Evidence-Based Decisions for Personal Care Home Formularies

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Winnipeg Regional Health Authority
CADTH Manitoba Overview

Donna Champagne
Manitoba Liaison Officer
Manitoba’s Golden Boy
Mountains and Vast Prairies

Hit the Road!

A VIEW NORTH FROM RIDING MOUNTAIN NATIONAL PARK
Inland Seaport

Churchill, MB.
Manitoba

Linking Manitoba and Canada
Objectives

Part I
- Describe the pharmacology of cholinesterase inhibitors (CI)
- Highlight the evidence – efficacy, persistence, adverse effects
- Review an economic evaluation of CI

Part II
- Describe Winnipeg Region (WRHA)
- Describe the Personal Care Home (PCH) Program / PCH Drug Program
- Consider WRHA’s Cholinesterase Inhibitor Policy – implementation, benefits and challenges
Cholinesterase Inhibitors
## Cholinesterase Inhibitors

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand Name (Manufacturer)</th>
<th>Dosage Form</th>
<th>Notice of Compliance</th>
<th>Cost per Unit</th>
<th>Approved Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>donepezil</td>
<td>Aricept® (Pfizer)</td>
<td>5 mg and 10 mg tablets</td>
<td>August 12, 1997</td>
<td>$4.777/tablet</td>
<td>5 to 10 mg daily</td>
</tr>
<tr>
<td>galantamine</td>
<td>Reminyl® (Janssen-Ortho)</td>
<td>4 mg, 8 mg and 12 mg tablets</td>
<td>July 31, 2001</td>
<td>$2.4672/tablet</td>
<td>16 to 24 mg daily, administered in two divided doses</td>
</tr>
<tr>
<td>rivastigmine</td>
<td>Exelon® (Novartis)</td>
<td>1.5 mg, 3 mg, 4.5 mg and 6 mg capsules</td>
<td>April 13, 2000</td>
<td>$2.387/capsule</td>
<td>6 to 12 mg daily, administered in two divided doses</td>
</tr>
</tbody>
</table>

Between 8% and 25% of patients will not continue taking therapy

Adverse Reactions

- Nausea - 5 to 47%
- Diarrhea – 6 to 19%
- Vomiting – 3 to 31%
- Anorexia – 3 to 17%
- Weight Loss – 3 to 7%
- Dizziness – 2 to 21%
- Insomnia – 5 to 14%
Reflections on Persistance

- Patients residing in community less likely to persist than in LTC (58% vs 76%; P<0.001)
- Average length of therapy longer in LTC (1021 ± 11.3 days) versus community (823 ± 5.1 days)

26% of patients started in community entered long-term care

Outcomes

- Inclusion RCT – parallel group design, ≥ 12 weeks in duration, mild to moderate AD
- Exclude – open label data
- 25 unique trial
- 25 trials – 29 different outcome measures

## Publication Proliferation

<table>
<thead>
<tr>
<th>Comparators</th>
<th>Main Publication</th>
<th>Total Number of Publications</th>
<th>Number of Different First Authors</th>
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</thead>
<tbody>
<tr>
<td>donepezil versus placebo</td>
<td>Burns A et al.</td>
<td>4</td>
<td>3</td>
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<tr>
<td></td>
<td>Gauthier S et al.</td>
<td>10</td>
<td>3</td>
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<tr>
<td></td>
<td>Mohs RC et al.</td>
<td>6</td>
<td>2</td>
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<tr>
<td></td>
<td>Rogers SL et al.</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Rogers SL et al.</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Tariot PN et al.</td>
<td>3</td>
<td>1</td>
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<tr>
<td></td>
<td>Winblad B et al.</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>galantamine versus placebo</td>
<td>Raskind MA et al.</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Rockwood K et al.</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Tariot PN et al.</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Wilcock G et al.</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Wilkinson D et al.</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>rivastigmine versus placebo</td>
<td>Rosler M et al.</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>galantamine versus donepezil</td>
<td>Jones et al.</td>
<td>2</td>
<td>2</td>
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<tr>
<td></td>
<td>Wilcock G et al.</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>rivastigmine versus donepezil</td>
<td>Wilkinson D et al.</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Outcomes

- CGIC – Clinician Global Impression of Change
- CIBIC and CIBIC plus – Clinicians Interview-Based Impression of Change
- CDR – Clinical Dementia Rating
- GDS – Global Deterioration Scale
- GBS – Gottfries-Brane-Steen
- ADCS/ADL – AD Cooperative Study / Activities of Daily Living
- ADFACS – Alzheimer’s Disease functional Assessment and Change Scale
- BDS – Blessed-Roth Dementia Scale
- BrADL – Bristol Activites of Daily Living Scale
- DAD – Disability Assessment for Dementia
- IADL – Instrumental Activities of Daily Living Scale
- PDS – Progressive Deterioration Scale
- UADL – Unified Activities of Daily Living
- MENFIS – Mental Function Impairment Scale
- QOL-P – Quality of Life - Proxy

### Outcomes

- **QoL-P** – scale from 0 to 50
- Higher Score equals better quality of life

<table>
<thead>
<tr>
<th>QoL-P</th>
<th>Group</th>
<th>Studies</th>
<th>Patients (treatment/control)</th>
<th>Change in Score: Treatment (SD)</th>
<th>Change in Score: Control (SD)</th>
<th>Treatment Difference (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 weeks</td>
<td>donepezil 10 mg versus placebo</td>
<td>1</td>
<td>157/162</td>
<td>7.95 (54.10)</td>
<td>-1.59 (49.10)</td>
<td>9.54 (-1.81; 20.89)</td>
</tr>
</tbody>
</table>

Outcomes

- Alzheimers Disease Functional Assessment and Change Scale
- 54 Point Scale
- 24 Points – 6 items assess Activities of Daily Living (0 to 4 points per item)
- 30 Points – 10 items – Instrumental Daily Activities (0 to 3 points per item)
- Higher Score = Greater Impairment

<table>
<thead>
<tr>
<th>Activities of Daily Living</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toileting</td>
</tr>
<tr>
<td>Feeding</td>
</tr>
<tr>
<td>Dressing</td>
</tr>
<tr>
<td>Grooming</td>
</tr>
<tr>
<td>Bathing</td>
</tr>
<tr>
<td>Walking</td>
</tr>
</tbody>
</table>

Alzheimer's Disease Functional Assessment and Change Scale

54 Point Scale

24 Points – 6 items assess Activities of Daily Living (0 to 4 points per item)

30 Points – 10 items – Instrumental Daily Activities (0 to 3 points per item)

Higher Score = Greater Impairment

**Instrumental Daily Activities**

- Use of Telephone
- Household Tasks
- Using Household Appliances
- Managing Money
- Shopping
- Food Preparation
- Ability to Get Around
- Hobbies and Leisure
- Handling Mail
- Grasp of Situations/Explanations
Outcomes

- Both placebo and treatment groups have changed = greater impairment
- Statistical Significance
- Clinical Significance

<table>
<thead>
<tr>
<th>ADFACS</th>
<th>Groups</th>
<th>Studies</th>
<th>Patients (treatment/control)</th>
<th>Change in Score: Treatment (SD)</th>
<th>Change in Score: Control (SD)</th>
<th>Treatment Difference (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 weeks</td>
<td>donepezil 10 mg versus placebo</td>
<td>1</td>
<td>214/217</td>
<td>0.40 (3.80)</td>
<td>1.31 (3.80)</td>
<td>-0.91 (-1.63; -0.19)</td>
</tr>
<tr>
<td>54 weeks</td>
<td>donepezil 10 mg versus placebo</td>
<td>1</td>
<td>214/217</td>
<td>2.38 (4.40)</td>
<td>3.90 (5.00)</td>
<td>-1.52 (-2.41; -0.63)</td>
</tr>
</tbody>
</table>

Institutionalization

- Rates of institutionalization did not show a difference between placebo and cholinesterase inhibitors
- CADTH report insufficient information to comment on time to institutionalization
- UK HTA – estimate reduction of time in full time-care (delays in progression of AD) by 1.5 months (over 5-year period)

Loveman, E. et al. 2006. Health Technol Assess. 10(1)
Death and Other Inconveniences

- **Death in Subjects with Mild Cognitive Impairment (MCI)**

- In two randomized, placebo controlled trials of 2 years duration in subjects with mild cognitive impairment (MCI), a total of 14 subjects on REMINYL® (n=1026) and 1 subject on placebo (n=1022) died. The deaths were due to various causes which could be expected in an elderly population; about half of the REMINYL® deaths appeared to result from various vascular causes (myocardial infarction, stroke and sudden death).
Death in Perspective

Figure 62: Pooled data for deaths; donepezil versus placebo

<table>
<thead>
<tr>
<th>Study or sub-category</th>
<th>Treatment n/N</th>
<th>Control n/N</th>
<th>RR (fixed) 95% CI</th>
<th>Weight %</th>
<th>RR (fixed) 95% CI</th>
<th>Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>donepezil versus placebo</td>
<td>15/242</td>
<td>17/244</td>
<td>0.89 [0.45, 1.74]</td>
<td>43.63</td>
<td>3.82 [0.34, 9.14]</td>
<td>0</td>
</tr>
<tr>
<td>AD 2000 group, 2004</td>
<td>1/64</td>
<td>0/60</td>
<td>1.33 [0.12, 8.70]</td>
<td>1.33</td>
<td>2.82 [0.16, 3.96]</td>
<td>0</td>
</tr>
<tr>
<td>Rogers et al., 1996</td>
<td>0/315</td>
<td>1/153</td>
<td>5.20 [0.03, 8.27]</td>
<td>3.39</td>
<td>0.52 [0.13, 4.49]</td>
<td>0</td>
</tr>
<tr>
<td>Burna et al., 1999</td>
<td>3/544</td>
<td>2/274</td>
<td>6.86 [0.14, 1.64]</td>
<td>10.24</td>
<td>0.76 [0.03, 8.27]</td>
<td>0</td>
</tr>
<tr>
<td>Mohs et al., 2001</td>
<td>3/214</td>
<td>4/217</td>
<td>17.87 [0.12, 5.93]</td>
<td>7.68</td>
<td>0.44 [0.03, 1.64]</td>
<td>0</td>
</tr>
<tr>
<td>Tariot et al., 2001</td>
<td>3/103</td>
<td>7/105</td>
<td>10.24 [0.12, 5.93]</td>
<td>7.68</td>
<td>0.44 [0.03, 1.64]</td>
<td>0</td>
</tr>
<tr>
<td>Winblad et al., 2001</td>
<td>4/142</td>
<td>3/144</td>
<td>17.87 [0.12, 5.93]</td>
<td>7.68</td>
<td>0.44 [0.03, 1.64]</td>
<td>0</td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td>1974</td>
<td>1399</td>
<td>100.00</td>
<td>0.78 [0.49, 1.23]</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Death in Perspective**

Figure 73: Pooled data for deaths; galantamine versus placebo

<table>
<thead>
<tr>
<th>Study or sub-category</th>
<th>Treatment n/N</th>
<th>Control n/N</th>
<th>RR (fixed) 95% CI</th>
<th>Weight %</th>
<th>RR (fixed) 95% CI</th>
<th>Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>galantamine versus placebo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raskind et al., 2000</td>
<td>2/423</td>
<td>1/213</td>
<td>13.33 1.01 [0.09, 11.04]</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Tarlot et al., 2000</td>
<td>6/552</td>
<td>4/286</td>
<td>52.82 0.78 [0.22, 2.73]</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Rockwood et al., 2001</td>
<td>0/261</td>
<td>2/125</td>
<td>33.84 0.10 [0.00, 1.99]</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td>1236</td>
<td>624</td>
<td></td>
<td>100.00</td>
<td>0.58 [0.22, 1.53]</td>
<td>0</td>
</tr>
</tbody>
</table>

Total (95% CI)               | 1236          | 624         |                   | 100.00   | 0.58 [0.22, 1.53] | 0     |

Test for heterogeneity: chi²=1.77, df=2 (p=0.41), I²=0%
Test for overall effect: z=1.11 (p=0.27)

Rational Therapy

- Persistence more likely in patients that did not receive concomitant drugs that can impair cognition (OR 1.56 95% CI 1.13 to 2.16)
- 37.3% of patients also received an anticholinergic or benzodiazepine
- Actually higher in LTC than in community (44.3% vs 36.0%)

Rational Therapy

Reference List of Drugs with Anticholinergic Effects

Aricept (donepezil) and Exelon (rivastigmine) are reversible inhibitors of the enzyme acetylcholinesterase. Because of their mechanism of action, anticholinergic medications can interfere with the activity of Aricept and Exelon. The following is a list of drugs with anticholinergic effects with emphasis on those with moderate to high activity. This list has been reviewed by DQAC and SFC and will be used for assessing Aricept and Exelon requests. Coverage cannot be approved if a patient is using a drug on this list concurrently with Aricept or Exelon.

<table>
<thead>
<tr>
<th>Antidepressants with moderate to high anticholinergic effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>amitriptyline (Elavil)</td>
</tr>
<tr>
<td>clomipramine (Anafranil)</td>
</tr>
<tr>
<td>doxepin (Sinequan)</td>
</tr>
<tr>
<td>imipramine (Tofranil)</td>
</tr>
<tr>
<td>nortriptyline (Aventyl)</td>
</tr>
<tr>
<td>protriptyline (Triptil)</td>
</tr>
<tr>
<td>trimipramine (Surmontil)</td>
</tr>
</tbody>
</table>

Antiparkinsonian

benztropine mesylate (Cogentin)
biperiden HCl (Akineton)*
etopropazine (Parsonat)
orphenadrine (Disipal)
procyclidine (Kemadrin)
trihexyphenidyl (Novo-Hexidyl, Apo-Trihex)

Antiemetics/Antivertigo with moderate to high anticholinergic effects

dimethyldiethylamine (Gravol)
meclizine (Antivert)
promethazine (Phenergan)*
scopolamine (Transderm V)

<table>
<thead>
<tr>
<th>Antipsycotics with moderate to high anticholinergic effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>chlorpromazine (Largactil)</td>
</tr>
<tr>
<td>clozapine (Clozaril)</td>
</tr>
<tr>
<td>flupenthixol (Fluanxol)</td>
</tr>
<tr>
<td>loxapine (Loxapac)</td>
</tr>
<tr>
<td>mesoridazine (Serentil)</td>
</tr>
<tr>
<td>methotrimeprazine (Nozilana)</td>
</tr>
<tr>
<td>olanzapine (Zyprexa)</td>
</tr>
<tr>
<td>pericyazine (Neurilept)</td>
</tr>
<tr>
<td>pimozide (Orap)</td>
</tr>
<tr>
<td>thioproperazine (Majepil)*</td>
</tr>
<tr>
<td>thioridazine (Mellaril)</td>
</tr>
<tr>
<td>zuclopenthixol (Clopoxol)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Antipsasmosics</th>
</tr>
</thead>
<tbody>
<tr>
<td>dicyclomine (Formulex, Bentylol)</td>
</tr>
<tr>
<td>flavoxate (Urispas)</td>
</tr>
<tr>
<td>glycopyrrolate (Robinul)</td>
</tr>
<tr>
<td>hyoscine butylbromide (Buscopan)</td>
</tr>
<tr>
<td>hyoscyamine/atropine/hyoscine/phenobarbital (Donnatal)</td>
</tr>
<tr>
<td>oxybutynin ( Ditropan)</td>
</tr>
<tr>
<td>pinaverium bromide (Dicetel)*</td>
</tr>
<tr>
<td>propantheline bromide (Pro-Banthine, Propanthel)</td>
</tr>
<tr>
<td>tolterodine 1-tartrate (Detrol)</td>
</tr>
</tbody>
</table>

Antihistamines/Antipruritics with moderate to high anticholinergic effects

chlorpheniramine (Chlor-Triplon)*
cyproheptadine (Periactin)*
diphenhydramine (Benadryl)*
trimetrazine (Panectyl)

Miscellaneous
cyclobenzaprine (Flexeril) - moderate
diphenoxylate/atropine (Lomotil) – moderate
disopyramide (Norpace) – moderate
Parachute use to prevent death and major trauma related to gravitational challenge: systematic review of randomised controlled trials

Gordon C S Smith, Jill P Pell

Parachutes reduce the risk of injury after gravitational challenge, but their effectiveness has not been proved with randomised controlled trials

Evaluation of Local Practice

Concurrent Anticholinergic Use with Acetylcholinesterase Inhibitors

- Percentage Concurrent Use of Anticholinergics

Bar chart showing the percentage of concurrent use of anticholinergic medications with acetylcholinesterase inhibitors for each PCH (A, B, C, D, E, F) and overall.
Evaluation of Local Practice

Acetylcholinesterase Use in Central Region

# of Residents

- PCH A
- PCH B
- PCH C
- PCH D
- PCH E
- PCH F

Legend:
- Inhibitors & Anticholinergics
- Inhibitors
Drug Cost Considerations

Cost per Day

- Average Cost Per Resident Day
- Approximate Cost of Cholinesterase Inh.
Incremental Cost Effectiveness Ratio (ICER)

- ICER = \( \frac{C_b - C_a}{E_b - E_a} \)
- Modest benefits - estimate Incremental QALY of 0.033
- Incremental Costs (over 5 years) ~ $4000 to $6000

Loveman, E. et al. 2006. Health Technol Assess. 10(1)
The Cost-Effectiveness Plane

- **NW:** Lose/lose
- **NE:** May be cost-effective
- **SW:** Clinically ineffective
- **SE:** Win/win

**Cost**

**Health Effects**
Probabilistic Sensitivity Analysis

Loveman, E. et al. 2006. Health Technol Assess. 10(1)
Willingness to Pay

Loveman, E. et al. 2006. Health Technol Assess. 10(1)
Relative Importance – Setting Priorities

Spending by Drug Class
Selected Drug Classes

- Cholinesterase Inhibitors
- Cardiovascular Agents
- Psychiatric Drugs

Monthly Drug Cost

$0
$500
$1,000
$1,500
$2,000
$2,500
$3,000
Evidence Limits

- **Research Agenda for Cholinesterase Inhibitors**
  - What is the appropriate length of treatment?
  - Does specialist involvement improve outcomes?
  - Does limiting potentially inappropriate concomitant medications improve effectiveness?
  - How effective is switching, and when should it be done?
  - Is lengthy treatment after institutionalization appropriate?
  - When should cholinesterase inhibitors be discontinued and how should this be done?

Winnipeg Regional Health Authority
Personal Care Home (PCH) Program

Serves almost 6000 Residents and their Families

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frail Elders - 75+yrs</td>
<td>87.5%</td>
</tr>
<tr>
<td>Seniors – 65 to 74 yrs</td>
<td>9.1%</td>
</tr>
<tr>
<td>Young disabled</td>
<td>3.4%</td>
</tr>
</tbody>
</table>
• Implement programs and strategies to improve/maintain quality of life and cost effective therapy
• Monitors pharmacy service to ensure quality and adherence to standards
• Monitors drug cost and utilization trends
• All drugs listed in the Provincial Formulary are insured in the Nursing Home Formulary.

• Products not listed on the Pharmacare Formulary may be listed on the Nursing Home Formulary.

• Products not listed on the Nursing Home Formulary, or deemed ineligible by Pharmacare, are available if prescribed, but must be paid by the resident or the PCH.

• Exception Drug Status medications are limited by precise criteria which must be met for coverage.
The WRHA PCH Drug Program has only two mandatory policies (1A).

- Resident Requested Product
- Cholinesterase Inhibitor Use
The policy was initiated

- To facilitate an assessment of the effectiveness and appropriateness of the therapy by providing a guideline for the review.
- To provide the best possible quality care for the resident
- To ensure appropriate utilization
Cholinesterase Inhibitor Use
The Policy

All residents admitted to a Winnipeg PCH and their family shall be informed prior to admission that all medication will be carefully reassessed after admission to a personal care home.
All residents receiving cholinesterase inhibitors shall undergo discontinuation of cholinesterase inhibitors to determine significant benefits.
Residents shall receive a cholinesterase inhibitor only if a diagnosis of probable mild to moderate Alzheimer’s Disease as per DSM-IV criteria, or Lewy Body Disease is applicable, and has recorded a MMSE score between 10 and 26.
All residents shall receive a cholinesterase inhibitor only if drugs with anticholinergic activity are not used concurrently.
All residents who have cholinesterase inhibitor therapy initiated after admission, or maintained after a trial discontinuation, shall be regularly reviewed to assess continued appropriateness of therapy.
Cholinesterase Inhibitor Use
The Procedure

• Three month acclimatization in the PCH
• Baseline MMSE
• Taper, and assess through “drug holiday”
• Monitor for clinically relevant deterioration
• Review and confirm discontinuation, or restart
Cholinesterase Inhibitor Use
The Feedback

Why is this policy being introduced?
What are the risks and benefits of CIs?
How do you define “clinically relevant deterioration”?
Why do you focus on the MMSE?
What are anticholinergic drugs?
What if a specialist orders it?
Cholinesterase Inhibitor Use
The Feedback

What tracking mechanisms will be in place to record compliance?
Do Manitoba Health requirements still need to be met at admission? After being restarted?
Can a cholinesterase inhibitor be started in the PCH for a resident?
What if your physicians will not co-operate?
A survey of PCHs was completed in July 2006

- 82% cost covered by WRHA, 15% by family, and 3% other.
- Of the 15% component, more than half were not eligible according to Manitoba Health
- One family would not allow the trial assessment
Cholinesterase Inhibitor Use

Communication and Challenges

- Information sharing
- Champion influence
- Compliance
Cholinesterase Inhibitor Use

using the

✓ Evidence
✓ Economics
✓ Ethics
A detailed meta-analysis report by the Canadian Agency for Drugs and Technologies in Health (CADTH) concludes:

“Cholinesterase Inhibitors have a modest impact on functional performance and global outcomes.”

“Donepezil did not improve QoL or prevent institutionalization.”
Donepezil has not been demonstrated to improve outcomes of importance (institutionalization or disability).

There is no evidence that stopping AChE-I treatment is harmful.
“Persons with severe AD should be assessed at least every four months or if treated with pharmacotherapy at least every three months.

Cholinesterase inhibitors can potentially provide modest benefits for cognition, function, and behavior. These medications should not necessarily be discontinued just because a person with AD is admitted to long-term care (as is currently often the case).”
Economics

% Residents Receiving Cholinesterase Inhibitors

Percentage of Residents Receiving Cholinesterase Inhibitors in WRHA and Brandon PCHs as a Funded Benefit
April 2006 to March 2007
Economics
Top 20 Cost Drivers
October to December 2007 (48% of Total Drug Cost)

- Fluticasone (FLOVENT HFA)
- Fluticasone/Salmeterol (ADVAIR 1 25)
- COMPOUNDED PR. ELIGIBLE
- APO-OMEPRAZOLE
- Ipratropium (ATROVENT HFA)
- NOVO-VENLAFAXINE XR
- NOVO-VENLAFAXINE XR
- Fluticasone/Salmeterol (ADVAIR 250)
- Olanzapine (ZYPREXA)
- Pantoprazole (PANTOLOC)
- Amlodipine (NORVASC)
- CITALOPRAM
- PAROXETINE
- Cholinesterase Inhibitors
- Quetiapine (SEROQUEL)
- FENTANYL
- CITAPRAM
- Nifedipine (ADALAT XL)
- Fluticasone/Salmeterol (ADVAIR 125)
- Fluticasone (FLOVENT HFA)
- APO-OMEPRAZOLE
- COMPOUNDED PR. ELIGIBLE
- Fluticasone/Salmeterol (ADVAIR 250)
- Olanzapine (ZYPREXA)
- Pantoprazole (PANTOLOC)
- Amlodipine (NORVASC)
- CITALOPRAM
- PAROXETINE
- Cholinesterase Inhibitors
- Quetiapine (SEROQUEL)
- FENTANYL
- CITAPRAM
- Nifedipine (ADALAT XL)
- Fluticasone/Salmeterol (ADVAIR 125)
- Fluticasone (FLOVENT HFA)

$125,240
Economics and Resources

On average, 10% of the residents utilize 5% of the total drug resources for one category of medication.

There is wide variation in both the level of use of CIs and compliance with the CI policy.
The policy is not implemented equally

- Across the WRHA,
- By health care staff, or
- Within PCHs
The Human Rights Commission have received a complaint based on:

1. Age (Elderly)
2. Disability (Alzheimer’s Disease)
3. Social condition (resident in PCH)
Presenters

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CADTH

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Questions?