that the batches of biosimilars – which contain the same active substances as their reference medicines – are of proven quality and any variability does not affect the way the medicine works or its safety.

Remsima was recommended for subsidy in view of favourable cost-effectiveness compared to other TNF-alpha blockers at the prices proposed by the manufacturers. Mr Koh’s treatment costs have significantly decreased since Remsima was added to the MOH Standard Drug List (SDL) in January 2021 upon MOH Drug Advisory Committee (DAC) recommendations, as informed by ACE’s evaluations.

“I was spending over \$3,000 per month on Remicade, but after switching to Remsima, I only pay about \$500,” Mr Koh reveals, expressing his gratitude to Adj Assoc Prof Thong for informing him of the biosimilar option.

The cost savings have also positively impacted Mr Koh’s future in other ways, allowing him to live life to the fullest. “I am now able to switch careers more readily and not depend on the group hospitalisation plan of my employment contract,” says Mr Koh, who currently works in investment

operations. “If not, I’d have to go and see the medical social worker (to work out a financial plan to cover the costs of the medication). I won’t be able to save up for myself, much less think about dating and starting a family.”

“Patients who started on the original brand of infliximab were elated that the biosimilar was much cheaper and equally effective,” Adj Assoc Prof Thong explains. “Remsima is more cost-effective, in view of its much lower price, as effective and does not increase side effects.” In addition, many patients with AS who receive Remsima manage to progressively increase the time intervals between infusions from 8 to 10 and then, 12 weeks, decreasing the number of infusions they need overall per year, he adds.

This year, another biosimilar option (Ixifi) was added to the SDL, giving patients more treatment options to choose from. Healthcare professionals are encouraged to discuss all treatment options – including switching to biosimilars – with their patients, and share the value proposition offered by each choice with respect to the patient’s needs.

**Biologics are drugs that contain one or more active substances from a biological source, such as living cells or organisms.*



ACE’s guidance on infliximab biosimilar for treating inflammatory conditions

HELPING PATIENTS TACKLE THE WAR AGAINST DIABETES

ACE's study finds that SGLT2 inhibitors, which were recommended and approved for subsidy, are effective in diabetes management with its real-world impact varying across ethnic groups.

Diabetes is a major public health concern, with [one in three](#) Singaporeans estimated to be at risk of developing the condition. If not managed well, it can cause complications such as retinopathy, nephropathy, neuropathy, stroke, cardiovascular disease and peripheral vascular disease. Thus, there is a need for safe, clinically effective and cost-effective medications for managing diabetes.

Following ACE's evaluation of sodium-glucose co-transporter-2 (SGLT2) inhibitors for type 2 diabetes mellitus, MOH listed these drugs for subsidy in public healthcare institutions (PHIs) since 2017. There has been a five-fold increase in the number of patients using SGLT2 inhibitors locally since the listing.

In addition, ACE conducted a retrospective multi-ethnic cohort study on 71,587 patients with type 2 diabetes using data from MOH's administrative database to evaluate the real-world impact of SGLT2 inhibitors on the local population.

Published in the *Journal of Diabetes & Metabolic Disorders*, the study found that SGLT2 inhibitors were effective and well-tolerated by patients and were associated with fewer hospitalisations and deaths*. These translate to about 1,261 fewer deaths and 8,691 fewer hospitalisations, potentially saving more than \$50 million over 10 years. Consistent with other

published literature, ACE's study reported that patients on SGLT2 inhibitors were more likely to achieve good glycaemic control (i.e. below 7%) compared to patients on dipeptidyl peptidase-4 (DPP-4) inhibitors. This was mainly observed in patients of Chinese ethnicity, but not among Malay and Indian patients.

It was also observed that the risk of diabetic ketoacidosis, a serious and potentially life-threatening complication of diabetes, was not higher in patients on SGLT2 inhibitors. The medication was also associated with a lower risk of hypoglycaemia (low blood sugar) and urinary tract infection across ethnicities. However, Malay patients on SGLT2 inhibitors did not show a decreased risk of hypoglycaemia.

Findings from this first national real-world study is congruent with other studies. It further highlights the role which ethnicity plays in diabetes management and risk of developing complications. Efforts should continue to make other clinically effective and cost-effective medications available to patients with diabetes to help tackle this ongoing battle.



*Goh LGH, Sun J, Ong BSK, Khoo D et al. Real-world evaluation of sodium-glucose co-transporter-2 inhibitors and dipeptidyl peptidase-4 inhibitors for managing type 2 diabetes mellitus: a retrospective multi-ethnic cohort study. *J Diabetes Metab Disord*. 2022; 21(1): 521-555

PAVING THE WAY FOR COST-EFFECTIVE TREATMENTS FOR MULTIPLE SCLEROSIS

Fingolimod has been listed on the Medication Assistance Fund (MAF) to provide patients with a clinically proven and cost-effective treatment option for relapsing-remitting multiple sclerosis.

Multiple sclerosis is a neuro-demyelinating disease that requires lifelong care involving regular hospital visits, the use of long-term medications and various medical assessments such as an annual MRI scan and a full blood count test every three to four months. Early treatment is required to prevent the disease from progressing and resulting in early disability or death, explains Ms Hoh Sing Yee, Neurology Specialty Nurse, Nursing Clinical Service, KK Women's and Children's Hospital (KKH), who manages patients with multiple sclerosis.

A comprehensive treatment and follow up programme will also allow affected children to complete their education and transition to adult life, Ms Hoh adds.


For patients living with relapsing-remitting multiple sclerosis (RRMS), who experience periods of relapses and periods of remission, fingolimod is an effective option to manage the disease. Belonging to a group of medicines called sphingosine 1-phosphate receptor modulators, fingolimod reduces nerve damage caused by RRMS by stopping certain white blood cells from reaching the brain and spinal cord.

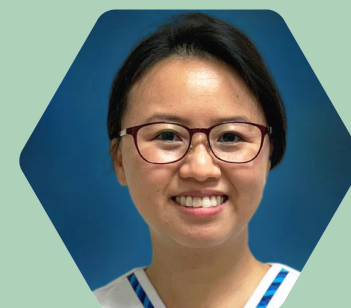
In consultation with clinical experts from the public healthcare institutions, ACE evaluated the clinical and cost-effectiveness of fingolimod for treating RRMS. Fingolimod was found to be effective in reducing the number of relapses and slowing the worsening of physical disability in patients, and it had a lower treatment cost compared to other HSA-approved treatment options. Therefore, the MOH Drug Advisory Committee (DAC) recommended fingolimod for listing on the Medication Assistance Fund (MAF) to improve treatment affordability and ensure appropriate care for adults and children with RRMS.

For patients like Ms Nurul Harlina Binte Hairudin, who was diagnosed with RRMS in 2015, the approval of fingolimod for subsidy is good news as it significantly reduces treatment costs. Ms Nurul was previously on subcutaneous interferon beta-1a injections but switched to fingolimod in November 2020. Besides offering cost savings, fingolimod has also been effective in controlling her symptoms.

"Since switching to fingolimod, I no longer worry about my injection routine. Not only have I been asymptomatic, but I also have more time and energy," Nurul shares.

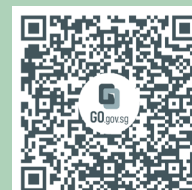
Ms Hoh, who has been managing Ms Nurul's condition since her diagnosis, adds, "Because of ACE's work in evaluating new treatments, Nurul can receive subsidy for her medication. It was a huge relief for the family as they are aware that her condition is chronic and will continue to require treatment for many years."

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Read more about
disease-modifying
therapies for
treating multiple
sclerosis



SPOTLIGHT

VALUE-BASED HEALTHCARE CONFERENCE 2022

Join us at ACE's inaugural conference. With a theme on "Quality and Sustainable Healthcare for All", the one-and-a-half-day conference focuses on the importance of the "value" philosophy in practice of appropriate care. The conference is open to anyone who is a healthcare professional or administrator from a public healthcare institution (PHI) or a general practitioner practising in Singapore.

Programme Highlights:

- Complimentary access to all talks at the conference
- Plenary presentations, panel discussions and breakout sessions by overseas and local experts in the area of HTA, practice of appropriate care, as well as patient engagement and education
- Platform to network with esteemed guest speakers, general practitioners and peers from other PHIs
- Oral and poster presentations from shortlisted healthcare professionals and administrators

DATE: 29 – 30 September 2022

VENUE: Resorts World Convention Centre, Resorts World Sentosa (Registration for virtual attendance will open at a later date)



RSVP now:



For more information on the Value-based Healthcare Conference 2022, [click here](#).

ACE NEWS

LATEST TECHNOLOGY GUIDANCES

[ACE's Technology Guidances](#) explain subsidy recommendations made by MOH's Drug Advisory Committee (DAC) and Medical Technology Advisory Committee (MTAC) for evaluated health technologies. They also include the Committees' rationale for the subsidy recommendations and a summary of key clinical and economic evidence that informed their deliberations.



List of ACE's Technology Guidances published in the last 6 months



List of ACE Clinical Guidances (ACGs)

LATEST CLINICAL GUIDANCES

[ACE Clinical Guidances](#) (ACGs) provide concise, evidence-based recommendations to inform specific areas of clinical practice and serve as a common starting point nationally for clinical decision-making. ACGs are underpinned by a wide array of considerations contextualised to Singapore, based on best available evidence at the time of development. Each ACG is developed in collaboration with a multidisciplinary group of local experts representing relevant specialties and practice settings. ACGs are not exhaustive of the subject matter and do not replace clinical judgement.

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