

NHS Greater Glasgow & Clyde  
Mental Health Services  
**Community Lithium Bundle**

Lithium is a highly effective and under used drug, particularly in the maintenance treatment of bipolar affective disorder, recurrent depression and self-injurious behaviour. Most patients prescribed lithium are looked after by community teams. Lithium has a narrow therapeutic index, with a significant potential for toxicity, careful monitoring is required for safe use. If lithium treatment is not managed properly there is a potential risk of significant harm.

This document recommends evidence based interventions for use in community services that will enhance lithium patient safety. This bundle is intended to support community teams to comply with the [Good Practice Guidelines](#)

The document consists of the following elements

1. Key Lithium Facts – to provide staff with a basic understanding of lithium treatment
2. Effective Lithium Care Planning – to support the development of appropriate care plans
3. EMIS lithium review template – a dataset describing the elements of an EMIS template to record lithium reviews
4. Risks and significant drug interactions
5. Patient, carer & staff education
6. Information sources
7. Self-audit tool
8. Appendices

#### **How to use this bundle**

1. Discuss and issue key facts document to staff
2. Do a baseline self-audit to identify local lithium quality improvement targets
3. Develop a local plan to include lithium as a need within individual care plans
4. Ensure care plans include all the elements described in this bundle
5. Utilise the lithium review checklist
6. Repeat the self-audit every 12 months

**Key Facts – Lithium:**

1. A very useful drug used to stabilise mood, manage treatment resistant depression and help self-injurious behaviour.
2. Brands are not interchangeable. Medicines reconciliation should identify the brand of lithium the patient is taking. Patients should remain on the same brand. When prescribing please state brand name and generic name in brackets e.g. PRIADEL (LITHIUM CARBONATE). Advice on converting tablet to liquid please see page 6.
3. Has a narrow therapeutic index i.e. the dose required for a therapeutic effect is often not much lower than the dose that will cause a toxic effect. The risk of toxicity is increased by reduced kidney excretion of the drug causing increased blood serum levels. This can be caused by a variety of factors;
  - Dehydration
  - Deterioration of kidney function
  - Infections
  - Co-administration of interacting medications e.g. diuretics, or anti-inflammatory analgesics (ibuprofen, naproxen)

**If toxicity is suspected take a level immediately and withhold the dose until level confirmed.**

4. Serum blood levels of lithium should be checked;
  - 5- 7 days after a dose change has been prescribed
  - If patients become physically unwell
  - In stable patients on a 3 monthly basis
  - If there is any suspicion of toxicity a level should be taken immediately, regardless of when the last dose was taken

Routine levels should be taken 12 hours after the last dose. Renal function, thyroid function, calcium levels and weight should be checked every 6 months ([Good Practice Guidelines](#)). ECG should be checked annually if clinically indicated.

5. Serum concentrations:
  - > 1.0mmol/L may have potentially serious adverse effects
  - > 1.5mmol/litre may be fatal and require immediate medical treatment.

Early clinical features of toxicity are non-specific and may include apathy and restlessness which may be confused with a patient's underlying mental state. Other symptoms include;

- Vomiting/diarrhoea
- Loss of appetite
- Confusion, slurred speech, abnormal drowsiness/sluggishness
- Severe tremor or twitching
- Muscle weakness
- Blurred vision, ringing in the ear
- Dizziness/loss of balance, clumsiness

**For more information contact a senior clinician or clinical pharmacist.**

## Effective Lithium Care planning

**The safe use of Lithium is an identified care need for patients receiving this treatment. All patients using lithium should have a person centred care plan for this.**

### Elements of an effective care plan:

#### 1. Routine monitoring

- Care plans should contain details of the monitoring schedule for each patient.
- CMHTs must have a system of recording and reporting to key workers and medical staff lithium level results received over the telephone. This should include proactive follow up of pending results. All staff must be aware of the importance of communicating this information.
- CMHTs must have local systems in place to follow up and review patients who fail to attend routine monitoring appointments

#### 2. Managing side effects and preventing toxicity

- Care plans should encourage the use of the lithium side effect checklist ([Good Practice Guidelines](#)) which is also available as a template within EMIS
- Care plans should promote awareness of and proactive assessment for the causative factors leading to lithium toxicity.

#### 3. Patient & carer education

- Care plans should detail the regular assessment of patients' educational needs and information provided.
- Care plans should detail, where appropriate, an assessment of carers' educational needs and information provided.

#### 4. Communication

- Care plans should identify communication pathways necessary to promote effective information sharing with GPs, other CMHTs and/or hospital wards. (See template letter appendix 1)

The information to be shared across interfaces includes

- Lithium brand and dose
- Last lithium level results
- Target lithium levels
- Results of physical health monitoring
- Compliance with treatment
- Dates of next routine monitoring

## EMIS lithium review checklist (appendix 2)

This checklist, which can be found as a template on EMIS, is designed to support the safe use of lithium treatment and should be completed whenever a patient on lithium is seen or reviewed. All CMHT patients prescribed lithium must have the following warning added to their EMIS record '**On lithium treatment**'.

### Action items:

1. **Care planning** – lithium has been identified as a need within the care plan.
2. **Level monitoring** – an initial lithium level is taken (as a 12 hour trough) 5 -7 days after starting treatment and a plan for on-going monitoring has been established. This will include appropriate monitoring after any dose change or where there is a suspicion of toxicity or a worsening in the patient's physical health.
3. **Education** – appropriate education and appropriate written information on lithium is available for patients, carers and staff.
4. **Potential drug interactions** – any existing drugs with significant potential for interaction are reviewed e.g. NSAIDs, ACE inhibitors, Diuretics.
5. **Side effect monitoring** – a systematic approach to lithium side effect monitoring has been established and monitored through the care plan and reported to the MDT. The side effect check list in the [Good Practice Guidelines](#) is recommended.
6. **Compliance** – with treatment is assessed every 6 months.
7. **Physical health care** – all relevant physical health monitoring for lithium patients described in the Mental Health Services Physical Health Policy is undertaken.
8. **Communication** – appropriate communication with GPs is provided in a timely fashion.

### Risk factors and significant drug interactions

Lithium toxicity is a medical emergency. Causative risk factors include

- Dehydration – reduced fluid intake or increase fluid output (excessive urination, sweating, vomiting, diarrhoea)
- Deterioration in renal function (age)
- Infections
- Co-administration of interacting medicines

Staff in CMHTs should be vigilant for risk factors and drug interactions at every clinical contact. Details of medicines issued to patients by GPs can be found in the Emergency Care Summary (ECS) within the Clinical Portal. Patients should be asked about use of medicines they purchase over the counter.

The following list of drugs are commonly associated with a risk of toxicity due to reduce renal lithium clearance

- Non-steroidal anti-inflammatory drugs (NSAIDs) e.g. ibuprofen, diclofenac, naproxen
- Thiazide or related diuretics e.g. bendroflumethiazide
- Angiotensin Converting Enzyme (ACE) inhibitors e.g. enalapril, lisinopril, ramipril
- Angiotensin- II receptor antagonists e.g. candesartan, losartan
- Loop diuretics e.g. furosemide

- Potassium-sparing diuretics & Aldosterone antagonists e.g. spironolactone
- Metronidazole

### **Converting Priadel tablets to liquid**

It is sometimes appropriate to convert patients stabilised on Priadel tablets to an equivalent dose of Priadel liquid. A 200mg of Priadel tablet is approximately equal to 5mls of Priadel liquid. Priadel liquid doses should be given twice a day. E.g.

To convert a patient prescribed Priadel 800mg as tablets they would switch to 10ml twice a day of Priadel liquid.

### **Patient, carer & staff education**

Patients' information needs should be reviewed on an annual basis and appropriate information provided using the resources listed below.

The information needs of carers, where appropriate, should be reviewed on a regular basis and appropriate information provided using the resources listed below.

The [Lithium Patient Information Standards](#) should be followed

### **Resources for patient & carer information**

NHS GG&C leaflet- Information for patients about Lithium (available from Leverndale Pharmacy)  
[www.choiceandmedication.org/nhs24/](http://www.choiceandmedication.org/nhs24/)  
<http://www.birmingham.ac.uk/Documents/college-les/psych/ld/medicine-information/Lithium.pdf>

### **Resources for staff education**

Staff in CMHTs should have an understanding of the key points regarding lithium treatment.

Pharmacy education sessions – available on request for teams

[MyPsych website](#)

MyPsych toolkit on the Right Decisions Service app is available via App store or Google Play

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### Community Bundle Audit Criteria

The following criteria should be audited by community teams on an annual basis

Criteria	Standard
EMIS alert	100%
Nursing care plan includes lithium	100%
Care plans include a detailed monitoring schedule	100%
Patient lithium educational needs are assessed annually	100%
Education provided is recorded on EMIS	100%
Lithium side effects assessed at every clinical contact	100%
Potential drug interactions assessed at every clinical contact	100%
Compliance is assessed every 6 months	100%
Physical health needs are assessed as per the NHS GG&C policy	100%
Robust communication across interfaces is in place	100%

CMHT:		Number of patients prescribed lithium		
Criteria	Standard	Yes	No	Percentage
EMIS alert	100%			
Nursing care plan includes lithium	100%			
Care plans include a detailed monitoring schedule	100%			
Patient lithium educational needs are assessed annually	100%			
Education provided is recorded on EMIS	100%			
Lithium side effects are assessed at every clinical contact	100%			
Potential drug interactions are assessed at every clinical contact	100%			
Compliance is assessed every 6 months	100%			
Physical health needs are assessed as per the NHS GG&C policy	100%			
U&Es Thyroid function ECG (if indicated) Calcium Weight/BMI Reproductive status				
Robust communication across interfaces is in place	100%			
Audit completed by:			Date:	

**Bundle short life working group members**

Andrew Walker, Lead Clinical Pharmacist

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Dr Ashley Fergie, Clinical Director Older Adults Mental Health

Jacqueline King, Nurse Team Leader, Woodlands Resource Centre

**Lithium Clinic Report**

Enter relevant location

Address

**Health & Social Care Partnership**

Tel:

Dear Dr.....

Date:.....

<b>Patient:</b>	<b>CHI:</b>
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Was seen at the lithium clinic/Bipolar Hub on.....

- Current dose is.....
- No changes.
- Change to .....

(Complete or delete as appropriate)

Test	Results	
	Date:	
<b>Lithium level (&amp; target range)</b>		Comments
<b>U&amp;Es</b>	Normal or abnormal (please delete)	
<b>Renal fucntion</b>	Normal or abnormal (please delete)	
<b>Thyroid</b>	Normal or abnormal (please delete)	
<b>Calcium</b>	Normal or abnormal (please delete)	
<b>Weight</b>		
<b>BMI</b>		
<b>Interacting drugs</b>		

(Please enter any advice/requests or relevant information here)

Yours sincerely



**Lithium Review Checklist**

This checklist is designed to support the safe use of lithium treatment and should be considered at every review for patients prescribed lithium. Only the pertinent elements of the check list need be reviewed at each review

Enter date of Review meeting: DD / MM / YYYY

**Current lithium preparation & dose**

**Last lithium level**

**Action items:**

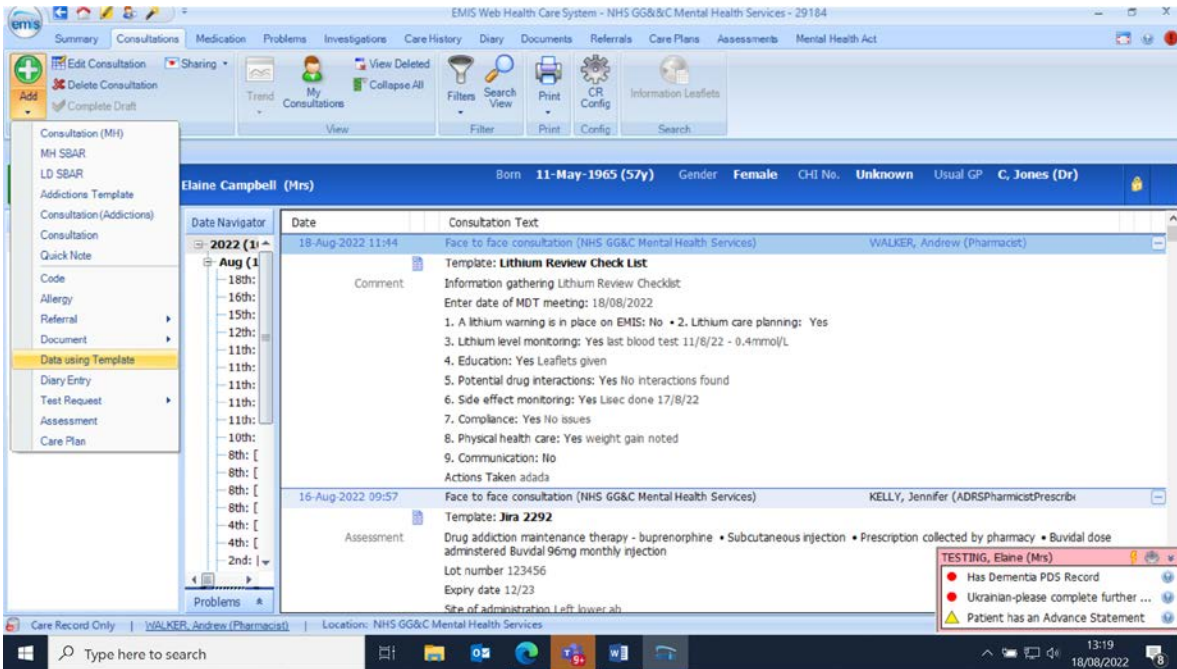
	<b>At this review:</b>	<b>Yes</b>	<b>No</b>
<b>1. A lithium warning is in place on EMIS</b> – every patient prescribed lithium should have the following warning ‘On lithium treatment’ added to their EMIS record for as long as they remain on treatment.			
<b>2. Lithium care planning</b> –lithium has been identified as a need within the care plan.			
<b>3. Lithium level monitoring</b> - an initial lithium level is taken (as a 12 hour trough) 5 -7 days after starting lithium and a plan for on-going monitoring has been established. This will include appropriate monitoring after any dose change or where there is a suspicion of toxicity or a worsening in the patient’s physical health.			
<b>4. Education</b> – appropriate education and appropriate written information on lithium is available for patients, carers and staff.			
<b>5. Potential drug interactions</b> – any existing drugs with significant potential for interaction are reviewed e.g. NSAIDs, ACE inhibitors, Diuretics.			
<b>6. Side effect monitoring</b> – a systematic approach to lithium side effect monitoring has been established and monitored through the care plan and reported to the MDT. The side effect check list in the Safe Lithium Treatment Good Practice Standards is recommended.			
<b>7. Compliance</b> – with treatment is assessed every 6 months.			
<b>8. Physical health care</b> – all relevant physical health monitoring for lithium patients described in the Mental Health Services Physical Health Policy is undertaken.			
<b>9. Communication</b> – appropriate communication with GPs is provided in a timely fashion.			

**Note an electronic version of this template is available on EMIS.**

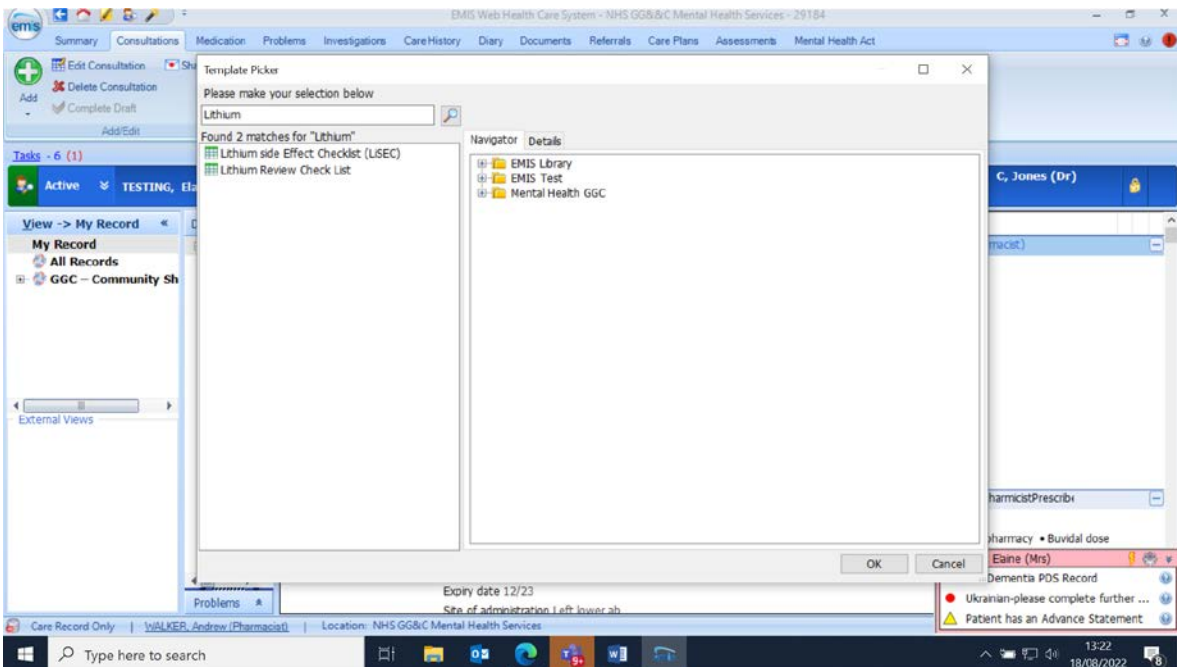
# NHS Greater Glasgow & Clyde Mental Health Services

## EMIS template screenshots

In the consultation click the 'Add' dropdown under the green button then click 'Data using Template'



Type lithium into the search box and click the magnifying glass



Select the template you want then click ok. It will open up and should be self-explanatory after that.