LOGIC.
LINKING OPPORTUNITIES GENERATING INTER-PROFESSIONAL COLLABORATION
The Official Journal Of The New Zealand College Of Primary Health Care Nurses, NZNO
Vol 16 No 1

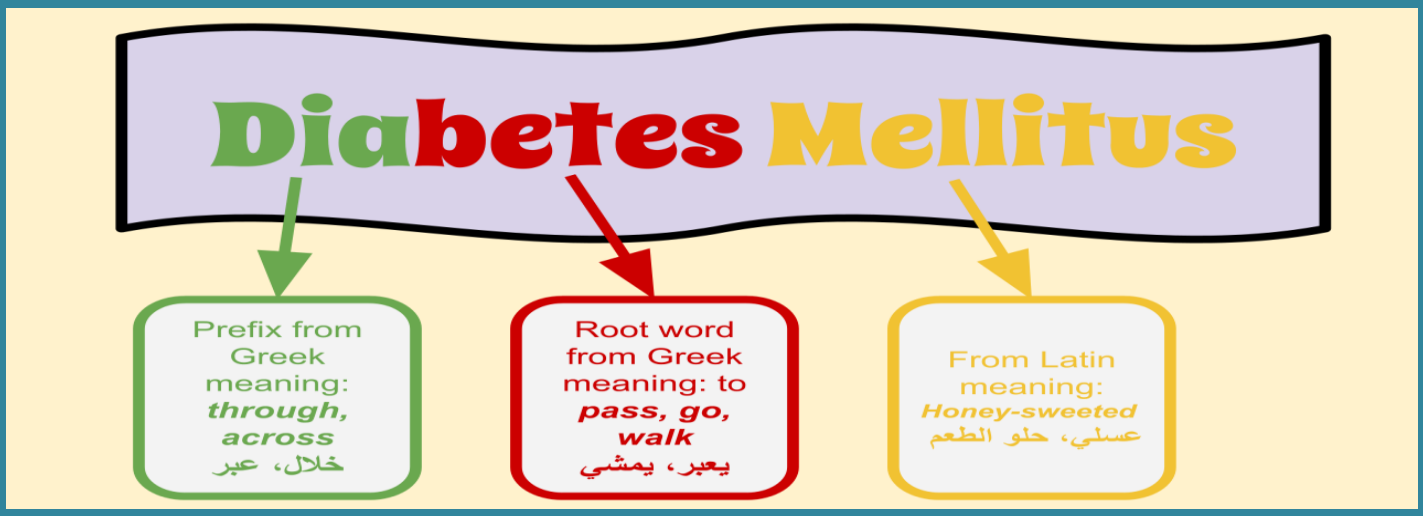
Spirometry

Diabetes

Mental Health & Long Term Conditions

Falls

Rotavirus



LOGIC is the Official Journal of the New Zealand College of Primary Health Care Nurses, NZNO.

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Please ensure the writer's name appears on the title page of any article or letter intended for publication.

March 2017 Vol 16 No

In this issue….

Chair's Report

Kim Cameron
Chairperson

To all our readers Happy 2017,

We had our first 2017 Executive and Committee meeting in Wellington on 17th February. It was wonderful to catch up with colleagues and spend the day engaged in positive forward looking activities.

From a financial perspective members will be pleased to know we are in a sound and healthy position which allows us to invest back into providing professional development opportunities for members i.e. the North and South Island symposia. This strong financial position is a direct result of some difficult and at times controversial decisions the Executive were required to make during 2015 and 2016. However, it has been interesting seeing the turnaround of the accounts and membership subsequently. We have increased from < 400 members to 1847. This directly relates to the removal of the annual membership levy as we moved to an electronic journal.

Whilst I know some members still wish we could have retained a hard copy version, it was simply not affordable or sustainable going forward.

College members continue to develop and maintain visibility within the PHC sector with a growing number of members participating on your behalf in many regional and national forums. I am grateful for the willingness of colleagues to give up their time and leave to ensure not only the profession, but the people we serve can have the best health care system possible.

Following feedback from last year's 1 day symposia, the Executive has decided to repeat these again for 2017 and planning is well underway. These will be held again in Auckland and Timaru so watch this space for further details and dates.

Due to several of the committee member's terms ending at the College's next AGM in August, the committee has been looking at succession planning. So if you are wanting to make a contribution or a difference to PHC or wanting to learn more about what goes on at a national level please get in touch with either myself or the committee's secretary to put your names forward to be nominated. You will find our email addresses on the NZCPHC committee's web page. We would also like to meet you so you will also have to join us at the College's AGM in Auckland.

The committee also met with chief nurse officer Jane O'Malley, as well as the Ministry of Health chief adviser and former NZNO researcher Jill Clendon. Jane shared a power point presentation on the New Zealand Health Care Strategy and how nurses have the ability to implement change in their areas of health care. She urged nurses to challenge old health care models and develop new models of care - models which shift spending

and activity away from hospitals. Using health resources more effectively would not only improve patient outcomes but also patient experiences and primary health nurses are perfectly positioned to lead this change. Several key nursing priorities where identified:

1) Service and demand are guided toward primary
2) Reduce the severity of illness impact through Long Term Conditions (LTC) management
3) Responsiveness to populations (i.e. Maori, Pacific peoples, older and younger peoples and vulnerable children)
4) Delivery on evidence-based prevention and screening, for example smoking immunisations, suicide, mental health, AOD, violence and cancer.
5) Working with other public services to deliver evidenced based screening and prevention (education, early identification of children and families at risk, alcohol, housing and parenting).

Jill Clendon also notified committee members on the development of a new nursing narrative for change and requested feedback on this document. Please listen out for further announcements on this draft manuscript from the MoH Chief Nurse Officer and her team.

Kim Cameron

Chair NZCPHCN committee

Chief Nurse's Report

Jane O'Malley
Chief Nurse

Lessons from unusual situations: a window on disruptive change.

Last month I had the privilege of meeting up with many of the Hawkes Bay district nurses, public health nurses and clinical nurse specialists who had rapidly rearranged their schedules and usual models of care to respond to the Campylobacter outbreak in Havelock North. The nurses and their leaders talked matter-of-factly about how they went into people's homes and did what was needed to ensure people got fluids, antibiotics and other symptomatic care. They worked closely with their colleagues in General Practice and demonstrated their true metal.

The discussion reminded me of a similar discussion Carolyn Reed, Chief Executive of the New Zealand Nursing Council and I heard when we visited with Clinical Nurse Managers in Christchurch after the February 2012 earthquake. One nurse leader commented that nurses stepped in and took charge in teams that were reeling from the shock. Their natural and unchallenged leadership dealing with the chaos made this nurse leader say "*I was so proud of the leadership that nurses took; if ever there was a time to be a nurse it was then".*

I am also thoughtful of the tremendous role nursing is playing in supporting health services during the Resident Medical Officer's industrial action, leading in roles that would normally be assumed by the junior doctors.

There are countless more examples at the local level, the untapped potential of this largely degree-prepared and generalist educated nursing workforce is significant.

There are parallels between nurses' responses in unusual circumstances and the changing role of women in New Zealand during World War II. My mother told me about how, for the first time, women were asked to take on new responsibilities, in her case, as a cashier on the front counter in the post office while the men were away. It gave them responsibility and a chance to demonstrate their untapped potential. New Zealand's workforce make up was changed forever.

Unusual situations in health care, if taken to their logical conclusion, can be the beginning of positive disruptive change. The New Zealand Health Strategy (NZHS) calls for new ways of working. An integrated model of change requires identification of the needs of the population and considers four interdependent elements that need to be aligned in order to be mutually supportive: the model of care; the business model; enablers, such as technology, IT and workforce; and the regulatory, legislative, contracting and funding environment that serve

to free up unnecessary barriers to change.

Nursing in 2017 is well placed for change given the profile of the workforce and the legislative and regulatory changes that have occurred in the past year. I will be looking to nurse and health care leaders to consider what else needs to align to ensure the potential of nursing and others is better utilised to make the radical shifts required to bring about the changes heralded in the NZHS.

I discussed the leadership for change narrative in my December LOGIC article. It is in its final draft and is out for consultation with leadership groups including, last week, with the NZNO PHC College. It will be on the Office of the Chief Nursing Officer's website within the month for nurses and nurse leaders to use as a frame on which to hang their own narratives to support change at the local, regional and national level. Feedback is welcomed; the narrative is organic so suggestions that strengthen it can be incorporated as we move forward.

WoundsAustralia
Healing Wounds Together

LOGIC, Primary Health Care Nurses, NZ

Dear Sir or Madam:

On behalf of the Pan Pacific Venous Leg Ulcer Guideline Development Group, we invite you to review and comment on the draft document "*Pan Pacific Clinical Practice Guideline for Prevention and Management of Venous Leg Ulcers 2nd* Edition.

In 2011, the Australian Wound Management Association (AWMA) (now Wounds Australia), in partnership with the New Zealand Wound Care Society (NZWCS) published the National Health and Medical Research Council (NHMRC) endorsed *Australian and New Zealand Clinical Practice Guideline for Prevention and Management of Venous Leg Ulcers*, 1st Edition, to provide guidance on the management of venous leg ulceration in Australia and New Zealand. This guideline has been well accepted in Australia, New Zealand and internationally.

The 2nd Edition is being developed under the auspice of the NHMRC through a partnership of the following organisations:

- Wounds Australia
- New Zealand Wound Care Society (NZWCS)
- Hong Kong Enterostomal Therapists Association (HKETA)
- Wound Healing Society Singapore (WHSS)

The Pan Pacific Clinical Practice Guideline for Prevention and Management of Venous Leg Ulcers presented in this revised 2nd edition provides the best available evidence, recommendations and practice points to guide practice in venous leg ulcer prevention and management. The *Guideline is* a valuable resource for guiding clinical practice and the development of policies, procedures and education programs. It has undergone a rigorous appraisal of the literature under the guidance of NHMRC.

It is the ongoing vision of Wounds Australia and its partnering organisations that these Guidelines will continue to be adopted by health professionals, educators and service providers across Australia, and the Pacific region.

The document contains twenty chapters, two flow charts and a glossary. Review and feedback can be provided to the full document or individual *Chapters.* We appreciate the time taken in reviewing this important updated document. Comment can be made via http://woundguideline.com from 3 March 2017.

Please submit by 3 April 2017.

Yours Sincerely

Judith Barker

Chair – Wounds Australia - Pan Pacific Venous Leg Ulcer Guideline Group

Co-Editor's Report

Co-Editor Kate Stark,

Nurse Practitioner, PRIME

Welcome to the first issue of LOGIC for 2017. We welcome a new year and hope that you continue to enjoy what LOGIC has to offer primary health care (PHC) nurses.

NEWS

We would like to congratulate editorial committee member Donna Mason who recently registered as a PHC Nurse Practitioner. Congratulations Donna on a great achievement and we wish you well in your new role.

We also welcome to our LOGIC Editorial Committee, Emma Hickson. Emma is the Director of Nursing for PHC and integrated care for Capital and Coast DHB, based in Wellington. She is no stranger to The College, previously holding roles on the Executive and the Professional Practise committee. It's great to have such a wealth of knowledge on our Editorial Committee. Welcome back Emma!

FUTURE DIRECTIONS

PHC is very fluid with all disciplines aiming to work in line with community need. Our focus going forward needs to be on keeping people well while preventing illness and hospital admissions, however would be naive to think that this is always straight forward. The NZ Health Strategy (2016) has clearly acknowledged those challenges faced by setting goals in order to achieve the future we want for our communities. This includes recognising the culture and values required to achieve this. It is my belief that nurses in PHC are perfectly positioned to lead this crusade but simultaneously in order to achieve this it will require a change in the models of care we use ie: how and where we deliver the care in a timely fashion.

Let us remind ourselves of the five strategic themes promoted by The Strategy (2016), which provide a 'road map' for the future. These themes involve the delivery of care that is that is:

- people powered
- closer to home
- of value and high performance
- involves one team
- works in a smart system

WORKING TOGETHER

As a College, we recognise that PHC nurses exist in varying roles including but not limited to Prison nurses, District nurses, Public health nurses, School nurses, Occupational health nurses, Nurses in the NGO sector, Practice nurses and Plunket nurses. PHC in all disciplines do this very well and strengthen everything that is PHC, regardless of discipline.

As we strive to carry out our roles as individuals, I urge you all to think more widely, to include many genres of PHC nurses when caring for your patients while working as a team. The interdisciplinary approach enhances patient

care by taking a holistic approach, strengthening what each and every one of us has to offer both individually and collaboratively.

WHAT'S AHEAD

In this issue of LOGIC, we feature articles on spirometry, diabetes, and we also have an enlightening article on falls and fractures in relation to the use of a very commonly prescribed medication. We also have regular topics such as mental health and rural health. We will also elude to what you can expect in our annual symposium days scheduled for later in the year in Auckland and Timaru respectively. These days were held last year for the first time and were a mixture of education sessions and practical hands-on skill stations. They were popular and extremely well received. It's exciting that we can bring them to you all again, so keep an eye out for further details.

In August at our AGM, there will be an opportunity to join the College of Primary Health Care Nurses' committees as we will have several vacancies. Several of us including myself, will reluctantly complete our terms of office. As well as learning a huge amount by being involved, I have met some incredibly inspirational nurses and have made some lifelong friends. I would highly recommend becoming involved. This is my final editorial as Co-Editor, however I feel confident that LOGIC is left in the safest of hands, with Co-Editor Yvonne Little continuing on with the Editorial role on my departure in August.

YOUR JOURNAL

The LOGIC team welcomes stories from all realms of the PHC sector and we would love to hear stories of how teams are following the future roadmap as laid down in The Strategy (2016), where working together improves outcomes. Simultaneously we welcome new ideas and suggestions for our journal. So if you have a book you would like to review, a case study you would like to share, or an article that demonstrates and celebrates the wonderful work you are doing in your workplace, then please share it with the PHC sector via LOGIC.

LOGIC (Linking Opportunities Generating Inter-professional Collaboration) is your journal so together, let's sit back, relax and enjoy all it has to offer, whether you choose to read it online, or print it off and leave it on your coffee table for your colleagues to share.

References

Ministry of Health (2016). *The New Zealand Health Strategy.*

www.moh.govt.nz

June 2017

- Orthopaedics/musculoskeletal
- NGO's
- Support agencies
- Mental Health
- Diabetes
- Rural Muster
- Education – cultural linked to feature topics
- Events – for upcoming 3 months

September 2017

- Skin
- Telehealth
- Cervical Screening
- Prostate screening
- Mental Health
- Diabetes
- Rural Muster
- Education – cultural linked to feature topics
- Events – for upcoming 3 months

December 2017

- Party Health (sexual health, alcohol, recreational drugs, violence, gastro bugs)
- Mental Health
- Diabetes
- Rural Muster
- Education – cultural linked to feature topics
- Events – for upcoming 3 months

RURAL MUSTER #2

Kate Stark – Nurse Practitioner

Rural primary health care nursing produces many challenges not necessarily seen by our urban counterparts. Spontaneous accidents and acts of carelessness can result in significant injury and consequently turmoil for potentially isolated individuals and families.

Living and working rurally, having grown up in the city, I am always amazed at the lengths that communities go to in times of crisis, to support others. Whether it be loss of life, disability, loss of a home or transport or financial loss, rural communities in my opinion, have got it right as to what is important.

After 28 years of nursing, I reflect on my motives for choosing such a career. To help others in need is a common reason for entering such a profession, however after many years of practicing, and many years of study and post grad education to reach my goal as Nurse Practitioner, I reflect on whether or not I still do this and come to the realisation that it is easy to get lost as we strive to further our careers. Essentially underpinning our roles is a deep hope that what we do makes a difference, but simultaneously it is easy to lose sight of the simple things.

I have been reminded of late when I attended an accident where a foreign couple lost their uninsured campervan home and transport. I witnessed the local community stepping up to provide for two perfect strangers through providing food, a place to live, a vehicle to drive and ongoing work while asking for nothing in return. This true kindness is a good reminder that all the knowledge and skill in the world doesn't really matter. Yes, it means I can work safely in my role, but what people often remember are the little things you do, in particular assisting people to get their everyday lives back on track.

Often patients I come across are transient to the area, seeking seasonal work. As well as language barriers, comes cultural diversity and this can also alter a patient's response and reaction to a crisis. Is easy to give the care we are trained to give, but what about ensuring that patients are fed and sheltered and emotionally okay.

This is not rocket science, but is undoubtedly easily forgotten. Up until now I have learned a lot about assessment and diagnosis, illness and disability, and latterly the prescribing of medicines to alleviate a patients' symptoms. However it is working in a rural area that truly reminds one that health care is about caring and showing compassion for people in such situations. I have been privileged to have seen this over and over again in the rural area in which I practice as a Nurse Practitioner and PRIME Nurse. I thank my community for reminding me.

Please note - Amendment to Rural Muster #1: **"the reports were received in October and the group met in November"**

Spirometry

Yvonne Little

Nurse Practitioner

Today, much of what was done in the secondary care domain is fast being moved into primary health care and spirometry is a case in point. Whilst we still have Respiratory clinical nurse specialists in hospitals, many primary health care nurses have been trained to take on the role of spirometry as a diagnostic tool to assist them in their practice. For those not actively involved in spirometry it probably feels a bit like listening and trying to understand a foreign language. I know that this is the way I felt when I first started doing clinics.

The meaning of Spirometry.

Spiro – from the Greek for breathing

Metry – measurement

Spirometry – the measurement of breathing

Spirometry is a simple physiological lung test performed in order to measure the amount (volume) and/or speed (flow) of air an individual inhales or exhales. The patient breathes into a mouthpiece attached to a machine called a spirometer and the machine records the results which can then be graphed onto a computer screen. This sounds simple, but if the technique is not correct then the results will be of no value, therefore it is important that it be performed by properly trained nurses or technicians. Spirometry done poorly is not a useful diagnostic investigation and failure to carry this out correctly results in misdiagnosis and therefore mismanagement.

Spirometry has five indices;

1. V_T (tidal volume): volume of gas that is inhaled and/or exhaled per breath
2. IRV (inspiratory reserve volume): volume of gas that can be exhaled at the end of a normal inspiration.
3. ERV (expiratory reserve volume): volume of gas that can be exhaled at the end of a normal expiration.
4. VC (vital capacity): the maximum volume breath that can be made during a slow manoeuvre which equals V_T + IRV + ERV.
5. IC (Inspiratory Capacity): the maximum amount of air inhaled from V_T end expiratory level.

I live in sunny Hawke's Bay and work as a Nurse Practitioner, Primary Health Care Across the Lifespan, across two practices (rural and urban), enjoying the flexibility and interesting cases across both sites.

My other roles include being current Co-Editor on the LOGIC journal and part of the NZCPHN Executive, this year taking up the NZCPHCN representative role on the National Cervical Screening Advisory Group.

Outside of work and NZCPHCN obligations I have an eclectic collection of hobbies and enjoy spending time in my garden, with family and friends.

Why are we doing it? Who should have it done?

We are living and staying active longer. Add to this the increasing global burden of long term (chronic) conditions, reduced health care funding and an increase in government regulations. As a result, we need to look at ways of addressing issues earlier, in the hope that we can slow the progression of the global burden but also to ensure our patients live their lives with quality and quantity of years in mind.

Living in a more industrialised world exposes us to many chemicals in the workplace and whilst many people are now ceasing smoking, there is still an accumulative effect from past exposure and there are those who already suffer from asthma, bronchitis, and COPD, all of which can affect lung function.

Valid reasons for doing spirometry, therefore are to detect disease and measure its severity; make a definitive diagnosis – is it asthma or COPD?, to monitor the progression of disease once diagnosed and to allow us to tailor treatment accordingly, assess the response to treatment and thus optimise treatment for the individual. It may also be used as a motivating tool to help smokers quit.

So, who should we be testing and when:

a) anyone with suspected respiratory disease (some children as young as 7 years of age can manage to do spirometry whilst teenagers often have trouble) or those over 35 years who have a smoking history,

b) anyone who gives a history of ventilatory impairment,

c) people who do not respond as expected to treatment,

d) anyone employed in high risk occupations such as spray painting, boat building etc.

All testing should be done when the patient is well, free from colds and for those with occupational risks should be done before they are exposed to any substances suspected of affecting lung function if possible.

Relevance/Benefits?

The benefit of doing spirometry is to get a correct diagnosis and start the patient on an optimal individualised treatment regime. For the patient being able to understand their diagnosis and treatment is crucial in how they are able to manage their health including preventing unwanted ill health/exacerbations while stressing the importance of early intervention when feeling unwell.

The relevance for the high-risk occupation group is for the employers to adhere to Health and Safety Regulations and is also an added reminder to staff of the importance of wearing personal protective equipment on the job.

In the long run if we don't look after our health then we will continue to have an ever-increasing burden of disease, putting strain on the already overwhelmed health system.

Interpretation of Spirometry

Very briefly, interpretation of spirometry is reliant on the accuracy and correct operation of the spirometer. Results need to be both reproducible and repeatable. BEWARE - Results will also be affected if a person has tight clothing/belts around their mid-section or those with central obesity – interpretation in these cases must be done with caution.

We must also recognise that patients' efforts can be affected by things such as chest pain, abdominal problems; fear of incontinence; or lack of

confidence and poor communication skills.

The table below shows a quick guide to interpreting whether there is obstructive disease (COPD), restrictive disease or does the person have a bit of both (mixed picture).

	Obstructive	Restrictive	Mixed
FEV_1	↓	↓ or ↔	↓
FVC or VC	↓ or ↔	↓	↓
FEV_1/FVC	↓	↓ or ↔	↓

FVC (forced vital capacity) measures the maximum volume of air that can be exhaled during a forced manoeuvre after a maximal inspiration.

FEV_1 (force expired volume in one second) measures the volume expired in the first second of maximal expiration after a maximal inspiration and is a useful measure of how quickly full lungs can be emptied

FEV_1/FVC is the FEV_1 is expressed as a percentage of the VC or FVC (whichever is larger) and gives a clinically useful index of airflow limitation. More information can be found in the 2017 GOLD guidelines.

I would encourage each and every one of you to think about sourcing and undertaking education sessions in your region to learn more about handling spirometry equipment, have a go at trying to carry out and interpreting spirometry in order to benefit the patients within your practice, while adding to your skill tool kit.

References:

Lowry, J.B (HBSc, MD, CCFP, FCFP), A guide to Spirometry for Primary Care Physicians. 1998

Robiony-Rogers, D. Spirometry Training Course and Workshop, Massey University. 2009

Websites:

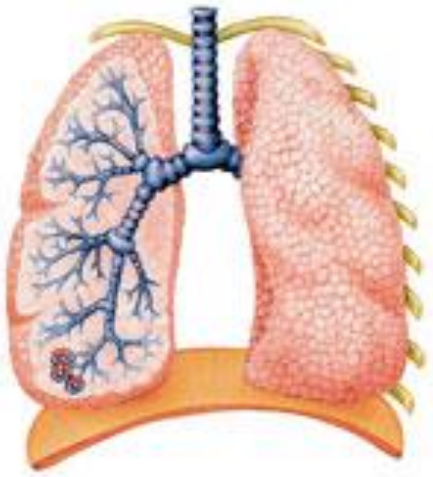
www.asthmafoundation.org.nz

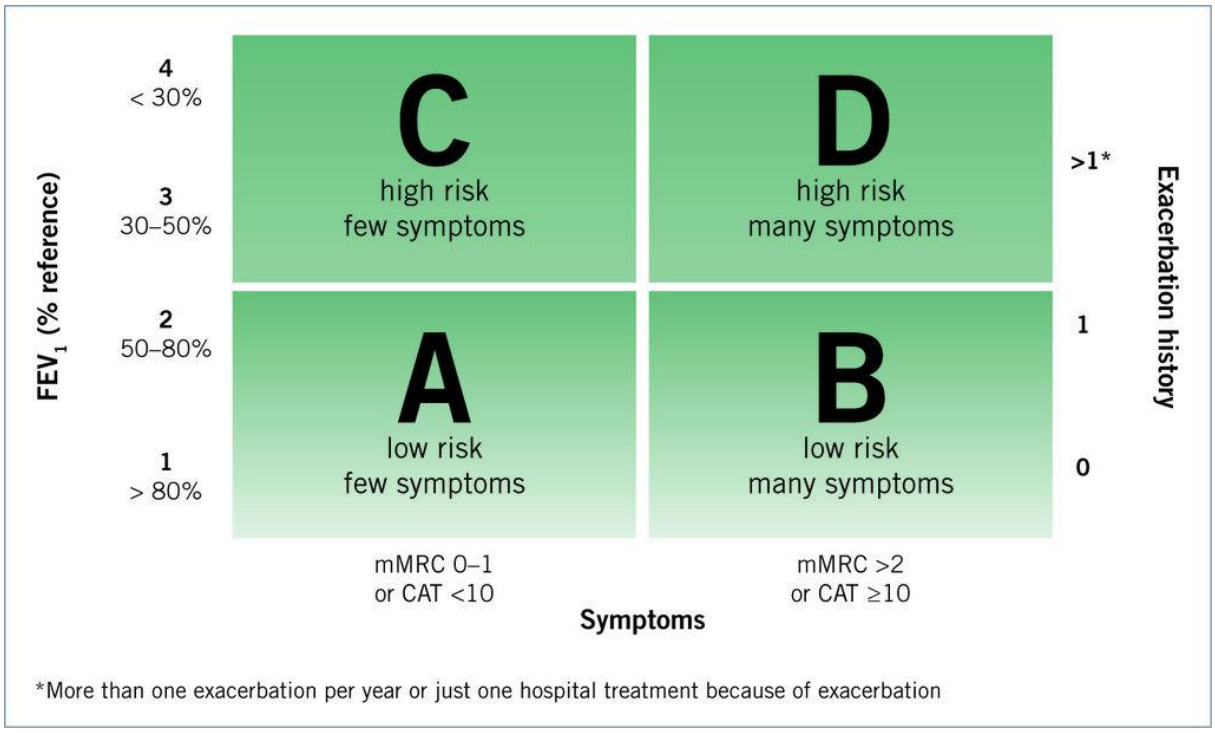
DontForgetToBreathe.org.nz

www.bpac.org.nz

http://guidelines.co.uk>gold>copd

goldcopd.org>gold-2017-global strategy



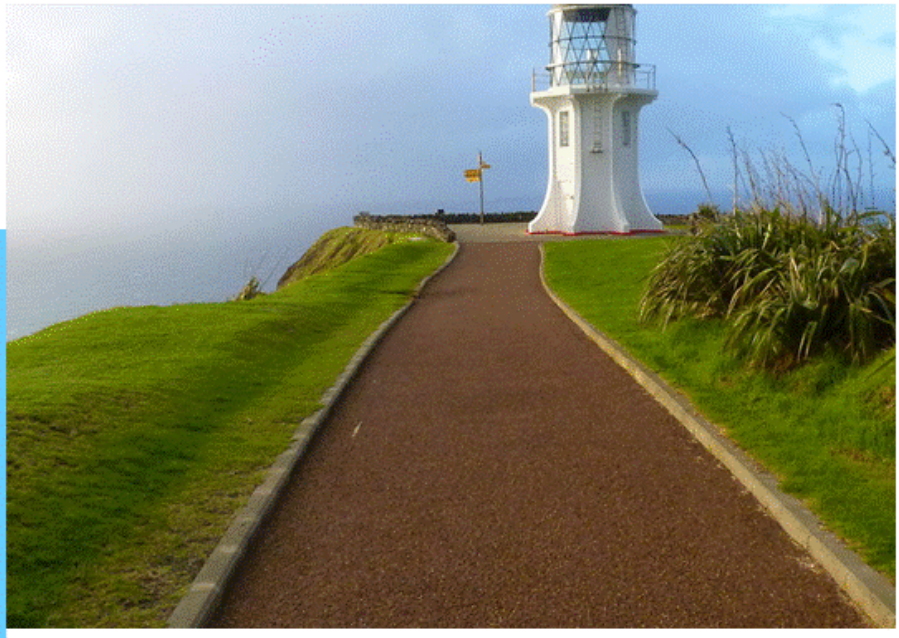

FEV1 (% reference)
4
< 30%
3
30–50%
2
50–80%
1
> 80%
C
high risk
few symptoms
D
high risk
many symptoms
A
low risk
few symptoms
B
low risk
many symptoms
>1*
1
0
Exacerbation history
mMRC 0–1
or CAT <10
mMRC >2
or CAT ≥10
Symptoms
*More than one exacerbation per year or just one hospital treatment because of exacerbation


Take-home Points
2017 GOLD recommendations
• New definition of COPD emphasizes respiratory symptoms and lung tissue/airway abnormalities in disease development
• Separates spirometric from comprehensive symptom evaluation in COPD assessment
• Provides new subgroups, with symptom burden and risk of exacerbation indicated by letters A to D and spirometric grade indicated by numbers 1 to 4
• Recommends persistent exacerbations be treated based on ABCD assessment
• Provides comprehensive recommendations for nondrug therapies, stresses importance of comorbidities in COPD

NEW ZEALAND COLLEGE OF PRIMARY HEALTH CARE NURSES, NZNO

NORTH AND SOUTH ISLAND SYMPOSIUMS, 2017

Future Direction: Your Roadmap



North Island

19 August, 08:00—17:15

Holiday Inn,

Auckland Airport

NZCPHCN members $185.00

Non – members $235.00

South Island

30 September, 08:00—17:00

Timaru Hospital

Ministry of Health ECG Interpretations

Diabetes Nurse Prescribing Skin Conditions

Cardiac assessment Motivational interviewing

Strapping techniques Epidemiology

New Zealand College of Primary Health Care Nurses NZNO

http://www.nzno.org.nz/groups/colleges_sections/colleges/college_of_primary_health_care_nurses/

NEW ZEALAND NURSES ORGANISATION

A collaborative approach improves diabetes clinical management for people with diabetes at Capital & Coast District Health Board (CCDHB)

Lorna Bingham, Nurse Practitioner, Capital & Coast District Health Board (CCDHB) Wellington

Lorna has been an NP since 2014, and a Diabetes Nurse since 1994. Lorna is a member of CCDHB Diabetes Clinical Network and leads CCDHB Diabetes Nurse Practice Partnership. Lorna is passionate about getting the basics right for people with diabetes in terms of education, reducing fragmentation of care and also keen to raise awareness amongst health professionals of the high rates of medication adherence issues in people with long term conditions.

In 2012, the Ministry of Health (MoH) changed the funding for diabetes services. The annual "Get Checked" programme was replaced by population based bulk funding. Get Checked was relatively ineffective in driving quality improvement in diabetes clinical management compared to usual care (MoH, 2011). The MoH directed District Health Boards (DHB) to develop localized Diabetes Care Improvement Packages (DCIPs).

In the CCDHB region, diabetes care was fragmented for people with diabetes. Also, the specialist service and primary care teams were struggling to manage the increase in the numbers of people diagnosed and needing follow up. In addition to an increase in Type 2 Diabetes, the numbers of children & adults being diagnosed with Type 1 was increasing. Also, the number of women with diabetes in pregnancy was increasing (numbers doubled from 2009 to 2014). As in other DHBs, gaps in diabetes care existed, varying from excellent in some areas to poorer in others.

The evidence from a large landmark study The United Kingdom Prospective Diabetes Study (UKPDS) (1998) demonstrated that 7-10 years after diagnosis of Type 2 diabetes many people needed insulin. The specialist service had little capacity to do these essentially "elective" non urgent insulin starts.

Clearly diabetes management needed to improve and each DHB used the opportunity of DCIP to introduce change whilst improving the quality of clinical management.

The key aims of the DCIP were to:

1. Reduce ethnic health disparities in outcomes for Maori, Pacific and people of low income
2. Prevent and slow diabetes complications
3. Reduce the frequency of Emergency Department admissions
4. Reduce the hospital rates for diabetes related complications.
5. Diabetes prevention

Prevention is vital for population diabetes management. However, diabetes prevention fell outside the remit of the DCIP, which was for people with established diabetes. Prevention would be addressed through another

long term conditions work streams.

DCIP was introduced to CCDHB in 2 phases from 2013 and has been largely successful. A MoH report shared at a national diabetes forum in 2016 showed CCDHB to be one of the leading DHBs in terms of its glycaemic management.

Phase 1 involved

1. Practice population management
    - Establishing and supporting 15 "Priority practices"
2. Specialist focus on complex, type 1, paediatric , gestational diabetes and renal diabetes
3. Regular multidisciplinary team (MDT) collaborative case conferencing
4. Establishing a DHB wide Diabetes Clinical Network
5. Self management group education
6. Workforce development
7. Performance measures

Phase 2 was then introduced in 2014. It was to formalize the

8. Diabetes Nurse Practice Partnership (DNPP)

As with any change project, the work was at times challenging. Project success was attributed to effective project leadership and key stakeholder involvement from the outset. The stakeholder steering group comprised funders, managers, Primary Health Organizations (PHOs), General Practice and Specialist Diabetes clinicians. Strong clinical leadership was vital as was support from the DHB Alliance Leadership Team (ALT). No additional funding meant working differently and strategically, as one combined system.

The steering group decided, in line with "*better, sooner, more convenient"* (another MoH initiative), that the specialist service was to predominately provide support to the General Practice (GP) teams to deliver the majority of the diabetes management in primary care.

Practice population management

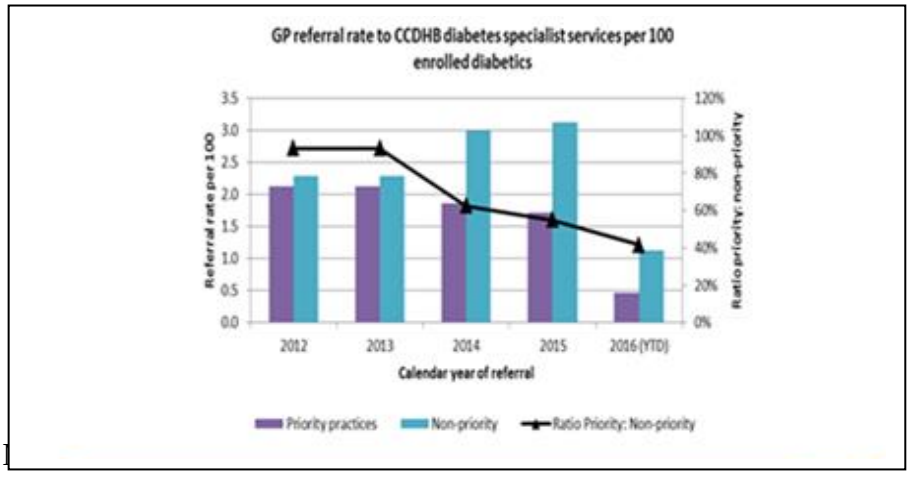
Wagner's Chronic Care Model (1998), provided the quality and strategic framework within a population focus to maximize effectiveness of limited resources. Initially a manageable number of fifteen (of over 60) "Priority Practices" (PP) were identified. Regionally these practices accounted for 50% of the total diabetes population and 70% of the high needs, Maori and Pacific people. By improving the capability of the PPs the desired outcomes of an improvement of diabetes care and reduction ethnic disparities should occur. A population approach to improve quality and address disparities in health outcomes for ethnic minorities has been included this year by the American Diabetes Association (2017), annual update.

Case conferencing (CC) in PPs is where a specialist doctor and nurse meet regularly for 1-2 hours often around lunchtime with the whole GP team, nurses, doctors and allied health to discuss cases. The meeting improves communication between the specialist and primary care team and also within the GP team. The forum facilitates discussion of complex cases and formal and informal education, such as updating colleagues on hypoglycaemia management and hypoglycaemia unawareness. CC had previously been happening ad hoc in CCDHB but now was rolled out to all priority practices. Most clinicians responsible for the care of diabetic patients enjoyed the team approach, and sharing of clinical

responsibility through utilizing the expertise of the specialist service and other professional groups to support their work. Clinical isolation is reduced for health practitioners and perhaps burn out risks mitigated to a degree.

The Diabetes Clinical Network meets quarterly to review issues, concerns and analyse clinical data. They report to the ALT, who has the DHB wide mandate through management processes to remove barriers to improve care. They monitor key indicators such as the number of patients who have HbA1c > 64 mmol/mol and need to be on insulin, or how many nurses have completed the New Zealand Society for the Study of Diabetes (NZSSD) endorsed Diabetes on line e learning programme. Nationally, CCDHB has the highest uptake of this programme.

The graph below shows a decrease in the referrals to specialist service in the priority practices compared to the other practices



Diabetes workforce development for the DHB is based on prioritizing gaps in service from the 2014 Quality standards for diabetes care toolkit (MoH). Last year, workforce development included sessions on psychological support and diabetes distress for patients. Nurses, GPs, consultants and allied health attended the 3 geographically located sessions. Nursing peer support sessions are also held monthly over two sites. Sessions are well attended by up to 12-20 nurses at a time. Case studies an educational topic are discussed.

Effective diabetes change requires relationship building, clear goals, appropriate measures and a focus on the person with diabetes. The introduction of the DCIP has led to a **system wide improvement** in diabetes care locally. The change process has taken a little longer than anticipated, for example introducing self-management groups and rolling out the work to all practices.

However, a senior diabetes specialist colleague recently said working with an outreach focus to up skill and support GP teams has been "like a breath of fresh air".

In a local survey of PPs, respondents listed "Access to specialist knowledge" and "Upskilling and education" as the most useful parts of the DCIP model.

The Diabetes Nurse Practice Partnership (DNPP) and is a key component of the DCIP. It was formally introduced in 2016 and is another topic for another time. The vision agreed for the DNPP team was "Quality Diabetes care for all, irrespective of race or where you were seen in the DHB".

References

American Diabetes Association (2017). *Standards of Medical Care in Diabetes -2017*. American Diabetes Association. Retrieved from

http://professional.diabetes.org/sites/professional.diabetes.org/files/media/dc_40_s1_final.pdf

Capital and Coast District Health Board Integrated Care Collaborative. (2012). *CCDHB Diabetes Care improvement Plan. September V4* . Wellington: Author.

New Zealand Society for the Study of Diabetes. (2013). Diabetes Resource levels 1&2 modules Retrieved from: http://www.healthmentoronline.com/

Ministry of Health, (2011). *Review of the Diabetes "Get Checked" Programme* . Wellington: author

Ministry of Health, (2014). *Quality Standards for Diabetes Care Toolkit*. Wellington: author.

Wagner, E. H., (1998). Chronic Disease Management: What will it take to improve the care for chronic illness ? *Effective clinical Practice 1*(1) 2-4.

Wellington Regional Network report – February 2017

Cathy Nichols

Our August 2016 study evening saw 72 nurses attending our session on Respiratory conditions. Topics included a quick recap of the pathophysiology of the lungs followed by a practical and interactive session on auscultation with everyone learning to do breathing exercises. Dr Nicki Turner led a scenario based discussion on assessing the sick person and when to refer on. She also showed the importance of flu vaccinations for clinical staff for the people we care for. The NZ Shivers study showed that 1 in 5 people get influenza yearly with only 30% being symptomatic and 22% of those going to their GP. With burden of disease mostly affecting the very young and old, those for whom the vaccine is less effective.

Most nurses attending are Practice Nurses, although we are increasingly seeing more nurses from Aged Care, NGO's, District nursing, Telehealth, Public Health and nursing students. Several secondary care colleagues are also attending.

We always begin with a college update and in August we announced the 12 members who were winners of free registration to attend the Auckland symposium, two also received assistance with travel costs.

For the evaluation question of "how the session would change the nursing practice of participants?" replies included:

Given me more knowledge of respiratory assessment - Aged Care nurse

Remember the importance of exercise. Really enjoyed the triage presentation, very informative! Especially about the fevers! – Student nurse

I liked the tip to gain experience for lung sounds by asking an experienced person on what to do – Student nurse.

More referrals to Pulm Rehab and Improve history taking. Increase awareness of clinical checks.

Updating asthma plans

Breathing exercises – Practice Nurse

Perhaps be more systematic when assessing patients with respiratory problems – Practice Nurse

I will use my stethoscope – thank you. – Aged care nurse

Particularly enjoyed Dr Nikki Turner's presentation on assessment of a child as very relevant to my role as a Tamariki Ora Nurse.

In November we were very disappointed to have cancel our Palliative Care –Advance Care Planning session due to the storm which caused severe flooding across Wellington. Certainly we Wellingtonians can handle the wind but when

combined with unusually high tides and torrential rain we have to accept defeat to Mother Nature. Fortunately our four speakers have agreed to run with the programme again and week out we are very nearly at full capacity of 80 nurses attending.

The Wellington regional network committee believe the value of these evenings is in choosing a topic of relevance to the entire community of PHC nurses. We have developed three overarching themes which we try to interweave into our sessions:

- Hearing the consumer's voice
- The impact of mental health
- Triaging – what is important.

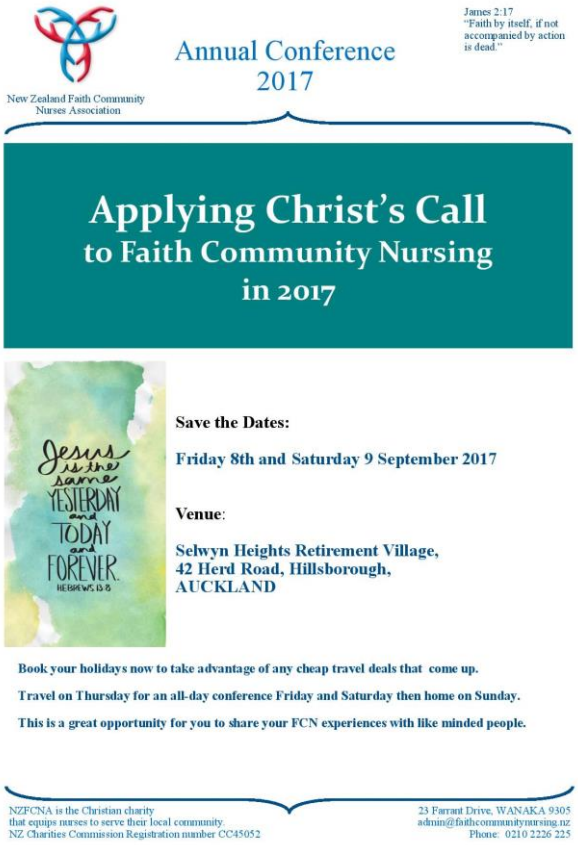
While some corners of PHC nursing are well served by education sessions others are not so fortunate. These evenings are a great opportunity to network with colleagues and present specialist nurses and their teams as a familiar point of contact when participants are back in their workplaces.

The Professional Practice Committee (a sub-committee of the College's National Executive) is hoping to encourage more regional forums to start up their own local meetings. A few initiatives are being developed for this year's symposiums to enable this to occur. Nursing connectedness is the way forward in this rapidly changing environment for us as a profession and the communities we serve.

Cathy Nichols

Coordinator of Wellington Regional Network

Member of the Professional Practice Committee



Mental Health and Long Term Conditions

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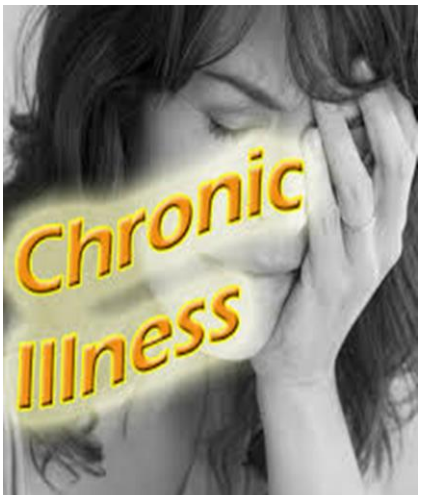


Yvonne Little

Nurse Practitioner

"Never give up on someone with a mental illness. When "I" is replaced

with "WE", Illness becomes Wellness."

Shannon L Alder

Despite being in the 21st century, the words mental health/illness for many people still have associated with them, a stigma. If we are to break down this stigma and make the word 'mental' have a less negative connotation I believe as PHC nurses we can make a difference to the health of our patients.

We are all well aware of current Mental Health campaigns. Advertisements on television, John Kirwan on depression, Mike King on depression and suicide, and we are also seeing celebrities such as Demi Lovato talking about Bipolar Disorder and Royalty such as Prince William and Kate, Duchess of Cambridge speaking out about bullying, grieving and being open to talk about your issues, but how many of us have really considered how being given a diagnosis of a condition for which there is no cure affects our patients and their family/whanau.

So, how can we do break down these barriers? Let's look at mental wellbeing for those diagnosed with a long term chronic conditions. Living with a chronic illness is a daily challenge, but when first given the diagnosis you go through the same grieving process as if you have lost a loved one.

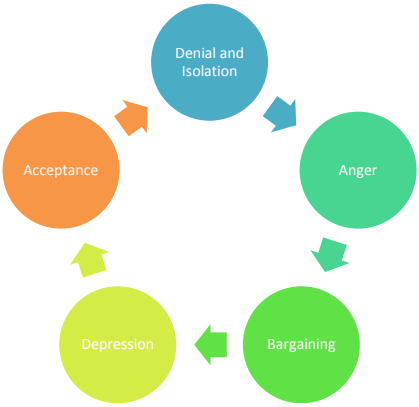
It is estimated that one third of people diagnosed with a chronic physical health issues will be diagnosed with depression/anxiety, the more severe the illness the greater risk of depression/anxiety and even more so if the person already has a history of depression.

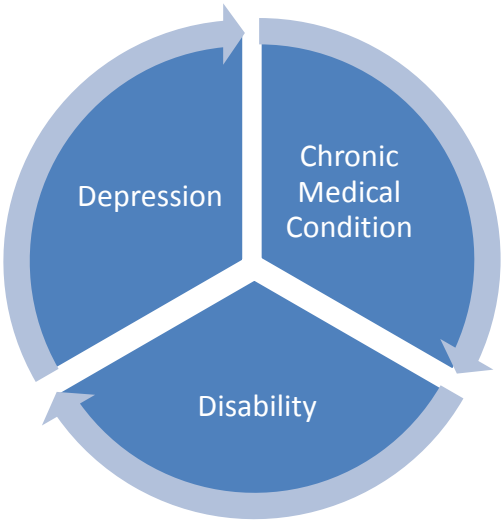
Comorbid depression/ anxiety is common for those living with chronic illnesses, but do we as

health providers recognise the symptoms as that of depression/anxiety or are we simply putting it down to the chronic illness. Multifactorial causes of depression symptoms include behavioural, social and biological factors.

And so I ask you, the clinician, would you recognise if your patient, a friend or family member who has a chronic illness was suffering from depression/anxiety - how many of us have seen someone with a minimum two week history of feeling sad/anxious or hollow, prevailing feelings of hopelessness/negativity,
who've lost interest in things they have always enjoyed and complaining of no energy, feeling fatigued, poor sleep patterns, unable to concentrate or make decisions, changes in appetite and consequently weight, while making statements such as "well I can't do anything about it, it's my (insert whichever chronic illness you like here), I just have to live with it". Most of us I suspect would be able to answer YES, but what can we do to help them.

Chronic Illness and Depression, a vicious cycle: it affects one's sense of self and one's ability to function physically and emotionally. It is not to be underestimated.





This depression component of this vicious cycle can get in the way of successful management of the chronic condition and we need to be aware of this and ensure our patients are also aware and know how to manage it. If we are able to do this, our patients will be able to live their lives to the fullest. Treatment is the same for those with or without chronic illness, ranging from counselling, cognitive behavioural therapy, self-help websites to medications. We should be using these in combination for optimal outcomes but of course the patient should be at the centre of the decision making.

Early intervention is the key to success as with anything in healthcare – so we must all be vigilant and aware of the signs. Start those hard to have conversations with the patient, they may just not know how to bring the subject up but have been dropping hints in the hope that someone will ASK them the question and set them on the road to dealing with their depression/anxiety.

As Nurses, friends, lovers, partners, husbands, wives, parents, grandparents, step-

parents, children, brothers, sisters (full and blended families), aunts, uncles, cousins and colleagues -Let's EMPOWER our patients, friends, colleagues and family members to BE STRONG and TAKE CHARGE of their lives. Allow them to ASK for help, or if they can't let's use the word ASK as the following acronym:

Advocate for them

Support them in their struggles and decisions

Keep in touch

Some Self-help websites:

www.thelowdown.co.nz

http://depression.org.nz

www.healthnavigator.org.nz

http:/.www.mentalhealth.org.nz

www.beatingtheblues.co.nz

***References**:*

www.diabetes.co.uk – Diabetes and Depression

http://www.cdc.gov/pcd/issues/2005/jan - The vital link between chronic disease and depressive disorders.

annualreviews.org – Adjusting to Chronic Health Conditions

www.webmed.com – Dealing with Chronic Illness and Depression

www.medlineplus.gov – Living with a chronic illness

www.chronicality.com – Newly diagnosed? Here's what to Expect Living with a Chronic Illness

Are proton pump inhibitors increasing the risk of falls and fractures in our elderly population: a prescription for concern and time to act on the evidence?

Louise Fowler, *Clinical Nurse Specialist, Aged Residential Care, Tauranga, New Zealand.*

Felix S F Ram, *Clinical Pharmacologist, College of Health, Massey University, Auckland, New Zealand*

Fractures related to falls in the elderly cause significant morbidity, mortality as well as increasing individual and national financial burden. Literature suggests a link between falls, fractures and proton pump inhibitor (PPI) use, particularly long-term use. Large reviews involving over 250,000 patients suggests current [1] and prolonged use of PPIs (examples include; Omeprazole, Lansoprazole, Pantoprazole and Rabeprazole) for longer than one year results in increased risk of falling and sustaining fractures [1,2,3].

Furthermore, risk of falls and fractures increases significantly with each additional year of PPI exposure [4]. In a study of 400 elderly women who were retrospectively followed post hospital admission after a fall, 200 had a fracture [5]. This study showed an increased risk of falls and fractures when patients were on PPIs (falls: OR 1.92, 95%CI: 1.05 to 3.50, p = 0.04 and fractures: OR 2.15, 95%CI 1.10 to 4.21, p = 0.03) [5]. This study demonstrates a significant increase in risk of falls and fractures in the elderly on PPIs'.

Over the years multiple factors have been proposed to help explain the association between PPIs and the increased risk of fractures [1,2,5,6],

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Louise has over 25 years experience working as a registered nurse in both the secondary and primary health sector, She has a Clinical Masters and is currently on the Nurse Practitioner Training Programme. Her nursing experience includes emergency nursing, education for medical services within Tauranga Hospital and she is currently Clinical Nurse Specialist for the Western Bay of Plenty PHO in Aged Residential Care (ARC). The Key Performance Index of this role is to reduce hospitalisations. Louise also delivers education for RNs, ENs and HCAs working within ARC in the Eastern and Western Bay of Plenty region in order to improve their critical thinking skills.

however, not all studies have shown an association between PPI use for acid suppression and fractures leading to osteoporosis and/or reduced bone mineral density [7,8]. This suggests that fractures may be due to factors independent of clinical diagnosed osteoporosis. It is believed that PPI use may cancel the beneficial effects of bisphosphonates [1].

Studies also suggest that PPI use decreases magnesium absorption [5, 9,10] and lower magnesium (hypomagnesemia) levels are known to inhibit calcium absorption [6]. It has also been suggested that hypomagnesemia is worse when patients were administered PPI's compared to those using histamine-$_2$ receptor antagonists (H_2RAs, examples include; cimetidine, famotidine and ranitidine) [9,10]. Furthermore, the addition of loop diuretics with either a PPI or H_2RA results in higher incidence of hypomagnesemia [10]. Magnesium and calcium are thought to be necessary for bone and musculoskeletal health, therefore, hypomagnesemia as a result of PPI use will impact on elderly falls [11].

Over the past 10 years there has been a move away from using H_2RAs to PPIs which has resulted in an alarming increase in the use of PPIs [12,13]. A small study of 212 patients' identified that 75% of PPI prescriptions were for prophylactic use [12]. However, the New Zealand medicines datasheet for Omeprazole (listed on the Ministry of Health, Medsafe website) does not include prophylactic use of PPIs [14]. Furthermore, prescriptions of 447 consecutive hospitalisations for falls identified 58% of patients were on PPIs and 27% inappropriately (as per current guidelines) or with no clinical indication [15,16]. The study also found that 68% of patients were on PPI doses much higher than recommended in guidelines and 42% could have had a lower dose [16]. Unfortunately, medication discontinuation date was only documented in 5% of medication charts [15].

Large retrospective studies have shown that patients on PPIs were more likely to have a fractured hip compared to those on H_2RAs (PPIs (OR=1.30, 95%CI=1.21 to 1.39) and H_2RAs (OR=1.18, 95% CI=1.08 to 1.29) [17]). Risks were further compounded in the elderly population [17,18]. Medication duration of more than two years and with higher dosages also increased the risks [17]. Cea Soriano and co-workers showed an increase in risk of fractures with current or long term PPI use, however no increase was seen with H_2RA [19]. Kwok and co-authors suggest greater risk of hip, spine and other fractures with PPIs compared to those patients on H_2RAs with the greatest and most significant risk being spine fractures [20].Longer duration of PPI use (over three years) was associated with much greater risk [20]. These results

have been confirmed by other similar studies throughout the world [21].

Furthermore, for the management of GERD, H_2RAs have proven efficacy [22, 24] with intravenous PPI vs H_2RA showing non-inferiority (no difference) in efficacy after 30 and 60mins for signs and symptoms of dyspepsia [23]. Regardless of the factors that may be associated with PPI use and increased risk of falls, there does appear to be strong link from the evidence presented between PPI use and increased risk of falls and fractures in the elderly population. Both the New Zealand Formulary [25] and the Health Quality and Safety Commission of New Zealand [26] has linked and cautions the use of PPIs as a risk factor for increased falls in the elderly.

Given the emerging evidence to date, the overuse of PPIs in the elderly needs to be curtailed and the benefits weighed up against the potential for harm [5,18,23]. Many elderly patients can be managed on H_2RAs and as these are considered to be clinically safer (for many decades of evidence). They should be considered for all patients indicated for acid suppression, especially long-term [1,19,20]. Nevertheless, indications, dosages and duration of use need to be reviewed for both drug classes in all patients. There needs to be frequent educational sessions for general practitioners and nurses to increase awareness of the adverse effects associated with use of PPIs in the elderly, especially longer term usage greater than four weeks.

References:

1. Andersen B, Johansen P, Abrahamsen B. Proton pump inhibitors and osteoporosis. Current Opinion in Rheumatology. (2016, July); 28(4): 420-425.
2. Zhou B, Huang Y, Li H, Sun W, Liu J. Proton-pump inhibitors and risk of fractures: an update meta-analysis. Osteoporosis International (2016, January), 27(1):339-47.
3. Adams A, Black M, Zhang J, Shi J, Jacobsen S. Proton-pump inhibitor use and hip fractures in men: a population-based case-control study. Annals of Epidemiology. (2014, Apr); 24(4): 286-290.
4. Yang YX, Lewis JD, Epstein S, Metz DC. Long-term proton-pump inhibitor therapy and risk of hip fracture. Journal of the American Medical Association. (2006 Dec) 27; 296(24):2947-53.
5. Thaler H, Sterke C, Van Der Cammen T. Association of proton pump inhibitor use with recurrent falls and risk of fractures in older women: A study of medication use in older

fallers. Journal of Nutrition, Health & Aging. (2016, Jan), 20(1): 77-81. doi:10.1007/s12603-016-0679-0.

6. de la Coba Ortiz C, Argüelles Arias F, Martín de Argila de Prados C, Júdez Gutiérrez J, Linares Rodríguez A, Ortega Alonso A, Rodríguez de Santiago E, Rodríguez-Téllez M[7], Vera Mendoza MI, Aguilera Castro L, Álvarez Sánchez Á, Andrade Bellido RJ, Bao Pérez F, Castro Fernández M, Giganto Tomé. Proton-pump inhibitors adverse effects: a review of the evidence and position statement by the Sociedad Española de Patología Digestiva. Revista española de enfeRmedades digestivas (2016 Apr);108(4):207-24. doi: 10.17235/reed.2016.4232/2016.
7. Targownik LE[1], Leslie WD, Davison KS, Goltzman D, Jamal SA, Kreiger N, Josse RG, Kaiser SM, Kovacs CS, Prior JC, Zhou W; CaMos Research Group. The relationship between proton pump inhibitor use and longitudinal change in bone mineral density: a population-based study from the Canadian Multicentre Osteoporosis Study (CaMos) Gastroenterology (2010), 138:896-904.
8. Solomon DH, Diem SJ, Ruppert K, Lian YJ, Liu CC, Wohlfart A, Greendale GA, Finkelstein JS. Bone mineral density changes among women initiating proton pump inhibitors or H2 receptor antagonists: a SWAN cohort study. American society for bone and mineral research. American Journal of Kidney Disease (2015, Feb), 30(2):232-9. doi: 10.1002/jbmr.2344.
9. William J, Danziger J. Magnesium deficiency and Proton-Pump Inhibitor use: A Clinical Review. Journal of Clinical Pharmacology. (2016, June), 56(6): 660-668.
10. Kieboom BC, Kiefte-de Jong JC, Eijgelsheim M, Franco OH, Kuipers EJ, Hofman A, Zietse R, Stricker BH, Hoorn EJ. Proton pump inhibitors and hypomagnesemia in the general population: a population-based cohort study. American Journal of Kidney Disease. 2015 Nov;66(5):775-82. doi: 10.1053/j.ajkd.2015.05.012.
11. Visser M, Deeg D, Lips P, Harris T, Bouter L. Skeletal muscle mass and muscle strength in

relation to lower-extremity performance in older men and women. Journal of The American Geriatrics Society. (2000, Apr), 48(4): 381-386.

12. Oh AL, Tan AG, Phan HS, Lee BC, Jumaat N, Chew SP, Wong SH, Ting SH, Subramaniam T. Indication of acid suppression therapy and predictors for the prophylactic use of protonpump inhibitors vs. histamine-2 receptor antagonists in a Malaysian Tertiary Hospital. Pharmacy Practice (2015, Apr-Jun); 13(3):633. doi: 10.18549/PharmPract.2015.03.633.
13. Mössner J. The Indications, Applications, and Risks of Proton Pump Inhibitors. Deutsches Aerzteblatt International. (2016, July 11), 113(27/28): 477-483.
14. New Zealand data sheet - Omeprazole. (2014, January 13). In *Medsafe*. Retrieved from http://www.medsafe.govt.nz/profs/datasheet/o/Omeprazole20mgcap.pdf.
15. Kelly OB, Dillane C, Patchett S, Harewook GC, Murray FE, The inappropriate prescription of oral proton pump inhibitors in the hospital setting: A prospective cross-sectional study. Digestive Diseases and Sciences (2015) 60: 2280. doi: 10.1007/s10620-015-3642-8.
16. McGinn D. Protocol for prescribing proton-pump inhibitors initiation, review and discontinuation. UK NHS (2015, April). http://www.medicinesoptimisationacademy.com/wp-content/uploads/2015/04/Protocol-for-prescribing-PPIs.pdf.
17. Corley DA, Kubo A, Zhao W, Quesenberry C. Proton pump inhibitors and histamine-2 receptor antagonists are associated with hip fractures among at-risk patients. Gastroenterology (2010 July); 139(1):93-101. doi: 10.1053/j.gastro.2010.03.055.
18. Ding J, Heller D, Ahern F, Brown T. The relationship between proton pump inhibitor adherence and fracture risk in the elderly. Calcified Tissue International. (2014, June); 94(6): 597-607.
19. Cea Soriano L, Ruigómez A, Johansson S, García Rodríguez LA. Study of the association between hip fracture and acid-suppressive drug use in

a UK primary care setting. Phramacotherapy (2014, Jun). 34(6):570-81. doi: 10.1002/phar.1410.

20. Kwok CS, Yeong JK, Loke YK. Meta-analysis: risk of fractures with acid-suppressing medication. Bone (2011 Apr) 1; 48(4):768-76. doi: 10.1016/j.bone.2010.12 .015.
21. Cai D, Feng W, Jiang Q. Acid-suppressive medications and risk of fracture: an updated meta-analysis. International Journal of Clinical and Experimental Medicine. (2015 Jun) 15;8(6):8893-904. eCollection 2015.
22. Zhoa F, Wang S, Liu L, Wang Y. Comparative effectiveness of histamine-2 receptor antagonists as short term therapy for gastro-esophageal reflux disease: a network meta-analysis. International Journal of Clinical Pharmacology and Therapy.2016 Oct;54 (10):761-70. doi: 10.5414/CP202564.
23. Senay E, Eken C, Yildiz M, Yilmaz D, Alkan E, Akin M, Serinken M. Comparison of intravenous pantoprazole and ranitidine in patients with dyspepsia presented to the emergency department: a randomized, double blind, controlled trial. World Journal of Emergency Medicine (2016);7(1):30-4. doi: 10.5847/wjem.j.1920-8642.2016.01.005.
24. Ozawa S, Kumai K, Higuchi K, Arakawa T, Kato M, Kitajima M, et al. Short-term and long-term outcome of endoluminal gastroplication for the treatment of GERD: the first multicenter trial in Japan. Journal of Gastroenterology. (2009, July), 44(7): 675-684.
25. New Zealand Formulary. Volume 56, 1 February 2017. http://nzf.org.nz/nzf_192?searchterm=Proton pump inhibitors. Accessed 13 February 2017.
26. Health Quality and Safety Commission of New Zealand. http://www.hqsc.govt.nz/our-programmes/reducing-harm-from-falls/10-topics/topic-8/. Accessed 13 February 2017.

ROTAVIRUS: Burden of disease and vaccine impact

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Fellow of the Royal College of Physicians (FRACP Paediatrics); Diploma of Tropical Medicine and Hygiene (University College London); Masters of Medicine (Research) University of New South Wales

Introduction

This article outlines the burden of rotavirus disease amongst young children worldwide and specifically in New Zealand; the impact of vaccination, the possible adverse events to be aware of and some early New Zealand data on effect of rotavirus vaccination so far.

Rotaviruses are RNA viruses with outer proteins which give multiple combinations of virus subtypes. Only 5 strains however, typically called G1-G4 and G9, are the cause of over 90% of the global burden of rotavirus disease in children.

Worldwide diarrhoeal disease is the second leading cause of death in children under 5 years (which equates to up to ¾ million children dying per year).

Of diarrhoeal disease, the rotavirus is the commonest cause of severe diarrhoeal disease and dehydration in infants and young children, this means that rotavirus is associated with 1/3 of all diarrhoeal deaths (250,000 - 500,000 children) in the world. The highest burden of deaths and severe disease occurs in low income countries, many of these in Asia (India, Pakistan) and also African subcontinents (Nigeria and Ethiopia). Rotavirus also contributes to substantial hospitalisation in developed countries.

It is a very common infection with rotavirus gastroenteritis occurring in all infants and children, at least once in early life. The first symptomatic infection generally happens between 2 months to 2 years of life regardless of which country the child lives; whether developed or developing world and regardless of sanitation standards. Almost all children have been infected by age 5, typically the first episode is most severe, protecting from

severe illness the next time the child meets the virus.

Prior to vaccination, rotavirus was one of the leading causes of hospitalisation in young children in Australia and New Zealand.

As rotavirus occurs so commonly in young children, it is the dehydration that leads to hospital presentation for those aged under 2 years in developed countries like New Zealand. Although deaths occur in developing countries (largely due to lack of clean rehydration fluid or access to healthcare or accompanying malnutrition); in developed countries, hospital admissions due to rotavirus gastroenteritis continue to escalate despite improved sanitation and hygiene as it is an ever-present virus.

Gastrointestinal infection: A burden in NZ

New Zealand has had increasing hospitalisations due to infectious diseases over the last several decades (1989 - 2008), despite improvements in other non-infectious diseases. Gastrointestinal infections, along with lower respiratory infections and skin and soft tissue infections account for nearly 60% of all infectious disease admissions. Gastrointestinal infection admissions nearly doubled between 1989-2008.

Admissions due to infectious illness are higher amongst people who suffer socioeconomic deprivation.

Gastroenteritis has been the most common medically preventable cause of acute hospital admission in NZ kids, accounting for over 5000 admissions per year. Of all these hospital admissions due to gastroenteritis, it is thought rotavirus accounts for over 40% in children aged under 3 years.

Current national hospitalisation data shows over 600/100,000 children <3 years are hospitalised for rotavirus which equates to 1 in every 52 children. This represents only the tip of the iceberg with additional emergency department short stays and general practice visits likely equating to over 10 times this figure.

Clinical symptoms

Symptoms occur usually about 2-3 days after an infectious contact. Rotavirus is highly infections and spreads rapidly (faecal - oral transmission) from person-to-person but also via airborne droplets (vomitus) or contact with contaminated objects.

Symptoms include projectile vomiting and very watery diarrhoea (defined as more than 3 loose or liquid stools per day). There is often accompanying fever and abdominal pain. In New Zealand rotavirus occurs seasonally where it is twice as common in winter and spring as in summer or autumn. Children with rotavirus more likely to become dehydrated

compared with other forms of acute gastroenteritis, thus more likely to need hospitalisation or medical care.

Severity	Symptoms	Physical signs
Mild	thirsty, restless	None Slightly dry mouth/ mucosa
Moderate	lethargic, irritable	Dry mouth mucosa, absent tears Sunken eyes & fontanelle Decreased urine output Altered skin elasticity Signs of ketosis (rapid shallow breathing, smell of ketones)
Severe	limp, drowsy	Drowsiness Shock (tachycardia, poor volume pulses, cool to touch) Skin retraction time > 2 seconds Capillary refill time > 3 seconds

Adapted from the Starship Clinical Guidelines available on line at https://www.starship.org.nz/for-health-professionals/starship-clinical-guidelines#(no permission obtained).

There is no antiviral drug treatment against rotavirus so treatment is supportive. Simple oral rehydration solution can be made up to the World Health Organisation recipe (6 teaspoons of sugar to ½ teaspoon of salt to 1 litre of water) although commercially and funded available rehydration solutions such as Pedialyte probably provide a tastier alternative in our setting.

Vaccines available

There are two vaccines commonly used in national schedules around the world. Rotarix (GlaxoSmith Kline) which is a monovalent rotavirus

vaccine (RV1) given orally in a 2 dose schedule at ages 6 and 10 weeks. The other is RotaTeq (CSL Biotherapies/Merck) which is pentavalent vaccine (RV5) also given orally but in a 3 dose schedule at ages 6 weeks, 3 months and 5 months.

These vaccines have been introduced in the United States since 2006, Australia since 20134 and United Kingdom since 2012-2013.

Many organisations support use of rotavirus; WHO's Strategic Advisory Group of Experts recommended rotavirus vaccination should be included in all national immunisation programmes; the New Zealand Immunisation Technical Forum recommended both in 2007 and 2010 that rotavirus vaccine should be included in our national immunisation schedule. The Paediatric Society of New Zealand also produced a position statement in 2012 endorsing nationally funded vaccination. Ultimately this has led to Pharmac funding Rotateq (3 dose schedule) for all infants born from July 2014; and in July 2017 a change in brand will mean Rotarix (a 2 dose vaccine) will be used from then on.

What has been the impact of Rotavirus Vaccination?

American data shows hospitalisation rates for all cause gastroenteritis have decreased by 50% in children aged 6-23 months and by 30% for children up to age 5 years. Now 7 years since vaccine introduction the US has shown a consistent reduction in rotavirus hospitalisations of 50-90% each year. Reductions also seen in older children and adults due to herd immunity.

In Australia similar dramatic case reductions have been documented and within children's hospitals additional bonuses are documented of large reductions in the rates of nosocomial (hospital-acquired transmission of rotavirus) and associated workload for infection control practitioners.

Even within the United Kingdom where vaccine has only been for a short time a 77% decline in laboratory confirmed rotavirus infections in infants was seen just 1-2 years after vaccine was introduced along with a 26% decline in all-cause gastroenteritis hospitalisations. For the UK this represents 11,000 less rotavirus admissions and over 50,000 less diarrhoeal admissions in just one year of vaccinating infants.

By 2015 79 countries have adopted RV vaccine including 22 in Sub-Saharan Africa although not in Asia –the area of highest mortality

So far combining worldwide data shows rotavirus vaccine may prevent up to 70% of cases of rotavirus diarrhoea and 80% of severe episodes that occur in the first 2 years of life. The vaccine effectiveness wanes over 3 years following last dose but prevents transmission in the community through herd

protection to both adults and older children.

The efficacy of rotavirus vaccine appears highest in developed countries but is less efficacious in sub-Saharan Africa, Latin America and Southern Asia possibly due to differences in environmental influences, other co-pathogens and co-existing conditions.

Additional Bonuses of Vaccination

Rotavirus is linked to childhood seizures, both febrile and afebrile; it is well described that a small proportion of young children with rotavirus infection experience a simple seizure perhaps due to the high fever.

In both America and Australia a reduction of childhood febrile and afebrile seizures of 15-20% in the first year of life has been seen with introduction of the rotavirus vaccine. Thus there is an additional benefit of rotavirus vaccine reducing the annual burden of childhood hospitalisations, emergency visits and unnecessary investigations from simple febrile seizures.

Side effects of vaccination

The most concerning potential adverse effect of rotavirus vaccination is the association with intussusception. This is where one part of the bowel folds into itself and if not reversed can cut off the blood supply to part of the intestine or lead to bowel perforation and serious infection, sepsis and rarely death. If recognised early it is easily reversed by a simple rectal procedure or less commonly by abdominal surgery. The cause of intussusception is not known although preceding infection may be a trigger. Intussusception is the most common cause of intestinal obstruction in children aged under 3 years. The usual peak age for intussusception is known to be first 6-8months of life.

Intussusception rates are variable across different countries and ethnicities with an estimated worldwide incidence of 74 per 100,000, ranging from 40/100,000 in the US to 80/100000 in Australia and up to 300/100,000 in South Korea.

The association between intussusception and rotavirus vaccine was first seen in 1998 with an early vaccine used in the United States called RotaShield. There appeared to be an excess of one case of intussusception per 10,000 vaccine recipients and these were occurring in the first week post vaccination. This led to this vaccine being withdrawn in 1999.

The new generation vaccines Rotateq and Rotarix also have an association with intussusception but this is a very uncommon. Appropriate data from Australia looking at both vaccines has shown an increased risk of intussusception in the first 1-3

weeks after both vaccines with the risk being highest in the first week; and after the first dose with only a slightly increased risk in the first week after the second dose. Australian vaccine safety surveillance researchers estimate an extra 14 cases of intussusception may occur each year with national rotavirus vaccination but that 6500 hospitalisations for rotavirus illness are also prevented in children aged under 5 years for each year of vaccination.

There are still some unanswered questions about the association of intussusception and rotavirus vaccine as to whether the vaccine is triggering intussusception process in infants who were "susceptible" anyway so whether there is a true overall increase in case numbers or just an earlier age of onset amongst those in whom intussusception would have occurred later in infancy, regardless of vaccine.

New Zealand has good data establishing and describing our background rate of intussusception prior to rotavirus vaccine. NZ has an average of 50 intussusception cases per year (incidence of 21-37/100,000 child years). Extrapolating Australian rates, NZ might expect 3 extra intussusception cases per year. This means we need to be aware of this complication and with the wide year to year variability, small case numbers and our small population it would take a number of years to detect a small increase in intussusception cases.

For this reason the vaccine is contra-indicated in children with known prior intussusception or congenital bowel abnormality that predisposes to intussusception. It also means that it is extremely important that the vaccine is given on time (6 weeks and 10 weeks) so that it is given well before the peak age of intussusception (6 -8 months). The vaccine should not be used past the age of 14 weeks.

Immunisation providers should inform parents and carers of the rare risk of intussusception and how to be alert for the signs and symptoms of the condition. Intussusception symptoms include baby having intermittent crying/screaming episodes, curling up or pulling up knees to chest, vomiting +/- passing bloody, pink or red coloured jelly-like stools. The small risk of intussusception is highest the first week after the first dose.

NZ happenings so far.

We have now had rotavirus vaccine since 2014 and early data from ADHB, CMDHB, WDHB and Waikato show impressive impact of RV vaccine (unpublished and conference presentation data) on hospitalisation rates in our children's hospital wards.

There are both direct and indirect (herd) effects in hospital and community

infection rates which show less diarrhoeal disease in children aged up to age 5 years, not just the vaccinated infants.

Conclusion

Rotavirus has had a large morbidity burden for New Zealands' young children. The available vaccines are highly effective and extra benefits are becoming apparent internationally. These include a decrease in seizure presentations in the first year of life, less nosocomial infections and herd effects. The risk benefit balance strongly favours the vaccine in developed countries but an awareness of intussusception which is uncommon, is needed.

Clear information for providers and parents about small intussusception risks and on time vaccination will help mitigate this.

References

Parashar et al., Emerg Infect Dis, 2003, Galati et al., Aust NZJ Public Health, 2006

Baker MG et al. Increasing incidence of serious infectious diseases and inequalities in New Zealand: a national epidemiological study. Lancet. 2012; 379: 1112-1119.

Craig E et al. The Health Status of Children and Young People in the Midland Region. NZ Child and Youth Epi, Dunedin, 2011.

Grimwood K et al. Rotavirus hospitalisation in NZ children under 3 years of age. J Paeds Child Health. 2006; 42: 196-203

Ardern-Holmes S, Lennon D, Pinnock R et al. Trends in hospitalization and mortality from rotavirus disease in New Zealand infants Pediatr Infect Dis J. 1999 Jul;18(7):614-9.

Tate et al. Pediatric Infect Dis Journal 2011; 30

MMWR April 2015 64 (13)

Macartney et al. Decline in rotavirus hospitalisation following introduction of Austrlia's national rotavirus immunisation programme. J Paediatr Child Health. 2011 May;47 (5):266-70.

Christina J. Atchison et al. J Infect Dis. 2016;213:243-249

Lamberti et al. Systematic review of effect of rotavirus vaccination on diarrhoea outcomes among children younger than 5 years. Ped Inf Dis Journal 2016 Sept; 35: 992-998

Payne et al, Protective association between rotavirus vaccination and childhood seizures in the year following vaccination in US children. Clinical Infectious Diseases 2014

Sheridan et al. Febrile Seizures in the Era of Rotavirus Vaccine. Journal of Pediatric Inf Dis 5(2) 2016

Carlin et al. Intussusception risk and disease prevention associated with rotavirus vaccines in Australia's National Immunization Program. Clin

Infect Dis. 2013 Nov;57(10):1427-34.

Chen, Y.E. Beasley, S. Grimwood, K. and the New Zealand Rotavirus Study Group. Arch Dis Childhood 2005

Rosie B, Dalziel S, Wilson E, Best EJ. Epidemiology of Intussusception in NZ Pre RV Vaccination N Z Med J. Sep 23;129(1442):36-45.2016

Buttery, J.P., Standish, J., Bines, J.E. Intussusception and Rotavirus Vaccines; Consensus on Benefits Outweighing Recognised Risk. ESPID Reports and Review, Paediatric Infectious Disease Journal, July 2014, 33(7):772-773.

New Zealand Ministry of Health Immunisation Handbook, 2014.

Australian Immunisation Handbook 10th Edition

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Selected Articles: Diabetes; Mental Health; Spirometry; Bronchiectasis; Pneumococcal Disease

Copies of these articles can be provided to NZNO members free of charge. Email Library@nzno.org.nz to request specific articles, telling us that they are from this LOGIC column.

DIABETES

Daly, B., Arroll, B., Kenealy, T., Sheridan, N., Scragg, R. (2015). **Management of diabetes by primary health care nurses in Auckland, New Zealand.** *Journal of Primary Health Care, 7*(1), 42-49.

The increasing prevalence of diabetes has led to expanded roles for primary health care nurses in diabetes management. AIM: To describe and compare anthropometric and glycaemic characteristics of patients with diabetes and their management by practice nurses, district nurses and specialist nurses. METHODS: Primary health care nurses in Auckland randomly sampled in a cross-sectional survey, completed a postal self-administered questionnaire (n=284) and telephone interview (n=287) between 2006 and 2008. Biographical and diabetes management details were collected for 265 (86%) of the total 308 patients with diabetes seen by participants on a randomly selected day. RESULTS: Nurses were able to access key clinical information for only a proportion of their patients: weight for 68%; BMI for 16%; HbA1c for 76% and serum glucose levels for 34% (for either measure 82%); although most (96%) records were available about whether patients self-monitored blood glucose levels. Most nursing management activities focused on giving advice on dietary intake (70%) and physical activity (66%), weighing patients (58%), and testing or discussing blood glucose levels (42% and 43%, respectively). These proportions varied by nurse group ($p<0.05$), generally being highest for specialist nurses and lowest for district nurses. DISCUSSION: Most practice and specialist nurses could access patients' weight and HbA1c levels and focused their clinical management on health education to decrease

these if indicated. Communication and organisational systems and contracts that allow district nurses to work across both primary and secondary health services are necessary to improve community-based nursing services for patients with diabetes.

Higgs, C., Skinner, M., Hale, L. (2016). **Outcomes of a community-based lifestyle programme for adults with diabetes or pre-diabetes.** *Journal of Primary Health Care, 8*(2), 130-139.

Diabetes, a long-term condition increasing in prevalence, requires ongoing healthcare management. Exercise alongside lifestyle education and support is effective for diabetes management. AIM: To investigate clinical outcomes and acceptability of a community-based lifestyle programme for adults with diabetes/prediabetes at programme completion and 3-month follow-up.

METHODS: The 12-week community programme included twice-weekly sessions of self-management education and exercise, supervised by a physiotherapist, physiotherapy students and a nurse. Clinical outcomes assessed were cardiorespiratory fitness, waist circumference, exercise behaviour and self-efficacy. A standardised evaluation form was used to assess programme acceptability.

RESULTS: Clinically significant improvements were found from baseline (n = 36) to programme completion (n = 25) and 3-months follow-up (n = 20) for the six minute walk test (87 m (95%CI 65–109; $p \leq 0.01$), 60 m (95%CI 21–100; $p \leq 0.01$)), waist circumference (−3 cm (95%CI −6 to –1), −3 cm (95%CI –6 to 1)), exercise behaviour (aerobic exercise 53 min/week (95%CI 26 to 81; $p \leq 0.01$), 71 min/week (95%CI 25 to 118; $p \leq 0.01$)) and self-efficacy (0.7 (95%CI −0.2 to 1.6), 0.8 (95%CI 0.04 to 1.5)). Good programme acceptability was demonstrated by themes suggesting a culturally supportive, motivating, friendly, informative atmosphere within the programme. The attrition rate was 30% but there were no adverse medical events related to the programme. DISCUSSION: The programme was safe and culturally acceptable and outcomes demonstrated clinical benefit to participants. The attrition rate was largely due to medical reasons unrelated to the programme. This model of a community-based lifestyle programme has the potential to be reproduced in other regions and in adults with similar long-term conditions.

MENTAL HEALTH

Wheeler, A., McKenna, B., Madell, D., Harrison, J., Prebble, K., Larsson, E., et al. (2015). S**elf-reported health-related quality of life of mental health service users with serious mental illness in New Zealand.** *Journal of Primary Health Care, 7*(2), 117-123.

Although people with serious mental illness (SMI) have a high prevalence of physical illness, health-related quality of life (HQoL) has not been sufficiently explored. AIM: To explore the self-reported HQoL of mental health service users in New Zealand. METHODS: Responses on the Medical Outcomes Study 36 Item Short Form (SF-36) measure of HQoL from 404 adult mental health service users in a metropolitan district health board area in New Zealand were analysed and compared to a representative sample of the general population. RESULTS: Mental health service users scored significantly lower on all eight domains of the SF-36 than the general population, the largest difference being in the role limitation — emotional domain. DISCUSSION: Being female, younger than 25, obese or overweight, or of New Zealand European/Other ethnicity were associated with poorer functioning on multiple HQoL domains. Future studies should seek to understand the factors contributing to perceptions of HQoL of mental health service users in New Zealand.

Arroll, B., Chin, W., Martis, W., Goodyear-Smith, F., Mount, V., Kingsford, D., et al. (2016). **Antidepressants for treatment of depression in primary care: a systematic review and meta-analysis.** *Journal of Primary Health Care, 8*(4), 325-334.

Evidence for the effectiveness of drug treatment for depression in primary care settings remains limited, with little information on newer antidepressant classes.

AIM: To update an earlier Cochrane review on the effectiveness of antidepressants in primary care to include newer antidepressant classes, and to examine the efficacy of individual agents. METHODS: Selection criteria included antidepressant studies with a randomly assigned placebo group where half or more subjects were recruited from primary care. The Cochrane Collaboration Depression, Anxiety and Neurosis (CCDAN) group searched multiple databases to identify eligible studies. Data extraction was performed independently by two reviewers. Data were analysed using Revman version 5.3.5. RESULTS: In total, 17 papers and 22 comparisons were included for analysis. Significant benefits in terms of response were found for tricyclic antidepressants (TCA) with a relative risk (RR) = 1.23 (95% CI, 1.01–1.48), and serotonin selective reuptake inhibitors (SSRI) with a RR = 1.33 (95% CI, 1.20–1.48). Mianserin was effective for continuous outcomes. Numbers needed to treat (NNT) for TCA = 8.5; SSRI = 6.5; and venlafaxine = 6. Most studies were industry-funded and of a brief duration (≤ 8 weeks). There was evidence of publication bias. There were no studies comparing newer antidepressants against

placebo. CONCLUSION: Antidepressants such as TCA, SSRI, SNRI (serotonin–norepinephrine reuptake inhibitor) and NaSSA (noradrenergic and specific serotonergic antidepressant) classes appear to be effective in primary care when compared with placebo. However, in view of the potential for publication bias and that only four studies were not funded by industry, caution is needed when considering their use in primary care.

Bardi, J; Moorley C R. (2016). **Improving the physical health of people with serious mental illness.** *Primary Health Care, 26*(10), 28-33.

Individuals with severe mental illness (SMI) die on average 20 years younger than the general population. The aim of the review was to examine relevant literature on the physical health of those with SMI and identify areas for improvement. Four electronic databases were searched and areas identified included side effects of psychotropic medications, obesity, cardiovascular diseases and diabetes, risky sexual behaviour, poor dietary intake and physical inactivity. The authors conclude that physical care of people with SMI can work well when physical health needs are assessed.

SPIROMETRY

Cantey Banasiak, N. (2014). **Spirometry in Primary Care for Children with Asthma.** *Pediatric Nursing, 40*(4), 195-198.

Spirometry is an essential part of diagnosing a child with asthma. The National Asthma Education and Prevention Program (NAEPP) and the Global Initiative for

Asthma (GINA) expert panels recommend spirometry to be performed on children five years of age and older as an objective assessment of lung function, to diagnosis asthma, and for ongoing yearly management of asthma (GINA, 2012; NAEPP, 2007). According to the NAEPP expert panel, history and physical examination alone are not reliable to accurately diagnose asthma, exclude alternative diagnosis, or determine lung impairment (NAEPP, 2007). Dombkowski, Hassan, Wasilevich, and Clark (2010) found 52% of physicians who provide primary care to children used spirometry, but only 21% used spirometry according to the national guidelines, and only 35% of physicians surveyed were comfortable interpreting the test results. Zanconato, Meneghelli, Braga, Zacchello, and Baraldi (2005) found that 21% of spirometry readings were interpreted incorrectly, concluding that proper training and quality control were important to provide if spirometry in the primary care office setting is to be used. The purpose of this article is to review the appropriate use of spirometry in pediatric primary care.

Swanney, M. P., Ingram, E. R., Epton, M. J., Stanton, J. D. (2015).

Community Spirometry Practice Improves With Continuous Quality Feedback.

American Journal of Respiratory and Critical Care Medicine, 191, 1.

Spirometry testing should adhere to international standards regardless of the location where the spirometry is performed. In Christchurch, New Zealand we provide electronic quality feedback for all spirometry performed in the community by 'spirometry certified' nurses. Aim: To determine how effective continuous quality feedback is on spirometry performance in the community. Methods: Respiratory scientists assessed spirometry quality for 19 practice nurses. The first ten tests were compared with their 10 most recent tests as well as their overall quality for the duration of their testing experience. Only nurses who had performed more than 50 tests were included in the analysis. A target quality score of 90% was expected for each of acceptability and repeatability criteria, appropriate technical comments, and identification of the spirometric pattern. Mann Whitney U tests compared quality scores and Pearson correlations compared quality against the number of tests performed and the frequency of testing sessions. Results: A total of 5702 tests were assessed (range 55 to 915 tests at 2 to 12 days between tests. Conclusions: Continuous feedback on spirometry quality for practice nurses in the community leads to an improvement in the quality of their spirometry practice. Some patients are unable to meet all elements of spirometry criteria but if an appropriate technical comment is provided the test may still be useful. We suggest that providing on-going feedback on testing quality adds value to spirometry performed in the community.

BRONCHIECTASIS

Odedra, K.M. (2015). **Self-management plans for people with deteriorating asthma.** *Primary Health Care, 25*(8), 24-30.

Self-management plans (SMPs) focus on the early recognition of unstable or deteriorating asthma. Patients without SMPs are more likely to have an asthma exacerbation. The author developed an individualised credit card-sized pictorial asthma plan (ICPAP). Fifty-three patients with asthma aged between 16-60 years were recruited from attendees of a hospital-based, nurse-led clinic. Patients completed a standardised asthma quality-of-life questionnaire and were given the ICPAP. Spirometry, emergency/out-patient/GP attendances, hospital admission and exacerbation data were collected. The patients were reviewed at

three and six months. At six months, 79% of patients had used their ICPAP, 100% understood it and 49% were carrying it with them. The most popular aspect of the ICPAP was size and pictures. There was a reduction in exacerbation rate (P=0.0360), unscheduled attendances to general practice (P=0.0005) and hospital admissions (P=0.0044).

McCullough, A.R, Tunney, M.M, Elborn, J S., Bradley, J.M., Hughes, C.M. (2015).

'All illness is personal to that individual': a qualitative study of patients' perspectives on treatment adherence in bronchiectasis. *Health Expectations*, *18* (6), 2477-2488.

Focuses on the patient's decision-making on bronchiectasis treatment. Topics mentioned include public health management, chronic disease treatment, and the patient's quality-of-life management. Also mentioned are the importance of bronchiectasis diagnosis, health-care monitoring management, and the side effects of antibiotics.

PNEUMOCOCCAL DISEASE

Crum-Cianflone, N. F, Wallace, M. R. (2015). **Stimulating Evidence for Pneumococcal Conjugate Vaccination Among HIV-Infected Adults.** *Journal of Infectious Diseases, 212*(1), 1-4.

The author discusses Streptococcus pneumoniae as the leading cause of bacterial pneumonia and the risk for invasive pneumococcal disease among adults infected by human immunodeficiency virus (HIV) despite the advent of combination antiretroviral therapy (cART). Topics discussed include use of pneumococcal vaccination to reduce invasive pneumococcal disease, use of pneumococcal conjugate vaccines among HIV-infected adults, and protection against pneumococcal disease.

Batty, K. (2016, 28 Sept). **Better antibodies with Prevenar 13, wider cover with Pneumovax 23.** *New Zealand Doctor*, 25-25.

Discusses the increase in incidence of pneumococcal pneumonia and invasive pneumococcal disease (IPD) in New Zealand since the introduction of the first pneumococcal conjugate vaccine in June 2008. Topics covered include the higher risk of pneumococcal pneumonia and IPD among Maori and Pasifika compared with European or other ethnic groups, and the uses of pneumococcal conjugate vaccines Prevenar 13 and Synflorix and pneumococcal polyssaccharide vaccine Pneumovax 23.