MSC CLINICAL PHARMACY PHARMACEUTICAL CARE PLAN

A. PATIENT BACKGROUND AND MEDICATION LIST

Reason for selecting this patient
This case highlighted to me marked reduction in quality of life that suffering from depression can result in. Severe depression is a complex issue that requires a multidisciplinary and holistic approach. This case was an opportunity to witness the profound effect that appropriate medication, social support and psychology can have on a patient's wellbeing. It was also an opportunity to put into practice recent learning undertaken in the MOT1 module.

Patient Details		
Initials: BM	Age: 45	Sex: Female
Weight: 67kg	Height: 1.54m	BMI: 28kg/m2

Patient History
Presenting Complaint: Hypersomnia, lack of appetite, lack of motivation, hopelessness, self-neglect.
Past Medical/Surgical/Mental Health History: Hypertension, sciatica, severe depression
Social History: Smoker, married, recently lost job as cashier
Family history: 20yr old son, mother suffered from depression

Patient History
Impression/Diagnosis: Relapse of severe depression
Plan: - Investigate adherence to medication - Optimise treatment of depression - Optimise hypertension treatment - Optimise pain treatment - Offer smoking cessation support - Provide healthy living advice

Medication History	
Medication List	Indication and Evidence
Venlafaxine 375mg M/R OD	Serotonin and noradrenaline reuptake inhibitor, recommended by NICE for the treatment of severe depression (1)
Ramipril 5mg OM	Angiotensin converting enzyme inhibitor, this class of medication is recommended as first line therapy for hypertension by NICE (2)
Tramadol 50mg QDS PRN	Weak opioid for treatment of moderate to severe pain, prescribed for sciatica – not first line therapy (3)
Paracetamol 1g QDS PRN	Non-opioid analgesic for the treatment of mild paint, prescribed for sciatica (3)
Allergies/Sensitivities	NKDA – GP fax, patient

B. PROGRESS NOTES AND MEDICATION CHANGES

Progress Notes	
Date	Notes
01/11/16	Patient arrived onto ward, initial clerk in completed by ward doctor. I completed the medication reconciliation, accessing the following sources: patient, GP fax, summary care record and mental health patient records. Patient and GP records confirm NKDA. Medications as above. I discussed medication with BM, she understood indications for medication and confirmed compliance, stating that she feels unwell if she misses her venlafaxine for even a day. She does not take any over the counter medication, use inhalers or creams and does not require a compliance aid. I asked her about her pain relief medication. She rarely takes paracetamol saying this doesn't help however she takes tramadol usually twice a day and feels it works well. I advised her to consider taking paracetamol more regularly as this may reduce her need to take tramadol. We also discussed her smoking, she currently smokes around 20 cigarettes per day and has no desire to quit at this time. I was sensitive to the fact that she has just been admitted to an acute mental health ward with symptoms of severe depression, therefore I did not want to pressure her to consider quitting and will approach this again during admission. Following our discussion I advised the ward doctor to continue venlafaxine to prevent withdrawal effects and withhold ramipril pending blood pressure, U+E and renal results (see monitoring plan).
02/11/16	Prior to MDT review, I completed a drug history from BM's mental health records. BM was initially prescribed sertraline, which was titrated to 200mg daily, this was ineffective and switched to venlafaxine in 2014, then titrated up to 375mg daily over 6 months, she has been on this regime since. I attended initial MDT review of BM. She feels her mood has become worse since losing her job two months ago. She has lost weight and feels no motivation to engage in any activities, preferring to spend her time sat on the couch watching TV and sleeping excessively.

Progress Notes	
Date	Notes
	Her family has reported concerns that she is neglecting herself including poor fluid and nutrition. Medication has helped but still has symptoms of depression. She was accepting of plans to alter medication. Plan from MDT is to augment antidepressant treatment with lithium, advised this medication as augmentation with mirtazapine would likely cause sedation (4) and patient is already suffering from hypersomnia. Following patient discussion with myself to highlight benefits and risks. (See monitoring plan). Initiation of lithium also pending review of cardiovascular, renal and thyroid function (see monitoring plan). Plan to also engage patient with psychology for cognitive behavioral therapy following inpatient admission. Patient to have on diet and fluid monitored (see monitoring plan).
02/11/2016	I used the Lithium Therapy "purple book" (5) to facilitate a discussion with BM regarding the proposed lithium treatment. I was able to cover the following points: - What lithium is and what it is used for. - Initial monitoring before starting treatment. - How to take, including keeping to same brand of lithium. - Ongoing blood monitoring - Side effects of lithium - Signs of toxicity and what can lead to lithium toxicity - Pregnancy and breastfeeding. During our discussion I kept technical terms to a minimum, gave opportunity for BM to ask questions and reassured her that I would be available should she have any issues or concerns. I also provided a patient information leaflet and a copy of the "purple book" (5) for BM. Following the discussion she confirmed she wanted to continue with the plan to initiate lithium.
03/11/2016	As per monitoring plan, initial monitoring results obtained as follows: - Blood pressure (BP) 165/105mmHg - BMI – 28 kg/m2

Progress Notes	
Date	Notes
	- ECG, U+E, TFT, eGFR, lipid, LFT, random glucose NAD Advised appropriate to restart ramipril, as BP raised and U+E, eGFR normal. Based on these results also advised that lithium initiation can begin. I recommended a lower starting dose of 600mg lithium carbonate at night (Priadel brand). Lower starting dose due to reports of poor hydration prior to admission (see clinical problems).
04/11/2016	BM is taking concomitant medications that can increase risk of developing serotonin syndrome (6), also increased risk of convulsion when lithium taken with tramadol (7) (see clinical problems). Discussed this with MDT, plan to engage BM to explain risks and review pain medication with goal of withdrawing tramadol. I spoke to BM regarding serotonin syndrome and convulsions, she was reluctant to withdraw tramadol but agreed, in light of risks, to trial codeine instead, after explaining benefits and risks (see clinical problems). We discussed NSAIDs as although recommended by NICE (3) should not be used with lithium (7), therefore this class of drug was not prescribed. I also advised that the paracetamol be changed from when required to regular, BM was in agreement on this.
10/11/2016	Trough lithium levels obtained, currently 0.4mmol/L at 600mg dose. SPC recommends target range of 0.50 – 1.00 mmol/L for depression (7), therefore advised dose increase to 800mg daily.
12/11/2016	Report from patient review that mood has improved, BM is engaging with activities of daily living and has improved appetite. BM also participating in occupational therapy activities. Pain control is reported as adequate following medication change, with no incidence of constipation (see monitoring plan). BP well controlled at around 135/85 mmHg, based on daily observations (see monitoring plan), no plan to alter hypertension medication.
13/11/2016	Due to reports of improved mood, I felt this was a good opportunity to discuss smoking cessation with BM. I explained the benefits of quitting smoking, however she still was not ready to quit. I advised that support is available when she is ready and to speak to her mental health team or GP in this instance (see follow up).

Progress Notes	
Date	Notes
	Weight has increased by 1kg to 68kg since admission, likely due to improved appetite, provided diet and lifestyle advice as per NICE (8).
17/11/2016	Lithium levels obtained, currently 0.65mml/L at 800mg dose. This is within recommend range, general advice is to titrate to lowest effective dose. Therefore as patient improving on this dose, I did not recommend a dose increase (see clinical problems).
21/11/2016	Attended discharge care program approach (CPA) review. Following improvement in mood and optimisation of lithium, plan to discharge BM to community mental health services, she is also to be referred to community psychology team for CBT. TTO prepared and reinforced counselling regarding use of lithium (see follow up).

Medication Changes						
Medication List	Dose	Frequency	Route	Indication	Start/Continued Date	Stop Date
Venlafaxine M/R	375mg	OD	PO	Selective serotonin and noradrenaline reuptake inhibitor for severe depression – target reduction in depressive symptoms (9).	On admission	Continued on discharge
Tramadol	50mg	QDS PRN	PO	Weak opioid analgesic for sciatica – target is adequate pain management (3).	On admission	04/11/2016
Paracetamol	1g	QDS PRN	PO	Non-opioid analgesic for sciatica - target is adequate pain management (3).	On admission	04/11/2016

Medication Changes						
Medication List	Dose	Frequency	Route	Indication	Start/Continued Date	Stop Date
Ramipril	5mg	OD	PO	Hypertension – Target <140/90mmHg (2)	03/11/2016	Continued on discharge
Lithium M/R	600mg	ON	PO	Augmentation compound for refractory depression - target reduction in depressive symptoms (1).	03/11/2016	10/11/2016
Codeine	60mg	QDS PRN	PO	Alternative weak opioid analgesic for sciatica – target is adequate pain management (3).	04/11/2016	Continued on discharge
Paracetamol	1g	QDS	PO	Non-opioid analgesic for sciatica - target is adequate pain management (3).	04/11/2016	Continued on discharge
Lithium	800mg	ON	PO	Augmentation compound for refractory depression – target reduction in depressive symptoms (1).	10/11/2016	Continued on discharge

Monitoring Plan			
Parameter	Justification	Frequency	Result(s) and Action Plan
BP	As part of cardiovascular assessment prior to initiation of lithium. Patient treated for hypertension target <140/90mmHg as per NICE (2)	OD whilst inpatient, annually once discharged (10)	165/105 mmHg on admission, plan to reinitiate antihypertensives (ramipril) did not do this initially as reports of poor fluid intake therefore risk of hypotension if initiated without assessing BP. Following this BP now averaged at 135/85mmHg based on daily physical observation. This is within NICE target of <140/90mmHg (2). Step up therapy would be to increase ramipril to max dose of 10mg (11), further step up includes addition of calcium channel blocker (2). However unlikely at this time therefore plan for GP to review (see follow up).
CVD risk	As part of cardiovascular risk prior to initiation of lithium (7). NICE recommends assessing CVD risk using QRISK2 tool (12). Patients with 10-year risk >10% require treatment as primary prevention.	On admission, then annually	QRISK2 <10%, therefore primary prevention therapy not indicated (12). Based on this BM has a low cardiovascular risk, no further action required although plan to advise patient regarding healthy diet and lifestyle.
Lipid profile	As recommended by NICE hypertension guidelines (2). Used when calculating QRISK2 percentage.	On admission	<table><tr><td>Cholesterol</td><td>4.40mmol/L</td><td><5.00mmol/L</td></tr><tr><td>HDL</td><td>1.01mmol/L</td><td>>0.99mmol/L</td></tr><tr><td>Non-HDL:HDL</td><td>4.46</td><td>>5</td></tr><tr><td>Triglycerides</td><td>1.41mmol/L</td><td><1.99mmol/L</td></tr></table> All within range, no action required. Ranges noted based on local pathology parameter, NICE no longer recommends particular numerical lipid targets, instead sets guidance for assessing overall cardiovascular risk and investigation

<table>
<tr><th colspan="4">Monitoring Plan</th></tr>
<tr><td>Parameter</td><td>Justification</td><td>Frequency</td><td>Result(s) and Action Plan</td></tr>
<tr><td></td><td></td><td></td><td>of suspected familial hypercholesterolemia (12). Neither of which are a concern for BM during this admission.</td></tr>
<tr><td>LFT</td><td>Venlafaxine dosage requires adjustment in hepatic impairment (9).</td><td>On admission</td><td>
<table>
<tr><td>ALT</td><td>29u/L</td><td><49u/L</td></tr>
<tr><td>AST</td><td>63u/L</td><td>30-130u/L</td></tr>
<tr><td>GGT</td><td>24u/L</td><td><59u/L</td></tr>
<tr><td>Bilirubin</td><td>5umol/L</td><td><20umol/L</td></tr>
<tr><td>Albumin</td><td>41g/L</td><td>35-50g/L</td></tr>
<tr><td>INR</td><td>1.0</td><td>=/<1.0</td></tr>
</table>
All within range, no action required.</td></tr>
<tr><td>TFT</td><td>Thyroid function should be evaluated prior to initiation of lithium (7). Lithium contraindicated in untreated hypothyroidism (7).</td><td>On initiation then 6 monthly (5).</td><td>
<table>
<tr><td>TSH</td><td>1.74miu/L</td><td>(0.30 – 5.00miu/L)</td></tr>
<tr><td>T4</td><td>15.0pmol/L</td><td>(11.0 - 22.0pmol/L)</td></tr>
<tr><td>T3</td><td>4.2pmol/L</td><td>(3.1 – 6.8pmol/L)</td></tr>
</table>
Patient is euthyroid (14) therefore safe to start lithium in this regard. Risk of hypothyroidism remains with prolonged treatment with lithium (7). Signs of hypothyroidism can be similar to depression and maybe mistaken for treatment failure, therefore plan to hand over this to community mental health team and GP on discharge (see follow up).</td></tr>
<tr><td>Random blood</td><td>As recommended by NICE</td><td>On admission</td><td>Random glucose (2 hours post-prandial) 9mmol/L. <11mmol/L therefore</td></tr>
</table>

Monitoring Plan			
Parameter	Justification	Frequency	Result(s) and Action Plan
glucose	hypertension guidelines (2).		diabetes not suspected (14). No action required.
ECG	Potential QTc prolongation with concomitant use of lithium and venlafaxine (7).	On admission	QTc 380ms (<470ms females), no action required. Plan to advise caution in use of QT prolongating medications in the future e.g. erythromycin (15), (See follow up), and monitor interaction medications that may potentially be prescribed during admission.
BMI	Raised on admission. Lithium may cause weight gain (7). Potential to gain weight once apatite returned	On admission, annually	28 kg/m2 on admission, patient in overweight category (8). Patient gained 1kg over short period, likely due to increased appetite following initiation of lithium. Plan to provide lifestyle and activity advice as per NICE (8) (see clinical problems).
Diet and fluid	Risk of self-neglect due to depression. Dehydration can precipitate lithium toxicity.	Ongoing during admission	BM has maintained adequate diet and fluid intake, initially only once prompted by staff. Following initiation of treatment BM was able to fulfil this herself. If diet and fluid intake deteriorates to the point of becoming a clinical risk then close monitoring of U+E and renal function would be indicated and withdrawal/omission of lithium considered. Treatment may include transfer to acute trust for fluid correction and potentially electro-convulsive therapy (1) to treat depressive aspect.
U+E / eGFR	Monitoring of renal function is required before and during treatment with lithium (7). Also to monitor for hyperkaliemia and renal function as taking ACEI (11).	On admission, then 6 monthly (5)	Result on admission: Na+ 137mmol/L (133-146 mmol/L) K+ 4.3mmol/L (3.5-5.3 mmol/L) Urea 3.6mmol/L (2.8-7.8 mmol/L) Creatinine 87umol/L (80-115 mmol/L) eGFR >90mL/min/1.73m*2 (>60mL/min/1.73m*2) If K+ >5.3mmol/L stop ACE inhibitor, if markedly raised treat for hyperkaliemia. If sodium <135mmol/L then risk of toxicity increased, withhold lithium in this

Monitoring Plan			
Parameter	Justification	Frequency	Result(s) and Action Plan
			situation and correct sodium. If eGFR <60mL/min/1.73m*2 then close monitoring of lithium required, <30mL/min/1.73m*2, consider withdrawal of lithium (7). See BP and response to antidepressant monitoring for alternatives. Following initiation and titration of lithium monitoring result of U+E and eGFR did not greatly deviate from those recorded on admission, all within range.
Signs of serotonin syndrome	Risk of serotonin syndrome due to concomitant use of venlafaxine, tramadol and lithium (7).	On going	No symptoms of serotonin syndrome identified, including: Restlessness, diaphoresis, tremor, shivering, myoclonus, confusion and convulsion (6). Continue to monitor for signs due to potentially severe consequences. Also plan to withdraw tramadol to reduce risk. Patient and staff advised on signs.
Lithium levels	Therapeutic drug level monitoring required as per SPC (7), to ensure levels within therapeutic range and to reduce risk of toxicity.	Every 7 days until target level reached, then 3 monthly once stable (5)	Monitoring of Lithium levels should be trough level, i.e. 12 hours post dose. This was explained to, and followed by, ward staff. Result of 0.4mmol/L following initiation at 600mg lithium carbonate. Trough level of 0.65mml/L on 800mg, within target range of 0.50 – 1.00 mmol/L (7). Patient responding well therefore no dose adjustment advised.
Signs of lithium toxicity	At risk of toxicity due to reported poor fluid intake prior to admission. Dose titration taking place if levels >1.5mmol/L then increased risk of toxicity.	On going	No symptoms of toxicity observed including: Severe tremor, gastric pain, nausea, diarrhea, muscle weakness, ataxia, myoclonus, slurring of speech, blurred vision, confusion and excessive sedation. If dehydration or toxicity suspected then lithium levels should be check urgently. Greater risk of toxicity associated with levels >1.5mmol/L (7). Patient advised on signs and potential risk factors including: vomiting, diarrhea, dehydration, excessive alcohol consumption and large changes in sodium intake. Plan to reinforce on discharge.
Response to antidepressa	To determine if medication and/or	During ward review and daily	Patient reports subjective improvement in mood, this has been confirmed objectively during ward review. If improvements not made or sustained then

Monitoring Plan			
Parameter	Justification	Frequency	Result(s) and Action Plan
nt	dose is effective.	via nursing reports	lithium dose can be potentially raised as current therapeutic drug level is lower end of recommended range. Other options include use of atypical antipsychotics, although less evidenced for unipolar depression (16). Furthermore ECT may be considered for refractory depression when other treatment has failed (16).
Pain	Patient suffers from sciatica and takes analgesics for this.	Patient reported during admission.	BM not taking paracetamol at all prior to admission, and taking tramadol around 100mg per day. Switched tramadol to codeine, and paracetamol to regular following discussion with patient. This was to reduce risk of serotonin syndrome and risk of convulsions. Patient responded well this change, reports pain controlled and no adverse effects, such as constipation. Plan to handover to GP (see follow up). NICE recommends step up to strong opioids and medications for neuropathic pain should pain control be inadequate (3). NSAIDs, although recommended in clinical guidelines (3), should not be used concomitantly with lithium due to increased risk of toxicity (7). Therefore NSAIDs avoided during inpatient admission.
Constipation	NICE recommends monitoring for constipation in patients taking weak opioids, constipation can also exacerbate sciatica (3)	Daily during admission	BM has not reported any constipation whilst taking opioid analgesics, tramadol and subsequently codeine. Should constipation be reported then first line treatment is osmotic laxative, such as macrogol (17). Stimulant laxative, such as senna, maybe added if constipation is persistent (17). Advised patient to maintain adequate fluid intake.
Adherence to medication	Ensure medication has been taken as prescribed to give accurate representation of response to treatment and therapeutic drug monitoring. Patients on mental	Daily via drug chart review	No issues with adherence.

Monitoring Plan			
Parameter	Justification	Frequency	Result(s) and Action Plan
	health wards can sometimes refuse their medications.		

Analysis of Clinical Problems			
Clinical Problem	Assessment	Priority	Action Taken and Outcome
Severe depression	Admitted to inpatient psychiatry ward with: - Hypersomnia - Lack of appetite - Lack of motivation - Hopelessness - Self-neglect	High	Review of antidepressant regime completed on admission including drug history of antidepressant therapy. It was agreed that lithium augmentation would be the most appropriate choice as this is recommended in STAR*D sequential antidepressant programme (18), in NICE depression guidelines (1), is established in its use as an augmentative antidepressant (18) and less sedating than alternatives such as mirtazapine (4). As per SPC lithium level target was 0.50 – 1.00mmol/L for depression (7). Reached level of 0.65mmol/L on 800mg of lithium carbonate, BM responded well to this therefore further dose titration not indicated. BM also participated in occupational therapy activities, on the ward, to establish routine and improve functioning. Symptoms of presenting compliant have greatly improved as demonstrated by, appropriate sleep, increased appetite, improved self-care and elevated mood. CBT psychotherapy also planned following discharge.
Lithium monitoring and side effects including risk to toxicity	Newly initiated lithium, risk of toxicity due to reported poor fluid intake prior to admission. Assessment of tolerability needed.	High	Lithium started at lower end of dose range due to assessed risks. Counselled patient on side-effects and signs of toxicity including: severe tremor, gastric pain, nausea, diarrhea, muscle weakness, ataxia, myoclonus, slurring of speech, blurred vision, confusion and excessive sedation. Advised ward staff to monitor for these effects and to inform medical team should patient have reduced fluid intake. Also monitored U+E and renal function for signs of dehydration and lithium levels for toxicity (>1.5mmol/L has greater risk (7)). Patient did not exhibit or report any concerning side-effects or signs of lithium toxicity.

Analysis of Clinical Problems			
Clinical Problem	Assessment	Priority	Action Taken and Outcome
Risk of serotonin syndrome	Concomitant use of serotonergic medications including venlafaxine, lithium and tramadol increases risk of serotonin syndrome (17).	High	Switched tramadol to codeine to reduce risk. Advised patient and staff regarding signs of serotonin syndrome including: restlessness, diaphoresis, tremor, shivering, myoclonus, confusion and convulsion (17). No reported signs of serotonin syndrome during admission.
Risk of convulsions	Lithium SPC states increased risk of convulsion when taken with seizure threshold lowering drugs, such as tramadol (7).	High	Switched tramadol to codeine as risk is reduced compared to tramadol (19). No other concerns highlighted.
Hypertension	BP 165/105mmHg on admission, patient prescribed antihypertensive medication. Target <140/90mmHg (2).	Medium	Reinstated ramipril, following this BP controlled at average of 135/85mmHg. Maintained adequate fluid levels throughout admission with no deterioration in renal function. Patient has low cardiovascular risk score (QRISK2 <10%). GP to follow up ongoing hypertension treatment and monitoring.
Smoking	Patient smoke around 20 cigarettes per day.	Medium	Engaged patient on two occasions to highlight risks of continued smoking, benefits of quitting and to offer stop smoking support. BM was not ready to quit at this time, plan to hand over on discharge and advised her to contact services when she felt ready.
Pain management	Prescribed analgesics for treatment of sciatica.	Medium	Patient advised to notify staff if pain control inadequate. Advised to take paracetamol regularly and this was changed on inpatient chart to reflect this. Tramadol changed to codeine, patient reported no issues following change and pain management adequate during inpatient stay.
Child bearing	Risks associated with the use of venlafaxine, lithium, codeine and	Low	BM did not have any plans for children at this time. Discussed medication use in

Analysis of Clinical Problems			
Clinical Problem	Assessment	Priority	Action Taken and Outcome
age	ramipril during pregnancy (9,7,22,11).		pregnancy and to notify GP or mental health services should plans change.
Raised BMI	BMI 28 kg/m2 on admission, gained weight during admission. Target 20-25 (8).	Low	Given diet and lifestyle advice including portion control, low fat, low sugar, and reduced salt intake, also recommend daily physical activity of at least 30mins (8). Monitor BMI post discharge, to assess effects of this and new medication, inpatient admission too short to give meaningful indication.

Follow Up Plan (including discharge requirements, future planning and ongoing assessments)	
Follow Up Requirement	Action Taken/Future Plan
Ongoing monitoring of lithium	As lithium levels are now stable within the desired range this should be checked at 3 monthly intervals. Also renal and thyroid function should be checked every 6 months (5). The community mental health team will liaise with the GP to facilitate this. However I will also contact the GP to inform that the patient is now prescribed lithium and include blood monitoring, toxicity and drug interaction advice e.g. use of erythromycin may case QT prolongation (15). Also advised that weight gain can occur therefore patient BMI should be monitored.
CPA review for mental health	A standard review in which the patient, MDT and care coordinator (assigned representative from community mental health team) are in attendance, providing continuity, follow up and summary of care during inpatient admission. This is an opportunity to handover changes in medication and reinforce counselling points. It was also planned for BM to be referred for CBT following discharge.
Ongoing monitoring of mental health	Following discharge the community mental health team will regularly review BM's mental health. Access to inpatient notes are available through the electronic patient record and I have liaised with community mental health pharmacist regarding relevant changes made to medications.
How to obtain further supplies of medication	BM supplied with 14 days medication on discharge. I informed her that her GP will receive a discharge summary containing all medication changes. I explained to her that she should ideally order medications when the first week has finished preventing any breaks in treatment. As BM has now been

Follow Up Plan (including discharge requirements, future planning and ongoing assessments)	
Follow Up Requirement	Action Taken/Future Plan
	assigned a care coordinator, they will be able to provide support with her medications.
Pain	I will ensure that rationale for analgesic changes and advice regarding use of NSAIDs and Tramadol in patients taking lithium is documented in discharge summary and also handed over to GP along with lithium monitoring advice.
Hypertension	Ongoing monitoring of BP should continue as part of GP reviews.
Smoking support	GP records show that they are aware of BM's smoking status. Therefore I made sure to note interventions made in aiding BM to quit smoking on discharge summary, although she is not ready at this opportunity this may change in the future. Advised care coordinator of same, and to continue to encourage BM to quit.

Learning Plan		
Learning Need Identified	Action Taken	Completion Date
Lithium counselling advice - lithium is a narrow therapeutic index medication with potentially serious interactions and risk of toxicity (7).	Read through lithium SPC, purple book and trust lithium policy. Following this I have been able to apply my knowledge and improve patient outcomes with regards to lithium treatment, due to a greater understanding of lithium and its use.	04/11/2016
Management of sciatica - as a specialist mental health pharmacist I don't often have the opportunity to optimize pain therapy.	I reviewed NICE guidelines for the management of sciatica (3). I was able to utilise this knowledge when reviewing BM's pain medication to suggest alternatives and avoid interactions with her antidepressant regime.	04/11/2016
Understanding of psychological intervention – psychological therapies are often indicated in the treatment of mental health conditions, such as depression.	A clinical psychologist forms part of the inpatient MDT, I plan to engage them to further develop my understanding of psychological therapies such as CBT. This will broaden my appreciation of psychological therapies and their place within the treatment of mental health disorders.	TBC

H. EVIDENCE AND REFERENCES

Reference List

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2. National Institute of Care Excellence – CG127 Hypertension in adults: diagnosis and treatment November 2016- https://www.nice.org.uk/guidance/cg127?unlid=275473074201611153123 2 – accessed 12/12/2016
3. National Institute of Care Excellence – CKS Sciatica (lumbar radiculopathy) April 2015 - https://cks.nice.org.uk/sciatica-lumbar-radiculopathy#!scenario – accessed 12/12/2016
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7. Electronic medicines compendium – SPC Priadel 400mg prolonged release tablets - https://www.medicines.org.uk/emc/medicine/25500#PRODUCTINFO - accessed 13/12/2016
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15. Electronic medicines compendium – SPC Erythromycin 250mg Tablets - https://www.medicines.org.uk/emc/medicine/23032 - accessed 15/12/2016
16. Taylor D, Paton C, Kapur S. The Maudsley Prescribing Guidelines in Psychiatry 12th Edition. West Sussex, Wiley Blackwell. 2015. Treatment of refractory depression, pg 255.

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17. National Institute of Care Excellence – CKS Constipation October 2015 - https://cks.nice.org.uk/constipation#!scenario – accessed 16/12/2016

18. Taylor D, Paton C, Kapur S. The Maudsley Prescribing Guidelines in Psychiatry 12th Edition. West Sussex, Wiley Blackwell. 2015. Treatment of refractory depression: first choice pg 257.

19. Electronic medicines compendium – SPC Codeine Phosphate Tablets 30mg - https://www.medicines.org.uk/emc/medicine/23910 - accessed 17/12/2016

RPS Foundation Framework			
Cluster 1 Patient and Pharmaceutical Care	Cluster 2 Professional Practice	Cluster 3 Personal Practice	Cluster 4 Management and Organisation
1.1 Patient Consultation ☒ 1.2 Need for Medicine ☒ 1.3 Provision of Medicine ☒ 1.4 Selection of Medicine ☒ 1.5 Medicine Specific Issues ☒ 1.6 Medicines Information and Patient Education ☒ 1.7 Monitoring Medicine Therapy ☒ 1.8 Evaluation of Outcomes ☒ 1.9 Transfer of Care ☒	2.1 Professionalism ☒ 2.2 Organisation ☒ 2.3 Effective Communication Skills ☒ 2.4 Team Work ☒ 2.5 Education and Training ☒	3.1 Gathering Information ☒ 3.2 Knowledge ☒ 3.3 Analysing Information ☒ 3.4 Providing Information ☒ 3.5 Follow Up ☒ 3.6 Research and Evaluation ☐	4.1 Clinical Governance ☒ 4.2 Service Provision ☐ 4.3 Organisations ☐ 4.4 Budget and Reimbursement ☐ 4.5 Procurement ☐ 4.6 Staff Management ☐