TRANSCRIPCIÓN WEBINAR:
NPS MEDICINEWISE: IMPROVING MEDICINE AND MEDICAL TEST USE IN AUSTRALIA

Presented by Jonathan Dartnell and Aine Heaney,
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During this webinar Jonathan Dartnell and Aine Heneay from NPs MedicineWise, present the Australian experience in the implementation of an strategy of quality use of medicines. This strategy is focused in produce special information and messages for different audiences, regarding therapeutical benefits, prescription practices and uses of different types of medicines.

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INTRODUCTION

(min. 6:44)

What we have done in Australia, if we got to improve the use of medicines through a national program such as NPS MedicineWise is relatively unique. We had a lot of interest from colleagues in different parts of the world, so I’m hoping what we have to share with you today would resonate. We will be talking about medicine use within the Australian healthcare system, the role of NPS Medicine Wise, the approach of our organization, the sort of strategies we used and give you some examples of programs and activities.

AUSTRALIAN HEALTH SYSTEM

(Min 7:28)

So, first to talk about the Australian Healthcare system, we have a universal healthcare system, which is delivered through public and private partnership providing access to medicines, pathology, radiology, medical practitioners and hospital care. The funding comes from both: the national federal government, as well as different state governments across the country. We have access to private health insurance for access to private hospitals and allied healthcare in addition to that.
So, the funding for health care within Australia is what graph 1 shows. It comes from the government, through the federal government as well as state governments with small portions coming from health insurances or through health insurance and also from individual contributions. The percentage of GDP, which is spent on health expenditure in Australia, is approximately 9%, which is somewhat similar to many countries in Latin America and the Caribbean (Graph 2). Graph 3 shows the percentage of health expenditure, which is spent, on medicines or pharmaceutical and in Australia we spent 15% of the health care budget on medicines, which is similar to the OCDE average. The graph shows for other countries in average in the Andean and Pacific region and we can see that the percentages of that countries are much tighter. Many of these countries are restoring fields to have access to universal health care and to achieve that, that’s why this graph changes significantly.

In Australia, we have a National Medicines Policy, which gives access to many patients to our activities to support the good use of medicines. The first pillar of our policy is to provide standards of quality, safety and efficacy of medicines and that’s achieved through our therapeutic good administration. The second pillar of our policy is to provide equitable access to medicines in a timely way, where individuals and community can afford, and that’s achieved through our Pharmaceutical Benefits Scheme. Thirdly a responsible and viable pharmaceutical industry, and fourthly is to support the quality use of medicines and that’s where NPS MedicineWise comes in.

We establish through supportive forms of the policy and provide a national coordinates approach to an appropriate use of medicines. So Figure 1 is a pictorial representation of the policy and shows the inter connections of the policy. We see that the quality use of medicine and healthy consumers are in the center of the policy and it persists across the policy.
Graph 1: Who pays?

- Individuals: 17%
- Health insurance funds: 7%
- State/territory and local: 26%
- Australian Government: 43%
- Other non-government: 7%

Graph 2. Health expenditure as % of GDP

Source: WHO Global Health Expenditure database; OECD Health Database, 2012

Source: WHO Global Health Expenditure Database; 2013
Graph 3: Pharmaceutical expenditure as a percentage of total health expenditure

Source: WHO Global Health Expenditure Database; OECD Health Database, 2012

Figure 1: National Medicines Policy

Source: WHO Global Health Expenditure Database; OECD Health Database, 2012
The pharmaceutical Benefits Scheme is an extensive scheme, which provides access to over 750 different drug substances, which is equal to 2,000 forms for 4,500 different products. In 2013 there were about 200 million prescriptions on that scheme and that was at a cost of about 9 billion in dollars and I think this is about 6.6 billion US dollars. Patients are required to pay a co-payment, the concession is about US$ 4.50 and for general patients that’s about 27.8 US dollars.

So in terms of assessment of medicines for reimbursement, we have the pharmaceutical benefits advisory committee (PBAC), which is a statutory committee, established under the National Health Act and the Health Minister cannot list a medicine under the scheme without a positive recommendation from the PBAC.
The sponsor, usually the pharmaceutical industry, makes request for listing on a scheme, including type of listing (e.g. generally available, restricted or prior authorization). The PBAC is required by legislation to consider: Comparative efficacy, comparative safety, cost-effectiveness and the total budget impact. Medicines can be either unrestricted and available to everyone, or restricted to specific indications and they may require prior authorization before use, which can be through a streamlined approval, telephone approval or written approval in the most extreme circumstances.
This Figure (2) is a little bit complicated but shows the process and listing on the pharmaceutical benefit scheme, but to simplify it, firstly they have to be registered, then have to be assessed economically, estimates rates of utilization and then the criteria established for use, buy, prescribe and the pricing negotiation. Then, the medicine becomes subsidized and available for use in the market.

**Figure 2: Process for listing on the Pharmaceutical Benefits Scheme**

**EVIDENCE INTO PRACTICE**

(Min: 14:55)

Well, in Australia we are quite well served with good formularies and guidelines. For example, we have an Australian medicine handbook, which provides an independent source of information for medicines. We also have the therapeutic guidelines series of clinical practice guidelines. This provides practice guidelines for common and uncommon conditions.
These are produced by other independent non-profit organizations, but part of the liability of the good information is that it doesn’t guarantee good use or evidence going into practice. So we see many examples of suboptimal prescribing. Prescribing is not consistent with best practices. For example, it is quite under use of medicine such as beta blockers not been use for heart failure, or inadequate dosage of ACE inhibitors in heart failure. Examples of over use of medicines, there are many. For example, antibiotic use for upper respiratory tract infections, benzodiazepines for sleep disorders or the use of antihypertensive and lipid lowering drugs in place of lifestyle modification. Or for example, using second line before first line therapy. For example, the use of gliptins before the use of metformin. So these are examples of problems of implementation of evidence into practice.

The pyramid (Figure 3) shows the process of evidence distillation and from the distillation evidence in terms of useful practice recommendations. The implementation of several aspects that need to occur, the health professionals needs to be aware of that evidence, to accept it to be able to apply it to suitable circumstances and to act appropriately and the agreement on what has been recommended to the patient and finally see its hearence to those recommendations on the health professionals. The diminishing return, which can result in several barriers to the effective implementation of evidence into practice.
We are going to talk about a little bit about the organization and who we are. So, we are a relatively young company, we’ve been about since 1998, when we were established as the national prescribing service. The Australian government largely funds us. However, we have an independent board, a membership base where we direct what we do. We work in partnership with other organizations, we have a share understanding of what the country requires. Our purpose ultimately is to achieve better health and economic outcomes for Australia. In the way that we do that we enable people to make better decisions about medicines and other medical choices.

Our medical international policy establishes the definition for what is the quality of medicines, so is one thing to have safe and effective treatments and affordable treatments in a viable industry, but we make sure that medicines get used in the best possible way and that’s defined in the policy, as selecting treatments options wisely and that may include not using a drug; but if you are using it we have to make sure you are using the correct medicine: making sure that if the medicine is being well used, the amount of the medicine is safe and effectively (including prescription, non-prescription and complementary medicines). This definition we adopt it
more recently and we find it works quite well and is certainly valid for the choice of uses of investigation as well as medicines.

How we conceptualize our work (Figure 4) is to look at the wealth and enormous amount of evidence that is been developed in medical trials and other. We know that health professionals are not necessarily well placed to assimilate a lot of information for themselves. We believe we offer a role in trying to synthesize and develop evidence-based knowledge from a distillation through the pyramid on what is the best use for medicines and medical test. We try to make this information applicable and pragmatic in terms of connecting them with our audience to make it influential, in terms of useful information that they can apply in their everyday life and is very important that we look at the impact of the work that we do and ensure that we change knowledge, attitudes and behavior to have the best decisions applied to medicines and medical test. And we see this on the evaluation in the part of what we do and what we can do in our future work to ensure there is always a continuous loop in terms of our learning about the work that we do and the people we most want to affect.

Figure 4: How do we work?
Our audiences in Australia are wide, but if we were to think about it we most want to work with health professionals and clinicians that deliver health occupations. In Australia we work very closely to family physicians or general practitioners, but we also know we need to work with specialists who influence them very heavily; but also there are people who are involved with the other medication management such as pharmacists who dispense medications, the nurses who support medication and also the students. But that’s only one side of the coin. We also want to work with consumers through very vulnerable communities, through a mass audience way so we try to reach to the wider community in terms of increasing medicines delivery more generally. Also, important stakeholders to influence the government and the government policy, to ensure having important quality use of medicines, but also we work with the pharmaceutical industry other important players that are very influential in terms of how medicines get used in Australia.

As we said, is a very inter connected system in Australia. So there are a range of influences that can be brought on how the system operates and we try to work with all of these systems some of them arraign the right information, some of them arraign how health care system works in terms of how subsidies work, but some of them arraign marketing and promotion in terms on how medicines get used. But we do not have direct consumer marketing here in Australia.
The types of approaches that we use and this pyramid (Figure 5) describe a conceptual view on the works that we do. So we try to work on contributing to the evidence based on how medicines and medical care should be used that is a fundamental piece on the work that we do. We also use a number of techniques and methods to influence how decisions are made on medicines or medical test and that’s a combination on quality improvement type that we do. So, for example we are very active in the continuing education of young professionals. We provide a lot of data and feedback to help professionals as to how to perform in relation to best practice and we facilitate a lot of Peer discussion in terms of ensuring that there is insemination and diffusion of evidence more broadly in the clinical landscape. In between decision-making we also try to influence people thinking and the whole process and we employ a lot of very influential international recognized techniques that are shown and assist to that. So these are thing one to one academic detail or educational outrage where we have a work force actually able to have a conversation on what he needs, in terms of normalizing its practices with what the evidence suggest is the best practice to have better outcomes for their patient. But also, we try to be influential were decisions are immediately made, we have a number of ways of both passive and active decisions support in Australia. To assist when people are making decisions, prescribing a medicine or by ordering a medical test where there can be a lot of pop ups and remainders which can assist with the latest evidence and influence that decision.
As we said, we try to work with health professional students. We have a national prescribing curriculum which is based on the WHO guide to good prescribing which is an attempt to get students as we call Practice Ready here in Australia, to be good medicines and to be good in prescribing medicines as to work through their undergraduate so that when they are out of practice they are informed about the nature of drugs and when things works and when they don’t. And the costs and benefits of the prescriptions. So this is a case based module that can help medical, pharmacy and increasingly nurses to make inform decisions about where they are achieving adequately achieving pediatric ally use of drugs.
But when health professionals are in practice we also try to work with them about making good decisions on medicines. We have a number of Drug and Therapeutic information resources that are regularly mailed to clinicians in Australia. We have a publication “Australian prescriber” that makes reviews and updates and peer commission about new drugs updates and evidence. We have a publication called NPS radar, which inform when drugs come on to subsidy this provides regular new drugs updates about benefits, potential side effects or any thing that can occur to that drug. But we have regularly other publications that we mailed often with data and feedback, what is happening in the landscape of drugs use or medical tests about what’s happening. We try to provide comparative prescribed feedback or to clinicians on regular basis by contemporary and regular issues to them and see were they sit with their peers. We also provide reflective activities such as the ability to order, self-order your patients to Asses practice in comparison with evidence-based guidelines. Then the feedback is given on their practice in comparison with their peers or in comparison to the evidence based benchmark and these is often assessed by a leading company in the area to be able to give feedback on people practices.
We undertake academic detailing which is one to one face to face training which is provided by educational facilitators in Australia often pharmacists but many other clinicians are used, nurses and other positions but these are very targeted messages for clinicians about what best practice is, because it is face to face is a very flexible deliver of education in terms that it can enlisted people education needs and respond to what is concerning them to good evidence that is effective at changing practice.

We do a lot of work with pharmacists, we are very lucky in Australia to have a very wide distribution network of medicines in Australia including private pharmacists its important that they do a lot of face to face, day to day interventions with consumers so that they can see them as great partners, insuring medicine use so with pharmacists we provide them with medicines and fair practices but also with opportunities to have multidisciplinary case-based meetings, to have case study discussions but
also we mail them newsletters, patient support materials or having again resources that can be used everyday to ensure quality of medicines.

or though other professional groups such as politicians or complementary medicines people from which they receive information.

NPS WORKS WITH CONSUMERS  
(Min: 31:56)

But in addition working from health professionally also we try to work directly with consumers. We know that consumers have many ways in which they enlist medicines and health information through family and friends, clinicians, but also increasingly doctor Google, through the populous media

So, we try to utilize all of these portals and ensure that again best medicines and information is available through all of these gateways. We also work with the media, we also have some smartphones, we are on Facebook, twitter, we work through magazines, TV, and so we have a medicine wide where consumers can receive information from all our services. We run large health promotions campaigns and multifacing using multimedia so again, we have both digital channels on YouTube where we use “out of home advertising. But also we provide resources through syndicated media.
We also have very good partnerships with many of media channels in Australia so we work with the free air television channels. Also we have good relationships with other websites or other media services for example a lot of Internet providers to be able to insert content when people are searching for medicines or other medical information.

Hopefully we have “search engine optimization” so we occur very high in peoples searching to give them bias and unbiased information to what we know is very uninformed content on the internet these days. Again we try to get involved in very important public health issues, such the antibiotic resistance. It has been a long and very persistent program that we´ve been involved in it, we are part of the international antibiotic awareness week that takes place in November of each year, we execute a real campaign around the overuse of antibiotics that we mentioned earlier consistently with consumers and clinicians.
This year we were very lucky to get involved with a new initiative a short-film competition that occurs here in Australia which has a global audience which involves young filmmakers making excellent, interesting and very funny short videos on YouTube which has been very successful in terms of reaching new demographics in terms of young interest people and engaging them with the topic of antibiotic resistance. I invite you to share and see the videos that are available in YouTube\(^1\).

But also we provide consumer information in the form of tools and resources to enable people to make better choices and decisions. So we have a number again on news papers and print publications which go directly to consumers and again there is a lot of information available on our website and a lot of the media work that we do attract a lot of traffic to the website to ensure that people can find tools and resources to help them assess their medicines and medical treatments.

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\(^1\) The Pick Up by ONEWAY PICTURES  
Fight Antibiotic Resistance by Stevie Watkins  
Antibiotics Don’t Be a Jerk by MacKen Films Pty Ltd
Besides that, we also have phone lines support for consumers, so we run two phone lines were people can ask questions about medicines or they can ring up and report intended or unintended consequences of medicines. We capture that information and feed it up to the regulator as part of our obligation to the government. Also we know that nowadays almost anyone is using devices either through their ipads or smartphones, so indeed we have a number of tools and apps that can be used to help people have ways to manage their medicines. So we have a medicine plus app which a number of functional tools in it so that people can keep a medicine list. But also it has remainders so that people reminds to take their medicines or indeed to record a number of biomarkers such a blood pressure.
NATIONAL PROGRAMS

(Min 37:47)

So our real purpose for existing is to deliver national programs, which have a clear, strategic and objective to improve consumption of medical drugs. We must demonstrate on the impact of our work. So the process, the general approach that we take in developing national programs is while keeping focus on the consumer, we identify problems that exist in practice, to assess the gap between what is this practice and what is actually happening in practice and the remindful of the important clinical issues which are important to health professionals and try to identify the barriers and enable them to changing the practice. We then create evidence-based messages, very simple messages about how to change factors. And we deliver these messages through a range of interventions as Aine has already described. We delivered them across the different sectors and then is critical for us to evaluate if we made a difference.

In order to determine whether or not we’ve made an impact we use a evaluation framework, within that we must help professionals and audiences to be aware about the different products and services that we make available. If they have access to them in a appropriate way, they participate in those activities and are exposed to the program messages and they can determine also through different surveys and other techniques if our attitudes, skills and knowledge’s have changed. But critically we need to determine if whether or not we make an actual difference on the prescribing practice or use of medical tips we are also doing new evaluation work to see if we have been able to improve health outcomes.
EXAMPLE: PROGRAM FOR DEMENTIA

(Min 41:21)

Is a program that we delivered between 2008-2011 the objective was to improve the management of dementia, in particular the use of cholinesterase inhibitors and memantine, and antipsychotics. And the audience for that program was: Gps, community pharmacists, nurses in aged care, consumer/career information via HPs.

The main program messages were the uses of non-pharmacological strategies have to be used for all stages of dementia, and the benefits of cholinesterase inhibitors and memantine are quite small, and some patients will not respond; the adverse effects are common. Then, the patient should be monitored and objectively assessed on the effectiveness of cholinesterase inhibitors and memantine if they are to be used. So there has to be a plan to review medications regularly as well as opportunistically. And finally, counsel patients and their careers on the limited benefits of drug therapy. In addition we have messages for residential aged care, which is a trial, a withdrawal of antipsychotics if there are no clear benefits.
So we developed: targeted information resources, we made available case studies, facilitate small group case based discussions and provided interactive multi-disciplinary workshops and also made educational visits (academic detailing to general medical practitioners across the country). And as I mentioned before the program was made between August 2008 and March of 2011 and we have roughly a 37% registered Gps actively participated in the program and there were many pharmacist and nurses that were also engaged in the program.

Figure 6 represents the program as a pictogram showing that we had 37% of GPs participating in the program through case studies and educational visits, that we achieved some positive unchallenging in knowledge, satisfaction of participating in activities and significant reduction in the rates of prescribing as well as reduction in antipsychotic use, and we achieve some saving on the pharmaceutical benefits scheme. To explain you how we measure our impact on prescribing, we use the national administration database for the pharmaceutical benefit scheme we look and the entire dataset, in this case the cholinesterase inhibitors and memantine and we use the analysis they make and appoint that with participation in the program. So, the purple line represents the participation in our program in that period of time. In the Graph 4 the blue triangles represent...
actual expenditure on those medicines on that time, and the red line represents the model of the existence of the NPS intervention and the yellow space represents the serving, which were achieved through the actual program and demonstrated reductions in prescribing rates in the pharmaceutical scheme.

**Figure 6: Dementia program**

In Chart 1 there are examples of the programs that had been undertaken that have done a lot of work with type two diabetes which is a significant problem and commonly prescribed by general practitioners in Australia. We have done significant improvement in the use of metformin, while also demonstrating reductions in the use of glitazones which results in PBS savings and we have also been able to modeling prices, reduce hospitalizations from CV events and amputations. Another example of programs is the stroke prevention were we have seen an increase in the use of
aspirin and reduction in Clopidogrel the outcomes were PBS savings and the reduction of hospitalization for primary stroke in the period during the program. Other examples are programs for depression, GORD and also so medical tests such as vitamin D and low back pain imaging.

Chart 1: Program’s Examples

<table>
<thead>
<tr>
<th>Program</th>
<th>Medicine / test changes</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2 diabetes</td>
<td>↑ metformin, ↓ glitazones</td>
<td>PBS savings, hospitalisation from CV events and amputations (modeling)</td>
</tr>
<tr>
<td>Stroke prevention</td>
<td>↑ aspirin, ↓ clopidogrel</td>
<td>PBS savings, hospitalisation for primary stroke (data linkage)</td>
</tr>
<tr>
<td>Dementia</td>
<td>↓ cholinesterase inhibitors, ↓ memantine</td>
<td>PBS savings</td>
</tr>
<tr>
<td>Depression</td>
<td>↓ antidepressants, ↓ memantine</td>
<td>PBS savings</td>
</tr>
<tr>
<td>GORD</td>
<td>↓ high dose PPIs, ↓ low dose PPIs</td>
<td>PBS savings</td>
</tr>
<tr>
<td>Vitamin D testing</td>
<td>↓ vitamin D testing</td>
<td>MBS savings</td>
</tr>
<tr>
<td>Low back pain imaging</td>
<td>↓ CT scan of spine, lumbosacral region</td>
<td>MBS savings</td>
</tr>
</tbody>
</table>

CONCLUSION

(Min 48:16)

We think that is a good case to invest in national programs to improve medicine and medical test use it adds value to registration (TGA) and subsidization (PBS) processes. Is accepted, valued and supported by health professionals and consumers. And it demonstrated changes in attitudes and knowledge as well as changes in practices in particular in prescribing. And the accumulated savings that we achieved on medicines and medical tests for Australian Government are for about AUS$730 million. And we also had been able to demonstrate more recently how we contribute to generate better health outcomes. So thanks for your attention today and we are happy to answer all of your questions regarding this presentation and what’s happening in Australia.
The first question is related on measuring outcomes. As I said we have been able to demonstrate time theories analysis on the total medical dataset impacts on prescribing and we have been able to do that very consistently through all of the programs at a time and on average we achieved a 15% on prescribed change. It has been much more difficult to demonstrate changes in health outcomes. To do that we need access to link to datasets, so linking prescriptions and hospitalization data.

The second question: Is it better to be an NGO?

I would say in Australia, yes it has been beneficial in terms of our credibility and our authority with our audiences, both clinicians and consumers to be seen to be an arm length to government and not just an implementation arm of government policy, in terms of many people work in the implementati