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Te Awakairangi Health  
NETWORK

## Hutt Union and Community Health Service (HUCHS) GOUT Project

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### Practice Setting:

Hutt Union and Community Health Service (HUCHS) was established in 1991 to provide comprehensive primary health care to Māori, Pacific, refugee and low income families. HUCHS provide a wide range of health services including GPs, nurses, mental health, counselling, physiotherapy, clinical pharmacist, dieticians and community health worker services. HUCHS is a community owned and based service that provides care which is affordable, appropriate and easily accessible

### BACKGROUND

Gout is the most common form of inflammatory arthritis. Repeated gout flares can lead to chronic gouty arthritis, the development of tophi, and possibly the destruction of joints. Gout can significantly impact on a patient's quality of life and in some cases can lead to frequent or permanent absence from employment. People with gout are also more likely than those without gout to die at a younger age due to cardiovascular and renal complications<sup>1</sup>.

The prevalence and burden of gout in New Zealand is higher in Māori and Pacific patients than in other groups. In 2018, 8.8% of Māori and 14.4% of Pacific peoples aged over 20 years were identified as having gout, compared to 4.4% of people of New Zealand European or Asian descent<sup>2</sup>. The actual prevalence is likely higher. In addition the gap for regular dispensing of urate-lowering therapy is greater for Māori and Pacific peoples than for non-Māori, non-Pacific populations with gout<sup>2</sup>. Māori and Pacific patients with gout are also five times more likely to be admitted to hospital due to gout than people of New Zealand European or Asian descent<sup>1</sup>.

Reducing serum urate levels in patients with gout not only reduces the likelihood of gout flares, it may also help reduce the risk of adverse renal and cardiovascular outcomes. However numerous studies from New Zealand and overseas show that urate-lowering treatment is often delayed well beyond the point when it is indicated<sup>1</sup>.

There are a number of barriers associated with a patient starting and continuing urate-lowering treatment (allopurinol). These are multifactorial and amplified in patients known to have health inequities. Barriers identified at HUCHS include:

- dose titration complexities – a slow dose titration for allopurinol is needed over several months, plus an additional medication is needed to prevent gout flares while titrating the allopurinol.
- patients usually only presenting during an acute attack (pain relief is the patient's main focus not gout attack prevention)
- barriers to getting a blood test done
- health literacy (perceptions of what causes gout, gaining an understanding of the condition and how to prevent flares)
- acceptance of need for life-long therapy (especially in younger patients)
- prescription cost barriers

- time pressure on prescribers (limited time to discuss the process of starting preventative treatment while also addressing the acute flare).

In New Zealand, two gout programmes - Own My Gout ((OMG) in the Counties Manakau region) and Gout Stop (Mahitahi Hauora PHE, across Northland DHB) - have implemented collaborative models of gout care (DHB funded). The GP prescribes a four-stage gout medication blister-pack that has been pre-loaded into MedTech, and the community pharmacies manage the dose titration (including monitoring uric acid levels using point-of-care testing)<sup>3</sup>. Both programmes have been assessed as having achieved equity of access for Maori and Pasifika patients even with recognising the on-going challenges encountered - both programmes had around a quarter of enrolments drop out of the programme around the time the painful acute symptoms of gout have passed; 24% of Gout Stop patients do not collect their second prescription pack, and 27% of OMG patients do not have a second contact with the pharmacy recorded.

In late 2018, HUCHS, in the absence of dedicated funding for a gout programme, decided to implement an adaptation of the above programmes to assist patients with starting allopurinol and to standardise care. The approach was to set up an agreed process and to improve this process by undertaking frequent and timely cycles of reflection and adaptation, while at the same time educating staff and promoting best-practice in the management of gout.

## **METHODOLOGY**

The HUCHS lead general practitioner and clinical pharmacist reviewed various options for gout programmes and decided to develop an adaptation of the programmes already in implementation in New Zealand. Diana Phone (Counties Manakau) and Professor Bruce Arroll (Goodfellow Unit and Auckland University) were contacted for advice and permission to use parts of the programme developed in Counties Manukau.

The process (Gout Starter Packs) implemented at HUCHS for new patients starting on allopurinol included:

- HUCHS clinical pharmacist set-up four-stage gout medication blister-pack pre-loaded onto MedTech (each blister-pack had an increasing dose to facilitate dose titration)
- Doctor prescribes blister packs and provides education during consultation
- Doctor tasks clinical pharmacist (to provide follow-up education and monthly adherence checks)
- 3 monthly recall for uric acid and renal function set up (best-practice is to undertake monthly testing and up-titrate the dose accordingly, but this is unrealistic in the absence of point-of-care devices)
- Community pharmacy dispenses monthly blister packs (and invoices HUCHS for cost of this)
- Clinical pharmacist phones referred patients on a regular basis (usually monthly) and facilitates transition to regular prescriptions at the end of the 4<sup>th</sup> blister-pack.
- Available gout leaflets were used for education, plus a one-page instruction leaflet was developed (Appendix 1)

In addition, in 2019 an audit of all patients with gout with/without allopurinol was undertaken. The clinical pharmacist provided individualised advice for all patients on allopurinol with sUA levels > 0.36 mmol/L plus set up laboratory recalls for those who had not had an annual uric acid test. Specific patients were discussed with practice nurses and GPs and individual plan agreed (for discussion with the patient). Education on gout management was provided to prescribers and practice nurses (CME session).

## RESULTS

### Gout starter packs:

Prescribing using the packs started in early 2019 (after a brief trial period in late 2018). To date 44 patients have been prescribed allopurinol using the pre-set blister pack options:

- 16 patients (from early July 2020) are still in the process of collecting their packs (excluded from the analysis)
- 5 patients were excluded for various reasons (e.g. moved practices, gout diagnosis subsequently excluded)
- **23 patients** included in analysis

Patient demographics		
Ethnicity	Pasifika	12/23 52%
	Māori	9/23 39%
	Indian	1/23 4.5%
	Other	1/23 4.5%
Gender	Male 15/23	15/23 65%
Age	Range 26-75 yrs	Average age: 50.5 years

Audit measurement	Outcome	Percentage
Patients who picked up first allopurinol pack	23	100%
Patients who picked up 3 <sup>rd</sup> allopurinol pack	21	91%
Patients who have continued treatment to date (Sept 2020) including further dose titration	15	65%
Patients who had a <b>pre-treatment</b> uric acid test	20	87%
Patients who had a <b>follow-up</b> uric acid test	16	70%
Patients who had a follow-up uric acid test (who also collected the 3 <sup>rd</sup> allopurinol pack)		76%
Patients referred for regular clinical pharmacist follow-up	12	52% Range: 1 – 5 contacts
Average uric acid (pre-treatment) *	0.48 mmol/L	Range: 0.33-0.69
Average uric acid (post blister pack titration)	0.34 mmol/L	Range: 0.23 – 0.49
Average change in uric acid	0.14	<b>~ 30% reduction in average uric acid</b>
Patients who have achieved the target sUA**	10	<b>43%</b>

\*Some patients had a uric acid test during the acute attack (which is known to be an unreliable time to undertake this test as the serum uric acid can drop during an acute attack)

\*\* Target sUA is <0.36 mmol/L

In addition to contact with the clinical pharmacist, several patients were followed up by the HUCHS community health workers (including at least one home visit) and opportunistically by practice nurses (e.g. taking blood tests if patient visited the practice or during a home visit)

Community pharmacists provided advice to patients and on-going support when patients collected their gout packs. Although this was not formally measured it was evident that this was occurring as per discussions between the HUCHS clinical pharmacist with patients and/or community pharmacies.

## Practice-wide audit and follow-up of all patients on allopurinol:

In addition to the gout starter packs, a practice-wide audit (at the start of 2019) identified all patients currently (or recently stopped) on urate-lowering treatment whose uric acid tests were above the target (0.36mmol/L) or who had not had an annual test:

- 74 patients were identified for follow-up, discussed with the relevant practice nurse/GP and a decision made as to the next steps to discuss with each patient
- 54 patients had annual uric acid blood test recalls added
- 18 patients had a gout READ code classification added

The aim of the above audit was to build on the gains made from previous audits and prescriber/practice nurse education.

Another repeat audit was undertaken in September 2020 and these results are listed below, providing comparisons across 3 audit periods. Note the Taita Medical Centre population (now part of HUCHS since late 2019) were excluded to ensure a more reliable comparison between years:

Audit period	2015/16	Jan – Dec 2018	Sept 2019 – Aug 2020
Total patient with gout <sup>1,2</sup> (Read coded +/- on treatment)	514	371	427 (ex-Taita Medical Centre patients excluded)
Patients on prophylactic med (e.g. allopurinol)	209 (total) 41% of people with gout diagnosis	219 59% of people with gout diagnosis	288 67% of people with gout diagnosis
sUA done within audit period <sup>3</sup>	83/209 <b>40% had a test</b>	161/219 <b>74% had a test</b>	190/288 <b>66% had a test</b>
sUA result within range <sup>4</sup>	48/209 23%	87/219 40%	97/288 34%

1. Counted as patients with a gout READ code and/or on allopurinol

2. Note- not all patients with gout reach the threshold for urate-lowering treatment

3. As a percentage of people on urate-lowering medication

4. Target range  $\leq 0.36$  mmol/L

## DISCUSSION

The practice-wide gout audit results show that over the past 4-5 years HUCHS has seen a steady increase in the number of patients being started on urate-lowering medications to treat gout. In 2016, 209 patients were being treated, and this has climbed to 288 patients in 2020.

Even with increasing patient numbers, the percentage of people having an annual uric acid blood test has increased. Although this percentage dropped off in 2020, absolute numbers continue to increase (potentially the COVID lock down periods impacted on patients accessing laboratory services). The percentage of patients reaching the target uric acid level has also shown a significant increase since 2015/16 (with actual number of patients reaching the target uric acid level doubling).

In respect to outcomes from the HUCHS Gout Starter Pack (blister packs) initiative, these compare favourably with the outcomes from the OMG programme the HUCHS initiative was modelled on (recognising that the

OMG programme has a larger scope, has been in operation for 4-5 years in total, and has therefore enrolled significantly higher patient numbers).

The HUCHS Gout Starter Pack initiative showed a **30% reduction in average uric acid levels**, with 10/23 (**43%**) of these patients achieving the **target sUA < 0.36 mmol/L**. The majority of the patients who achieved the target were either of Māori or Pasifika ethnicity (80%).

The HUCHS initiative continues to make improvements as it progresses. For example, it was identified that as the Gout Starter Pack was not marked as being a long-term medicine on Medtech it was easy to overlook the need for on-going allopurinol when the patient requested their general repeats. The team agreed on an approach of adding allopurinol separately as a long-term medicine (with zero quantity) so it was obvious to any prescriber dealing with the repeat request that the patient also needed allopurinol.

The team has identified gaps where the initiative could be strengthened. For example, easy access to laboratory testing for monitoring uric acid has been a challenge (particularly in the context of health inequities and the recent COVID pandemic which has created additional barriers). Access to funded point-of-care uric acid testing either at the practice or the community pharmacy (which the patient must visit to collect their medicines) would help resolve this. The practice and in some cases the community pharmacies are covering the cost of the blister packing out of their own budgets – the Auckland/Northland initiatives had specific budget for this service allocated by their DHBs.

The HUCHS Gout Starter Pack initiative demonstrates that targeted and practice-driven programmes have the agility to customise processes and adapt quickly to meet the needs of both patients (in particular Maori and Pasifika) as well as prescribers, practice nurses and community pharmacists. The Gout Starter pack process is now well embedded into everyday practice at HUCHS and it is being used on an increasing basis by all prescribers (16 patients currently being up-titrated). An important strength of this initiative is that it has drawn on the expertise and skill of all members of the multiple disciplinary team to wrap care around the patient.

**With thanks to** Diana Phone (Counties Manukau) and Professor Bruce Arroll (Goodfellow Unit and Auckland University) for generously sharing information on their gout programme.

#### **References:**

1. Managing gout in primary care. Part 1 – Talking about gout: time for a rethink. bpacnz (April 2018). <https://bpac.org.nz/2018/gout-part1.aspx>
2. Health Quality and Safety Commission (HQSC) Atlas of Healthcare Variation Gout (updated 2020 with data 2012-2018)
3. Evaluation of Gout Stop and Owning My Gout management programmes. A final report for Arthritis New Zealand and its partners (28 Feb 202). Synergia Ltd. Accessed via <https://www.arthritis.org.nz/wp-content/uploads/2020/07/Gout-Programmes-Evaluation-Report-April-2020.pdf>

#### **Appendix 1 (below)**

# Getting rid of GOUT

Your Name: \_\_\_\_\_ NHI: \_\_\_\_\_

Show this form to the pharmacist (chemist) when you get your tablets.

First reduce the pain	
Name of tablet (and strength):	How to take:



AND STOP the gout from coming back	
<p style="text-align: center;"><b>Start ALLOPURINOL tablets</b> – it GETS RID of the uric acid in your body and the SHARP CRYSTALS in your joint</p> <p>You will need to start on a small amount and slowly take more until we find the right amount for you</p>	<p style="text-align: center;"><b>At same time – you will start a second medicine</b> that keeps the gout pain away</p> <p>You will be able to stop this second medicine once you have been on allopurinol for a while.</p> <p>Your doctor will tell you when you can stop it</p>
<p>Start date for allopurinol 100mg tablets: _____</p> <p>Take _____ ( ) tablets EVERY day for _____ weeks</p>	<p>Also start _____ on the same day that you start allopurinol:</p> <p>_____ mg tablet (name of tablet)</p>
<p>THEN on this date: _____</p> <p>Start taking _____ ( ) tablets EVERY day for _____ weeks</p>	<p>Take _____ ( ) tablet _____ times a day</p>
<p>THEN on this date: _____</p> <p>Start taking _____ ( ) tablets* EVERY day</p> <p>Take EVERY day – don't stop</p> <p style="color: red; font-weight: bold;">IMPORTANT: Get a doctor's appointment BEFORE your tablets run out</p>	<p>Keep taking this medicine until your doctor tells you to stop it</p>

Go and get the blood test done (for uric acid)

See your doctor – you will need more allopurinol – don't let it run out

Then KEEP going on allopurinol to STOP the gout coming back

Keep taking the allopurinol - even if you get a gout attack.

Always check how many tablets you need to take each time you get a new bottle\*- you may be given a stronger tablet than the one you first started so won't need to take so many each day.

\* Allopurinol comes in two tablet sizes – 100mg and 300mg

If you get a bad rash – stop taking allopurinol and call your nurse/doctor straight away

Name of person writing plan: \_\_\_\_\_

Date: \_\_\_\_\_