

Is the Hospital Authority's drug formulary equitable and efficient?

In 2005 the Hospital Authority (HA) implemented a system-wide drug formulary and recently updated the list of approved drugs in January 2008. It has numerous merits, including standardising the availability of medications across all hospitals and clinics, thereby achieving the horizontal equity principle of "equal treatment for equal need". It has also established an infrastructure for clinical and cost-effectiveness assessments for health technologies and pharmaceuticals. Nevertheless we believe there are certain gaps in the implementation of related policies that could be better addressed by incremental improvements to the programme.

Unlike, for example, the UK National Institute for Health and Clinical Excellence (NICE), the vetting procedures are not transparent to the lay public who are the source of the general revenue base from which the HA draws its resources. It is also unclear how the scientific process of evaluation is structured and whether there are explicit and reproducible guidelines governing it. In the UK, Canada and Australia, all three of which share Hong Kong's universal approach to health care provision, each new drug or diagnostic method necessarily undergoes a formal economic assessment contextualised to the local setting. Metrics, such as the cost per quality-adjusted life-year (QALY), are routinely deployed to allow easy comparison between existing and new technologies and across treatment indications.

It appears that present policy has conflated

the two cardinal system goals of efficiency (viz cost-effectiveness) and cost containment. There are three general categories of drugs on the formulary, two of which, the standard drugs and special drugs, are mostly subsidised and the third group comprises items that have to be fully paid for by patients (or by the Samaritan Fund for the socially indigent). While it may be justifiable to adopt the "user-pays" principle for certain "discretionary" medications such as orlistat for weight management, we question the appropriateness of requiring patients to pay the full costs of other new, potentially life-saving and/or health-enhancing medications. We take imatinib mesilate (Glivec; Novartis, Basel, Switzerland) as a case in point.

Imatinib is a novel therapy for the treatment of chronic myeloid leukaemia, with a demonstrated efficacy profile that has been available in Hong Kong since 2004.¹ It has been classified in the HA formulary as a "self-financed item", probably due to its high price: a full course of treatment costs HK\$180 000 to \$270 000 annually.² To the best of our knowledge, there has been no local cost-effectiveness study of the drug. Based on overseas data, treatment with imatinib costs an additional £29 344 (HK\$451 897) for every extra QALY gained, compared to conventional treatment with combination chemotherapy (daunorubicin, cytarabine arabinoside and 6-thioguanine) [Fig].³ This incremental cost-effectiveness ratio is, however, comparable to another formulary-approved, fully subsidised drug, buprenorphine used for the management of opioid dependence, which costs £26 429 (HK\$407 006) for each additional QALY compared to no treatment.⁴ Taking another example, insulin glargine is approved as a "special drug" in the formulary at £43 411 (HK\$668 529) per QALY benchmarked against neutral protamine hagedorn (NPH) insulin therapy.⁵ Its "special drug" status means that use is restricted to certain patients whose glycaemic control will remain suboptimal without it. Nevertheless, the drug enjoys a government subsidy when prescribed as indicated. Numerous similar inconsistencies are evident on close examination of the formulary.

The question then arises: what distinguishes these three drugs, apart from the absolute cost per dose or per course of therapy? This demonstrates, at least in part, the conflation of cost-effectiveness with cost containment in the current policy. This goes beyond theoretical quibbling because it contravenes the basic equity tenor of Hong Kong's espoused

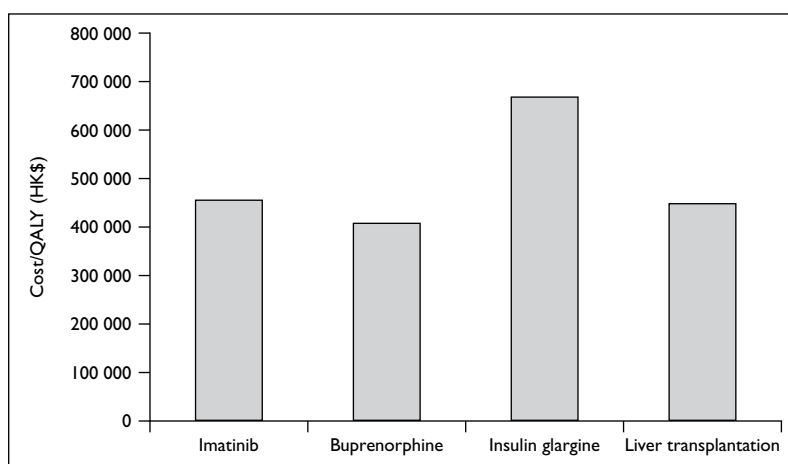


FIG. Incremental cost-effectiveness ratios of different subsidised and unsubsidised therapeutics used by Hospital Authority facilities
QALY denotes quality-adjusted life-year

health system goal that "no one should be denied adequate healthcare through lack of means".⁶ In other words, certain inconsistencies in the present version of the HA formulary mean that some patients who happen to be afflicted with one type of disease have their treatment subsidised whereas others suffering another condition do not, even though both therapies share similar health returns on investment (as proxied by the QALY). Moreover, de facto, this violates the efficiency principle where resources should be primarily allocated according to an explicitly evidence-driven approach such as cost-effectiveness analyses using QALY as a standardised outcome.

Taking a broader perspective beyond pharmaceuticals and extending our argument to other therapeutics, including surgical procedures, we take liver transplantation as a further example. The HA is currently fully subsidising the procedure and all associated after care. According to a medium-term cost-effectiveness analysis in England and Wales, liver transplantation costs an additional £29 000 (HK\$446 600) per QALY compared to medical treatment for patients with primary biliary cirrhosis,⁷ an amount that is almost identical to what imatinib costs to treat leukaemia.

We fully acknowledge that health technology assessments will yield different estimates in different contextual settings, thus overseas figures cannot be imported wholesale without adjustment or adaptation. Surely this calls for local evidence generation that should be commissioned by the

HA as part of its review and assessment process. Moreover, it is not just about costs per QALY or other quantitative metrics. Ethical concerns, patient preferences, and other practical issues should also be considered. The systematic integration of these trade-offs must be made explicit if they are to carry validity, and, equally importantly, the perception of such.

We have previously reported that technology diffusion is at least as important as population ageing as a major long-term cost growth driver,⁸ an observation that was confirmed by a similar RAND study.⁹ Therefore, rigorous application of technology assessment is an important instrument for protecting patients from interventions that do not work or, more commonly, have low frequency but high consequence side-effects that only become apparent when they are approved for wide use. Thorough assessment also serves as a means of gatekeeping, able to keep a lid on ever-escalating health spending, something made easier by the HA's single-piped funding arrangement. However well intentioned, the HA formulary may be as a technology assessment exercise, its validity and ultimate acceptance by the public depend on robustly scientific and ethically coherent implementation.

Elaine WL Lau, RN, MPH

E-mail: elaine_lau54@hotmail.com

Gabriel M Leung, MD, FHKAM (Community Medicine)

Department of Community Medicine and School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Pokfulam, Hong Kong

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