



## **Evaluating Psychiatric Care**

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## **Defining a New Model for the Care of the Mentally Ill**



To my wife Debbie,  
who lost her life to suicide, like  
so many others who struggle  
with mental illness.  
May it not have been in vain.  
----Anthony Stephan

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Providing Support, Advocacy and Research on Behalf of  
the Mentally Ill

(Cover picture – credit The Register-Guard, Paul Carter)

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### Executive Summary...

Mental disorders place a significant burden on families, government, society, and the health care system. Annual increases in the prevalence of mental disorders are staggering. Provincial government insurance and support programs are reeling under the burden. This report reviews government reports and the scientific literature, to demonstrate the following:

- The cost of mental illness to families, society, and government is enormous. In any given year, ***at least one out of every five adults has a diagnosable mental disorder.***
- Neuropsychiatric conditions account for the greatest amount of disability worldwide, ***seven times as much as cardiovascular disease.***

- ***Globally, a million people commit suicide every year. In Canada, there is one suicide every two hours.***
- Psychiatric illness is increasing worldwide. Canadian figures showed a ***36% increase in people seeking treatment for mood disorders*** in 2000 compared to 1995.
- Current medical treatment consists of psychiatric medication, which is far superior to the older methods of institutionalization and confinement. Unfortunately, ***the 5-year relapse rate seems to be well over 50%*** in spite of optimal pharmacological treatment.
- Of great concern is the growing evidence that many psychiatric medications raise the risk of cancer, addiction, and suicide. For instance, a woman taking certain psychiatric medications ***more than doubles her risk of ovarian cancer.*** Indeed, the use of one antidepressant (Paxil) is a ***greater risk factor for cancer than is smoking.***
- There is a new way to conceptualize and treat mental illness, one that does not harm the health of the patients, and which offers true hope for wellness, for the very first time in human history. This novel treatment consists of ***nutritional supplementation***, and it is based on over 80 years of solid scientific knowledge.
- There are hundreds of studies in the scientific literature showing that ***nutrient deficiencies are linked to mental disorders.***
- New research since 2000 has begun to demonstrate that it is possible to ***reverse the symptoms of mental illness with nutritional supplementation.***

## **Onslaught of Mental Illness...**

Depression in the year 2000 was the fastest growing cause of physician visits in Canada, reported Intercontinental Marketing Services (IMS) Health, a group that specializes in collecting and analyzing health care information for the pharmaceutical industry.<sup>1</sup> IMS reported that in the year 2000 doctor visits for mood disorders in Canada had escalated 36% over the previous five years, resulting in over 7.8 million consultations for depression.<sup>1</sup> These consultations did not include other psychiatric problems such as schizophrenia or anxiety disorder. IMS figures also showed a 63% increase over the previous four years in the number of prescriptions filled to treat mood disorders such as depression. Physicians wrote over 3 million prescriptions for Paxil (paroxetine) alone, one of the most commonly prescribed medications for depression. Paxil sales in the year 2000 increased by 19% over the 1999 marketing statistics.<sup>1</sup>

In spite of newer antidepressants coming to market, the number of people suffering from depression continues to increase every year in Canada and throughout the world. A recent monograph on “The Global Burden of Disease” (GBD) provided a comprehensive assessment of worldwide disabilities.<sup>2</sup> Produced by Harvard University and the World Health Organization, this book indicated the immensity of depression. The report summarized health data gathered from nations having “developed” health care systems. Neuropsychiatric conditions accounted for the largest sector of the disabilities evaluated: they were **43.9%**, compared to cardiovascular diseases, for instance, which accounted for only **6.5%**.<sup>2</sup>

In his December 2000 report, the U.S. Surgeon General detailed the U.S. situation with the following statements<sup>3</sup>:

**Adults:** “The surveys estimate that during a 1-year period, about **one in five American adults** — or 44 million people — have diagnosable mental disorders, according to reliable, established criteria. To be more specific, 19% of the adult U.S. population have a mental disorder alone.”<sup>3 4 5</sup>

**Children:** Almost **21% of U.S. children** aged 9 to 17 years had a diagnosable mental disorder or addictive disorder associated with at least minimum impairment.<sup>3 6</sup>

Globally, studies have identified mental illness to be a significant problem for both children and adolescents. The following table provides data from seven countries:<sup>7</sup>

***Table 1: Prevalence of child and adolescent mental disorders, selected studies***

<b>Country</b>	<b>Age (yrs)</b>	<b>Prevalence (%)</b>
Ethiopia <sup>8</sup>	<b>1-15</b>	17.7
Germany <sup>9</sup>	<b>12-15</b>	20.7
India <sup>10</sup>	<b>1-16</b>	12.8
Japan <sup>11</sup>	<b>12-15</b>	15.0
Spain <sup>12</sup>	<b>8,11,15</b>	21.7
Switzerland <sup>13</sup>	<b>1-15</b>	22.5
<b>USA<sup>6</sup></b>	<b>1-15</b>	21.0

The recent publication of the “2001 World Health Report” produced by the World Health Organization (WHO) added that “mental and behavioural disorders are common, affecting more than 25% of all people at some time during their lives”.<sup>7</sup>

In her opening message to the world, the Director General of WHO, Dr. Gro Harlem Brundtland, stated “initial estimates suggest that about 450 million people alive today suffer from mental or neurological disorders... Major depression is now the leading cause of disability globally.”<sup>7</sup>

Surveys conducted in both developed and developing countries have shown that, during their entire lifetime, more than 25% of the population develops one or more mental or behavioural disorders.<sup>14 15 16</sup>

**Summary:**

Worldwide, in both developed and undeveloped nations, the prevalence of mental disorders is increasing. More people suffer from neuropsychiatric conditions (**43.9%**) than from any other type of disability. More than **25%** of individuals develop one or more mental or behavioural disorders in their lifetime. It is evident that mental disorders are a worldwide burden.

**Suicide: The Final Word...**

One of the particularly tragic outcomes of a mood disorder is suicide. Over 90 percent of suicide victims have a significant psychiatric illness at the time of their death. These are often undiagnosed, untreated, or both. Mood disorders and substance abuse are the two most common.<sup>17 18 19 20 21</sup> Around 15-20% of depressed patients end their lives by committing suicide.<sup>7 22</sup>

“Suicide is now a major public health problem. Using an average for 53 countries for which complete data are available, the age-standardized suicide rate for 1996 was 15.1 per 100,000. The rate for males was 24.0 per 100,000 and for females 6.8 per 100,000. The rate of suicide is almost universally higher among men compared to women by an aggregate ratio of 3.5 to 1.”<sup>7</sup>

**Suicide is one of the top three causes of death for young adults aged 15-34 years.** This represents a massive loss to society, as young persons in their productive years of life die prematurely. Data on suicide attempts are available from only a few countries: they

indicate that the number of suicide attempts may be up to 20 times higher than the number of completed suicides.

**Canadian Data:** A total of 3,681 people committed suicide in 1997.<sup>23</sup> Suicide is the fifth leading cause of death in Canada, with approximately **one death every two hours**. According to hospital records for 1998/99, females were hospitalized for attempted suicide at one and a half times the rate of males. About 9% of people who were hospitalized for a suicide attempt had previously been discharged more than once following a suicide attempt in that same year.<sup>24</sup>

**Worldwide data:** “A million people (globally) commit suicide every year.”<sup>7</sup> Standing shoulder to shoulder, they would create a line of people approximately 700 kilometers in length. Between 10 and 20 million people attempt suicide annually.

As **Table 2** demonstrates, suicide is the number three cause of death in the U.S. for males 35-49 years of age. It is more common than diabetes, AIDS, or motor vehicle accidents.

**Table 2**  
***Major Causes of Death\*, Males with Age-Group, U.S., 1998***

Rank	35-49 years	50-64 years
1	<b>Diseases of heart (64.7)</b>	<b>Diseases of heart (322.9)</b>
2	Other injury (unintentional) (28.7)	<b>Lung cancer (123.1)</b>
3	<b>Suicide (23.9)</b>	<b>Stroke (38.5)</b>
4	Motor vehicle accident (21.3)	<b>Chronic obstructive pulmonary disease (34.0)</b>

5	AIDS/HIV (19.5)	<b>Diabetes mellitus (32.9)</b>
6	<b>Chronic liver disease † (14.6)</b>	<b>Colorectal cancer (32.1)</b>
7	<b>Lung cancer (12.4)</b>	<b>Chronic liver disease † (31.4)</b>
8	Homicide (10.8)	Other injury (unintentional) (24.9)
9	<b>Stroke (8.7)</b>	<b>Suicide (21.6)</b>
10	<b>Diabetes mellitus (7.1)</b>	Motor vehicle accident (20.4)

\*All crude death rates are per 100,000 people.

†Includes cirrhosis. Note: **Bolded text** denotes chronic diseases and conditions. Source: Vital Statistics Mortality Data, National Center for Health Statistics, CDC.

### Summary:

According to the World Health Organization **one million people commit suicide every year.** It is a major cause of death worldwide in the 15-34 age groups. Between 10 and 20 million people attempt suicide annually.

### Social and Family Burdens...

Mental and behavioural disorders cause massive disruption in the lives of those who are affected and their families.<sup>7</sup>

“The burden of mental illness on families includes economic difficulties, emotional reactions to the illness, stress of coping with disturbed behavior, disruption of household routine, and the restriction of social activities. The single most important barrier to overcome

in the community is the stigma and associated discrimination towards persons suffering from mental and behavioral disorders.”<sup>25</sup>

Many studies from industrialized countries have estimated the high aggregate economic costs of mental disorders.<sup>26</sup> The annual cost in the United States has been estimated to be 2.5% of the gross national product.<sup>7</sup>

In a recent 14-country study on disability associated with physical and mental conditions, active psychosis was ranked by the general population as the third most disabling condition, higher than paraplegia and blindness.<sup>27</sup>

The economic cost of schizophrenia to society is also high. It has been estimated that the cost of schizophrenia to the United States in 1991 was US\$19 billion in direct expenditure and US\$46 billion in lost productivity.<sup>7</sup>

### *The Bloody Aftermath of Mental Illness*



(AP Photo/The Register-Guard, Paul Carter)

*Student Ryan Atteberry is helped to a waiting ambulance outside Thurston High School in Springfield, Ore., May 21, 1998, after another student suffering with mental illness and who was expelled for bringing a gun to class, opened fire with a semiautomatic rifle in a high school cafeteria, killing at least one person and critically wounding seven others. The student shot and killed his parents the day before.*

**Summary:**

Mental illness disrupts the emotional and financial well-being of families. The burden on federal and provincial health care systems is enormous.

**Current Psychiatric Practice...**

Not until the mid-1950s did psychotropic medication become available to psychiatrists in a sufficient number to have an impact on clinical care. Since then, the number of psychiatric medications has increased with every passing year.

Prior to the advent of these medications, patients were commonly institutionalized, detained, and confined. In some underdeveloped countries these practices still continue. It was recently reported that, "Human Rights Commissions found 'appalling and unacceptable' conditions when they visited several psychiatric hospitals in Central America<sup>28</sup> and India<sup>29</sup> over the last five years. Similar conditions exist in many other psychiatric hospitals in other regions, in both industrialized and developing countries. They include filthy living conditions, leaking roofs, overflowing toilets, eroded floors, and broken doors and windows. Most of the patients visited were kept in pajamas or naked. Some were penned into small areas of residential wards where they were left to sit, pace, or lie on the concrete floor all day. Children were left lying on mats on the floor, some covered with urine and feces. Physical restraint was commonly misused: many patients were observed tied to beds."<sup>30</sup>

Certainly the trend that began in the 1950s toward using psychotropic medications permitted the release of many patients to their families and home environments. This advent of medication treatment was a vast improvement over the conditions previously

provided in most institutional settings. For the first time, psychiatry was able to contribute significantly to the treatment of mental illness, enabling many people to return to productive lives. The treatment focus shifted away from institutionalization and into the home and community.

The new paradigm for providing assistance to the mentally ill consists of community-based services. International legislation and resolutions calling for protection of the rights of the mentally ill have influenced nations to open improved institutions and to move to community-based services.<sup>33</sup>

Yet "de-institutionalization has not been an unqualified success, and community care still faces some operational problems. Among the reasons for the lack of better results are that governments have not allocated resources saved by closing hospitals to community care; professionals have not been adequately prepared to accept their changing roles; and the stigma attached to mental disorders remains strong, resulting in negative public attitudes towards people with mental disorders. In some countries, many people with severe mental disorders are shifted to prisons or become homeless."<sup>31</sup>

Psychiatry in Canada suffers from other limitations, such as a shortage of psychiatrists. This shortage creates long waiting times, and consequently many people seek treatment from walk-in clinics, emergency rooms, and family doctors who do not have specialized training in psychiatry. The future for adequate psychiatric coverage in Canada is not promising for still another reason: the aging population of professionals. As an example, currently the average age of psychiatrists in Alberta is 51. "An aging workforce combined with current understaffing of mental health professionals means it will be difficult to keep pace with needs for mental health programs and

treatment.”<sup>31</sup>

**Summary:**

Environmental conditions for the mentally ill in Canada and generally throughout the world are improving. One reason for this is the introduction of psychotropic medication into psychiatry in the 1950s. Since then, psychiatrists have had an ever-increasing number of medications from which to choose as they have sought to improve the treatment of their patients. Treatment has generally shifted toward community-based services, and past practices of institutionalization and detention are being looked at increasingly as being unacceptable. Global human rights legislation<sup>32</sup> is also assisting with the shift from institutionalization to community-based services.

**Relapse In Spite of Medications...**

Relapsing into a psychotic, depressive or bipolar episode while on medications is a common occurrence that leaves the patient crippled and despairing. Career, family, education etc. are put on hold while the patient works through the episode. Often, medication changes are initiated at this point, sometimes exacerbating the episode while the physicians attempt to bring a state of chemical balance into the patient's life. For the safety of the patient, hospitalization often occurs at this point, creating an even greater burden for the already overtaxed medical system. In spite of the best of medications, this “revolving door” phenomenon occurs all too often.

Gitlin et. al.<sup>34</sup> reported in bipolar patients that despite continual medication maintenance treatment, data “indicated a 5-year risk of relapse into mania or depression of 73%.” Of those who relapsed, two-thirds had multiple relapses. Relapse could not be attributed to

inadequate medication. Even for those who did not relapse, the presence of significant mood symptoms was observed. “Even aggressive pharmacological maintenance treatment does not prevent relatively poor outcome in a significant number of bipolar patients”<sup>33</sup>.

Licht et al. reported significant relapse in 148 patients using only lithium as a mood stabilizer: thirty-two (21.6%) patients were readmitted within two years with a new affective disorder episode.<sup>34</sup>

In another relapse study, 15 patients with bipolar I disorder, who relapsed while on lithium despite positive initial response and adequate compliance, were treated by cognitive-behavioral methods in an open trial.<sup>35</sup> In follow-up ranging from 2-9 years, 5 of the 15 patients (33%) experienced a new affective episode.

A study involving two groups of patients taking either risperidone or haloperidol showed that the risk of relapse of schizophrenia was 34% for the former and 60% for the latter.<sup>36</sup>

**Summary:**

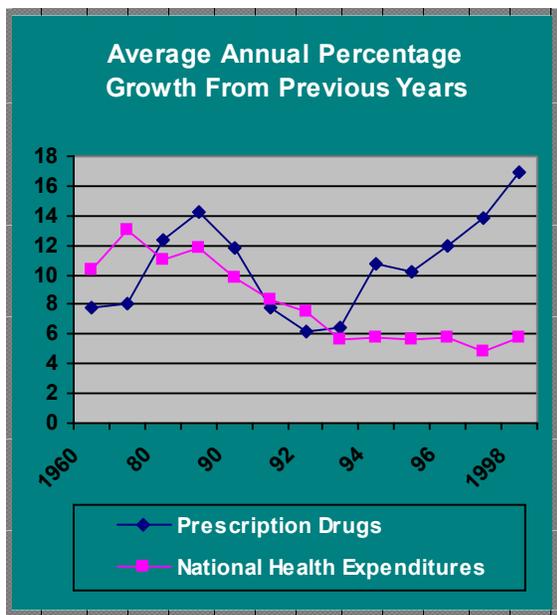
Psychiatric medications have allowed the mentally ill more freedom from institutional settings, yet the risk for relapse is very high for both psychosis and affective disorders.<sup>37 38 39 40</sup>

Many mentally disordered individuals travel a “revolving door”. Their episodes of relapse can be devastating, destroying their hopes for wellness, as well as their careers and family stability.

## **Rising Drug Costs: a Major Threat to Health Programming...**

In North America billions of dollars are spent annually by health insurers and government for medication to assist the mentally ill. These medications have become one of the most expensive components of the mental health care system.

As indicated in the chart below<sup>41</sup> there has been a substantial increase in the cost of prescription drugs compared to overall national health expenditures in the U.S. “By 1997-1998, the annual rate of increase in prescription drug expenditures grew **179%** faster than overall health expenditures, and between 1998 and 1999 by **202%** faster”.<sup>42</sup>



**Chart 1<sup>41</sup> Source: Healthcare Financing Administration U.S. Statistics.**

“The impact of these dramatic increases in drug costs on the elderly was manifested during the 2000 election season. Presidential and Congressional candidates from both parties talked about the plight of the elderly who cannot afford to pay for their medications.”<sup>42</sup> What does this say of the mentally ill, who in

many cases have little or no income?

Recently the Alberta Government released a report on health care entitled “A Framework for Reform” that contained the following salient points<sup>42</sup>:

- One of the themes of the report is that “without changes to the current health program, spending on health care is not sustainable.”
- “Based on current trends, spending on health could take up half of all program spending by 2008”
- “Drug costs are expected to grow substantially over the next decade. Across the country (Canada), drug costs are expected to rise from \$4 billion today to over \$15 billion by 2026/27, almost a fourfold increase”
- “Spending on health has increased by an average of 10% a year since 1996. That’s faster than the growth in our economy”

IMS Health U.S. reported in their March 2001 annual report that psychotropic medication sales increased by 21% over the previous 12 months. Sales of medications relating to treatment of mental illness were second throughout the global market.<sup>43</sup>

Surveys indicate that the use of psychiatric medications is now at an all time high throughout the world. For instance an IMS Canada Report for the Province of B.C. (1997) showed a 66% increase from 1992-1996 in the number of psychiatric prescriptions issued.<sup>44</sup> A recent U.S. study published indicated that the number of 2- 4-year-olds on psychiatric drugs like Ritalin and Prozac soared 50% between 1991 and 1995.<sup>45</sup>

**Summary:**

Drug use for psychiatric disorders is escalating annually. Their cost places an extreme financial burden on governments. The Alberta government has indicated that to continue providing services to the mentally ill, changes must be made to the existing health care program. “Without changes to the current health program, spending on health care is not sustainable.”<sup>44</sup>

**Psychiatric Medications:  
Panacea or Pandora’s Box ...**

As discussed above, the development of modern psychiatric medications was a boon for the treatment of the mentally ill. They were so superior to the previous methods of institutionalization that only recently have people begun to consider the possibility that they may have a downside. In the last two years, however, there have been a number of media stories on the extreme side effects of certain psychiatric medications.<sup>46 47 48 49 50</sup> The FDA has issued numerous warnings on their website<sup>51</sup> to advise consumers and physicians of the dangers that are posed by using some psychotropic medications. Numerous medical journals are publishing studies questioning the efficacy and or safety of some of these medications.<sup>52 53 54 55 56</sup>

The February 13, 2002 edition of the British Society Guardian published an article entitled “Psychiatrists Shift the Mood on Antidepressants.” The Royal College of Psychiatrists, which represents about 10,000 psychiatrists, has taken a more cautious approach, conceding that antidepressants such as Prozac may have only a 50% success rate in treating depression.<sup>57</sup>

**Medications Under Fire**

**General medications:** In 1998 researchers at the University of Toronto reviewed adverse drug reactions (ADRs) in U.S. hospitals.<sup>60</sup> Estimations using 1994 data showed that there were 106,000 fatalities and over 2.1 million serious complications requiring hospitalization due to ADRs. “The study excluded errors in drug administration, noncompliance, overdose, drug abuse, therapeutic failures, and possible ADRs.” These deaths or injuries resulted from properly prescribed medications. The researchers stated “The incidence of serious and fatal ADRs in U.S. hospitals was found to be extremely high.” 106,000 people had fatal ADRs while hospitalized, “making these reactions between the **fourth and sixth leading cause of death.**”<sup>58</sup> Other studies have supported these findings.<sup>59 60 61</sup>

In 1995 Johnson and Bootman published a study in the *Archives of Internal Medicine* in which they stated “drug related morbidity and mortality was estimated to cost \$76.6 billion in the ambulatory setting in the United States. The largest component of this total cost was associated with drug related hospitalizations.”<sup>64</sup>

Based on 1992 figures, these same investigators stated that “the number of admissions that was estimated from the model suggested that 28.8% of all hospital admissions were a result of drug – related morbidity and mortality...Our results indicate that drug – related morbidity and mortality should be considered one of the leading diseases in terms of resources consumed...The estimated number of deaths owing to ADRs (drug related problems) ranged from 79,159 to 198,815 deaths.”<sup>62</sup>

Condition	Source	Cost(\$ billions)
Non-Insulin – Dependent Diabetes (1990)	Wolf et al. 1994 <sup>63</sup>	15.5
Obesity (1990)		45.8
Diabetes (1990)	American Diabetes Assoc. 1993 <sup>64</sup>	45.2
Cardiovascular Disease (1992)	American Heart Association 1993 <sup>65</sup>	117.0
<b>Drug-Related Morbidity and Mortality (1994)</b>	<b>Johnson &amp; Bootman<sup>67</sup></b>	76.6

The Institute of Medicine reported in 1999 that as many as 98,000 people die every year in U.S. hospitals from medical errors, many attributable to the use of medications. The report stimulated a swift response from Congress when the US President ordered congressional hearings into the matter.<sup>66 67</sup>

**Psychiatric medications:**

More than 200,000 Canadian school children take Ritalin (methylphenidate), yet the *Canadian Medical Association Journal* says the clinical trials of this drug have often been biased and poorly constructed.<sup>68 69</sup> The Canadian article reviewed 62 randomized trials that involved a total of 2897 participants with a primary diagnosis of ADHD. The article stated “However, these apparent beneficial effects are tempered by a strong indication of publication bias and the lack of robustness of the findings, especially those involving ADD features. **Methylphenidate also has an adverse event profile that requires consideration**”.<sup>72</sup> In other words, these researchers believed that studies have tended to minimize the negative

side effects of Ritalin.

Brain research carried out at John Hopkins University has shown that methamphetamine is toxic and damaging to both dopamine and serotonin brain neurons. In studies with laboratory rats, methamphetamine fed at 4 mg./day for only 3 days caused nerve fiber degeneration. Brain cells were permanently damaged by methamphetamine.<sup>70 71</sup> Much more research is needed on the possible adverse effects of psychiatric medications on brain cells, especially in developing brains.

**The Most Common Medications**

**Table 4** below shows the top ten most commonly prescribed medications in the U.S.<sup>72</sup> for the year 2000. We will review each one individually.

**Table 4 – Top ten most prescribed psychiatric medications in U.S. in 2000**

#	Brand Name	Generic Name	Medication Type
1	Xanax	Alprazolam	Benzodiazapine
2	Zoloft	Sertraline	SSRI
3	Prozac	Fluoxetine	SSRI
4	Paxil	Paroxetine	SSRI
5	Ativan	Lorazepam	Benzodiazapine
6	Elavil	Amitriptyline	Antidepressant
7	Ambien	Zolpidem	Hypnotic; Sleep Aid
8	Desyrel	Trazodone	Hypnotic
9	Valium	Diazepam	Benzodiazapine
10	Klonopin	Clonazepam	Benzodiazapine

***Benzodiazepines Category of Medications:***

**1. Xanax (alprazolam), 5. Ativan (lorazepam), 9. Valium (diazepam), 10. Klonopin (clonazepam)**

**Benzodiazepine Addiction & Withdrawal:**

In Canada the benzodiazepines are considered to be a controlled medication. The Canadian Compendium of Pharmaceuticals and Specialties (CPS) lists the following side effects for the benzodiazepines:

**“WARNINGS:** Benzodiazepines are not recommended for use in patients with a major depressive disorder or psychosis in which anxiety is not a prominent feature. **PRECAUTIONS:** Benzodiazepines may cause psychologic or physical dependence...Abrupt (or gradual reduction) of benzodiazepines may lead to symptoms such as anxiety, insomnia, irritability, gastrointestinal discomfort, anorexia, diaphoresis, photophobia, or increased sensitivity to noise. More severe symptoms may occur such as confusion, depersonalization, myoclonus, delerium, psychosis, or seizures.”<sup>73</sup>

Health Canada made the following statements in their report entitled “The Effects of Tranquillization: Benzodiazepine Use In Canada”<sup>74</sup>:

- ✓ “The major indication of dependence is the development of withdrawal symptoms, which have been now clearly established at therapeutic dose levels.”<sup>75 76 77 78 79 80 81 82 83</sup>
- ✓ “The high incidence of withdrawal symptoms suggests that a substantial minority of patients taking benzodiazepines chronically are pharmacologically dependent.”<sup>84</sup>
- ✓ “One such carefully controlled study of withdrawal symptoms in patients who had been on *low doses of benzodiazepines* for a

mean of 3.6 years, found between 27 and 45 percent evidencing clear withdrawal symptoms”<sup>85</sup>

- ✓ Babies have been born in an addicted state to mothers using benzodiazepines: “neonates born to drug-dependent women have shown withdrawal symptoms”<sup>77</sup>

Addiction of unborn and newly born children is a major phenomenon. Medication withdrawal syndromes have been observed increasingly in children with mothers using psychotropic medications.<sup>86</sup> Research into babies suffering with Neonatal Withdrawal Syndrome report the following symptoms: continuous high-pitched cry, frantic sucking of fists, tremors, poor sucking response, sweating, and in some cases convulsions.<sup>87</sup>

**Cancer Risk from Benzodiazepine Usage:**

Two studies have reported a positive association between antidepressant and benzodiazepine use and the development of cancer. Harlow and Cramer<sup>88</sup> carried out a case control study of ovarian cancer incidence and obtained an adjusted risk ratio of **2.1**, indicating that use of these medications for more than 1-6 months resulted in more than doubling a woman’s risk of ovarian cancer. Among women who first used these drugs before age 50 years the odds ratio was **3.5**. Among those who used them more than 10 years, the risk increased to **9.7**.

Dalton and colleagues<sup>89</sup> recently conducted a population-based study that followed for 7 years a total of 30,807 adult antidepressant users. They found an increased risk of non-Hodgkin’s lymphoma among subjects who received greater than 5 prescriptions.

**Indiscriminate and Irresponsible Prescribing of Benzodiazepines by Medical Practitioner:**

Treatment guidelines in the U.K. recommend

the use of benzodiazepines for a maximum of 4 weeks. In Canada and the U.S. it is common practice to prescribe these medications for years.

Health Canada guidelines recommend prescribing only for short term use: “continuous use should not exceed two weeks”.<sup>77</sup>

“The costs of continued use of benzodiazepines require careful consideration. The concern with payment must extend beyond the price of prescriptions to the total cost to the health care system. Inappropriate prescribing may well keep individuals visiting physicians...for considerably longer than necessary.”<sup>77</sup> Many studies have supported this position.<sup>90 91 92 93</sup>

#### **Summary:**

Benzodiazepines are medications that can be very dangerous when not used prudently. Research on cancer shows that a patient who has used these medications for over 10 years has 9.7 times the risk of developing cancer as a non-user. Addiction and withdrawal symptoms have been well established in scientific literature. Health Canada has issued warnings about the use of benzodiazepines in excess of two weeks. However, many physicians in North America prescribe benzodiazepines in an indiscriminate manner, as demonstrated by the fact that Xanax is the most frequently prescribed psychotropic medication.

#### ***SSRI Category of Medications:***

**2. Zoloft (sertraline), 3. Prozac (fluoxetine), 4. Paxil (paroxetine)**

#### **Cancer Risks Associated With Paxil Usage:**

The *American Journal of Epidemiology* published a study in 2000 by Cotterchio and colleagues which demonstrated that Paxil presented a **720%** increase in risk of breast cancer in females.<sup>55 94</sup> The Canadian Cancer

Society website indicates that for heavy smokers there is a **400%** increase in risk for cancer. In other words, *Paxil use is a greater risk factor for breast cancer than is smoking.* With over **3,000,000** Canadian prescriptions for Paxil in the year 2000 this is major cause for concern.<sup>95</sup>

#### **SSRI's and Withdrawal Symptoms:**

On February 2, 2002 the British Medical Journal published an article entitled “Withdrawal from paroxetine can be severe, warns FDA”. The article outlined in detail how paroxetine (Paxil) creates dependence and withdrawal in a significant percentage of patients. “This drug has been promoted as safe and easy to discontinue,” said Charles Medawar, head of Social Audit. “The fact that it can cause intolerable withdrawal symptoms of this kind and lead to dependence is enormously important...” Dr. Peter Haddad, consultant psychiatrist for Salfords Mental Health Service NHS Trust, welcomed the FDA's safety warning. He said “Withdrawal side effects from antidepressants are far more common than many people realize.”<sup>96</sup>

The FDA issued a warning about Paxil on December 14, 2001. “During *Paxil* marketing, there have been spontaneous reports of similar adverse events, which may have no causal relationship to the drug, upon the discontinuation of *Paxil* (particularly when abrupt), including the following: dizziness, sensory disturbances (e.g., paresthesias such as electric shock sensations), agitation, anxiety, nausea, and sweating. These events are generally self-limiting. **Similar events have been reported for other selective serotonin reuptake inhibitors.**”<sup>97</sup>

The above FDA statement describes some of the symptoms of protracted withdrawal. In some cases these symptoms can persist for a number of years.

Studies involving other SSRI's including Luvox showed negative results in drug withdrawal.<sup>98</sup> A group of French researchers reported severe withdrawal syndromes in 6 patients prescribed Effexor (venlafaxine).<sup>99</sup>

There have been hundreds of studies published in the medical literature which demonstrate the significant symptoms that are produced when withdrawing from SSRI drug treatment.<sup>100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167</sup>

ABC News reported on May 24, 2001 "up to 85% of patients who take these kinds of drugs (SSRIs) may have some type of symptom when they stop, studies say. According to recent research in the *Journal of Clinical Psychiatry*, as many as 70% of General Practitioners and 30% of psychiatrists do not know about the side effects of ending serotonin boosting drugs. Getting off these drugs properly is an issue that is underappreciated," says Dr. Alexander Bodkin, director of the clinical psychopharmacology research program at Mclean Hospital. **"These drugs are being prescribed without the full knowledge of how they should be monitored."**<sup>168</sup>

As with the benzodiazepines, babies have been born in an addicted or toxic state to mothers using SSRIs.<sup>169 170 171 172 173 174</sup>

### **Akathisia from SSRIs:**

Akathisia is a medication-induced disorder consisting of extreme restlessness, irritability and agitation. It is often associated with the withdrawal symptoms of insomnia, headaches, nervousness, anxiety, anorexia, tremors, weight loss, nausea, diarrhea and can be coupled with **suicidal ideation, homicidal thoughts and or acts.**

The number of people using psychotropic medication who suffer with akathisia is significant. A study on Prozac reported in the *Journal of Clinical Psychiatry* estimated that the number of Prozac users who experience akathisia is between 10 and 25%.<sup>175</sup> There are numerous studies relating psychotropic medication-induced akathisia with suicidal, homicidal, and violent behavior.<sup>176 177 178 179 180</sup> As reported in a two-year study, akathisia may create an inability to control impulses.<sup>181</sup>

### **SSRIs and suicide:**

Other researchers found that patients suffering Prozac-induced akathisia became preoccupied with thoughts of suicide.<sup>182</sup> Symptoms of agitation, panic, anxiety, mania and akathisia can prompt suicidal or violent acts.<sup>183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200</sup>

(Note: Akathisia and associated extreme acts of violence have been reported with other categories of psychiatric medication. For instance, Haldol-induced akathisia was reported in three patients who attacked other people or committed murder.<sup>201</sup>)

There have been a number of lawsuits involving medication and akathisia. The following is an Associated Press release:

**CHEYENNE, Wyo.** (AP) June 6, 2001: *"The manufacturer of the nation's second-best-selling anti-depressant must pay \$8 million to the relatives of a man who killed himself and three others after taking the drug Paxil, jurors said.*

*Jurors in U.S. District Court considering the wrongful death civil suit returned a verdict against SmithKline Beecham today. They received the case Tuesday afternoon. Relatives of Donald Schell, 60, claim the man, originally from Gillette, Wyo., took two Paxil tablets before shooting his wife, their daughter, his granddaughter and himself to death on Feb. 13, 1998."*

Research published in the *American Journal of Psychiatry* supports the possibility that SSRI medications may induce suicidal ideation in some patients. The study, by Teicher and colleagues at Harvard Medical School, reported on six patients who were depressed but *not* suicidal before they started taking SSRI medication. Within a few weeks of taking the drug, the patients experienced “intense, violent suicidal preoccupation”.<sup>202</sup>

Another important study involving children and adolescents and the use of Prozac demonstrated self destructive phenomena created by akathisia.<sup>203</sup>

### **Psychiatric medications in other categories:**

#### **6. amitriptyline (Elavil)**

Amitriptyline is a tricyclic antidepressant with many side effects, as demonstrated by the following:

“Depressed patients, particularly those with known manic-depressive illness, may experience a shift to mania or hypomania. Schizophrenic patients may develop increased symptoms of psychosis; patients with paranoid symptomatology may have an exaggeration of such symptoms. Tricyclic antidepressant drugs, including amitriptyline HCl, particularly when given in high doses, have been reported to produce arrhythmias, sinus tachycardia, and prolongation of the conduction time. Myocardial infarction and stroke have been reported with drugs of this class. After prolonged administration, abrupt cessation of treatment may produce nausea, headache, and malaise. Gradual dosage reduction has been reported to produce, within two weeks, transient symptoms including irritability, restlessness, and dream and sleep disturbance.”<sup>204</sup>

In a recently published study on “The effects of tricyclic antidepressants on breast cancer risk” published in the *British Journal of Cancer*, a number of the tricyclics were implicated in raising the risk of breast cancer. Amitriptyline

was an exception, and was not shown to increase cancer risk rate.<sup>57</sup>

A number of studies have shown that tricyclic medications have induced manic episodes in patients suffering with various mental disorders.<sup>205 206 207 208</sup>

#### **7. Ambien (zolpidem)**

Ambien is commonly used as a sleep aid. Like the other top ten medications, it has a number of negative side effects. The following adverse events included in DSM-III-R criteria for uncomplicated sedative/hypnotic withdrawal were reported during U.S. clinical trials following placebo substitution occurring within 48 hours following last zolpidem treatment: fatigue, nausea, flushing, lightheadedness, uncontrolled crying, emesis, stomach cramps, panic attack, nervousness, and abdominal discomfort.<sup>209</sup> There have been adverse events reported such as delirium, nightmares and or mania being induced in patients using zolpidem.<sup>210 211 212</sup> Research is also showing that zolpidem may create dependence in some patients.<sup>213 214 215 216</sup>

#### **8. Desyrel (trazadone)**

Trazadone is also used as a common sleep aid. Research has shown some negative events associated with its use.<sup>217 218 219 220</sup>

#### **Summary:**

Hundreds of studies suggest that further research is needed on the safety of psychiatric medications. ADRs are a major cause of illness and death. **The top ten most prescribed psychotropic medications exhibit serious and dangerous side effects.** Addiction and withdrawal have become huge problems for many patients using psychotropic medications. The efficacy of these medications is also being questioned by many psychiatrists and especially by the patients using them.

### **Defining a New Model For The Care of The Mentally Ill...**

There is a new paradigm developing for the treatment of mental illness. Many studies in the past 80 years have shown therapeutic benefit from taking nutrients to control the symptoms of mental illness. Many people in the public are already aware of this: in February 2001, *the American Journal of Psychiatry* published a survey showing that 65.9 % of people with anxiety and 66.7% of those suffering with severe depression used alternative therapies and reported finding “helpfulness” in treating their disorder.<sup>221</sup>

There are hundreds of studies in the scientific literature showing that nutrient deficiencies are linked to mental disorders, and demonstrating significant reversal of symptoms with supplementation.<sup>222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239</sup>

Conventional small talk about the need for dietary supplements often brings forth the statement that our foods contain all the nutrients we require when we eat a varied diet. Though this may have been the case in the past, science will no longer support such a claim. According to USDA recommended Dietary Guidelines for Americans, only 25% of the overall population met the recommended calcium intake in 1994-96 and only 6% of female adults over 60 met the recommended intake of calcium. Only 59% of the US population<sup>240</sup> met the recommended daily iron intake for the same period.

In the Bogalusa Heart Study, 504 young people (aged 19-28 years) provided 24-hour dietary recalls for the investigators.<sup>241</sup> Six vitamins (A, B6, E, D, C, folacin) and four minerals (calcium, magnesium, iron, zinc) were consumed at levels below the Recommended Daily Allowance (RDA). The RDA is only the minimum needed to prevent a frank deficiency

syndrome such as beri beri; hence, these young people were seriously deficient in many major nutrients.

If one examines the complex metabolic pathways involved in simple amino acid metabolism in the brain and body, it is clear that a deficiency of even a single element has the potential to wreak havoc with the complex central nervous system. Each of the hundreds of enzymes involved in these complex pathways requires one or more of the essential dietary elements, which, as shown above, may be lacking in our diets.

Every central nervous system disorder has been correlated with the levels of various essential nutrients in tissues of those who suffer from the disorder. Such studies show significantly lower levels of these elements as compared to a normal control population. Use of several such elements to mitigate the effects of central nervous system disorders is well documented in the literature. In modern time, studies of this nature, dating back to as early as 1929, report several successful trials using the element manganese alone to alleviate some of the symptoms of schizophrenia. This literature is best summarized in Werbach’s book “Nutritional Influences on Mental Illness” – a sourcebook of clinical research.<sup>242</sup> He includes over 450 pages of references from hundreds of review articles, case reports, observational studies and various types of randomized controlled trials demonstrating efficacy with numerous elements which have shown significant mitigating effects on symptoms of virtually every central nervous system disorder.

The postulate that mental illness could be caused by something as simple as nutrient deficiency does not seem so outlandish after examining the evidence. In fact, such a theory could explain many variables seen in mental illness. For instance, if mental illness is the result of nutrient deficiency, then one would

expect to see a higher rate of mental illness in those who experience gastrointestinal absorption problems related to bowel dysfunction. The association between mental illness and bowel dysfunction is supported by several studies. As recently noted,<sup>243</sup> “recent studies of treatment-seeking patients have indicated that the majority of individuals (50% to 90%) who seek treatment for IBS have a lifetime history or currently have one or more common psychiatric conditions...Traditional clinical wisdom is that the presence of a psychiatric disorder increases the likelihood that an IBS patient will seek treatment. However, recent data suggest that IBS and psychiatric disorders are associated regardless of treatment-seeking status.” Other studies have confirmed this high overlap, which may range from 60-94%.<sup>244 245 246</sup>

Postpartum-initiated mental illness and premenstrual syndrome could also be explained by the depletion of nutrients during these conditions. In fact, many situations that create a drain on the body's mineral reserves seem to serve as a trigger point for mental illness. These would include accidents, surgery, situational stress, and many other forms of trauma.

One aspect of the literature that appears to have been overlooked (possibly due to the scientific procedure of investigating only one variable at a time) is the likelihood that many identifiable single-element deficiencies may be combining into multiple deficiencies accompanied by more complex symptomatology. Such multiple-deficiencies would respond only to a broad-spectrum nutritional supplement that addressed many deficiencies that could play a role in symptoms. Thus one would both predict and expect the significant positive response seen in a broad range of psychiatric symptoms upon supplementing with the very complex, highly bio-available, well-balanced supplement we call E.M.Power+.

### **Relationships Between Nutrient Deficiencies and Mental Disorders:**

The late Linus Pauling of the Linus Pauling Heart Institute, and winner of two Nobel prizes (one in medicine), said “you can trace every sickness, every disease, and every ailment to a mineral deficiency”. Over 40% of the U.S. population takes vitamin–mineral supplement in the hopes of finding some health benefit.<sup>247</sup>

Much research has been completed demonstrating the importance of vitamins and minerals in brain function. There are also a surprising number of studies demonstrating that individuals suffering with the mental disorders demonstrate significantly lower levels of micro and macro elements in hair, plasma, cell, urine and tissue analysis. The following are a few examples:

**ADHD** – The magnesium, zinc, copper, iron and calcium level of plasma, erythrocytes, urine and hair in 50 children aged 4 to 13 years with hyperactivity, were examined by atomic absorption spectrometry. The average concentration of all trace elements was lower when compared with the control group.<sup>248</sup>

**Schizophrenia** – 23 trace elements were determined in hair with the method of Inductively Coupled Plasma Quantometer in 85 cases of schizophrenics and 65 cases of normal controls. As a whole, 17 trace elements were decreased in schizophrenics compared to the normal controls (significant at  $p < 0.01$ ).<sup>249</sup>

**Affective Disorders** – The concentrations of a number of elements were determined in the plasma and erythrocytes of 21 Nigerians (11 females, 10 males) with symptomatic affective disorders (11 depressives, 10 manics) and in 40 normal controls using proton – induced X-ray emission (PIXE) analysis. The plasma and erythrocyte copper, and erythrocyte phosphorous, calcium, iron, and zinc were

significantly lower in the patients compared to the controls.<sup>250</sup>

**Clinical Depression** – Serum levels of zinc in 48 unipolar depressed subjects (16 minor, 14 simple major and 18 melancholic subjects) were compared to 32 normal volunteers. Serum zinc levels were significantly lower in subjects with major depression.<sup>251</sup>

**Autism** – “The concentrations of 14 elements were determined in scalp hair samples from hair samples from control, autistic and autistic – like children. Significant differences were noted between normal males and females for calcium, magnesium and mercury. The autistic population had significantly lower levels of calcium, magnesium, copper, manganese and chromium...”<sup>252</sup>

**Anorexia Nervosa** – Zinc status was evaluated in 62 patients with bulimia and 24 patients with anorexia nervosa. Forty percent of patients with bulimia and 54% of those with anorexia nervosa had biochemical evidence of zinc deficiency.<sup>253</sup>

**Dementia** - A significant decrease in both calcium and phosphorous in the cerebral spinal fluid was observed in Alzheimer’s type dementia ( $p < 0.01$ ) and multi-infarct dementia cases ( $p < 0.01$ ). The geriatric controls also showed a significant decrease in both calcium and phosphorous. A 60% decrease in diffusible calcium was noted both in patients and geriatric controls when compared to adult controls ( $p < 0.05$ ). The significant decrease in calcium and phosphorous in both groups of patients compared with age-matched controls suggests that lowering of calcium and phosphorous is not due solely to the aging process, but indicates a role for nutrition in the pathology of age-related disorders.<sup>254</sup>

### **University Research Using the Nutrient Supplement E.M.Power+:**

Academic research on E.M.Power+ was first presented at the October 2000 annual meeting of the Canadian Psychiatry Association. Subsequently, the data presented there were published by Kaplan from the University of Calgary and her colleagues in the December 2001 issue of the *Journal of Clinical Psychiatry*.<sup>255</sup> This open-label case series showed significant clinical benefit in a group of adults with bipolar disorder who were treated with E.M.Power+. Symptom reduction exceeded 50%, and the need for psychiatric medications decreased by more than 50%. As stated in the article, “In some cases, the supplement replaced psychotropic medications and the patients remained well.”

This first publication on the supplement was accompanied by a commentary from Popper of Harvard Medical School and Mclean Hospital.<sup>256</sup> Popper, a psychiatrist and psychopharmacologist, reported on the progress of 22 of his own patients who were placed on E.M.Power+. He found that 19 out of 22 showed a positive response. In fact, of 15 patients who took psychotropic medications when they began taking the supplement, 11 were stable for up to nine months without drugs at the time of publication.

The magnitude of the benefit reported by Kaplan’s group and by Popper is unusual in the world of psychiatry. “What if some psychiatric patients could be treated with inexpensive vitamins and minerals rather than expensive patented pharmaceuticals?”<sup>249</sup> questioned Popper. His statement that “the economic implications for ...patients and for the pharmaceutical industry, are difficult to overlook” needs great investigation.

### **Side Effects**

Those working with E.M.Power+ generally report few side effects. According to the study

side effects were few. “The only reported side effect (i.e., nausea) was infrequent, minor, and transitory.”<sup>245</sup>

### **Safety and Efficacy**

Because E.M.Power+ consists only of common nutrients, safety is of little concern.<sup>257</sup> These nutrients have been used for hundreds of years and are common dietary supplements.

### **Taking Ownership Of the Disorder**

The great majority of patients suffering with mental disorders can be supported in the home environment with family members. Who knows how to care for their loved ones better? Families can use E.M.Power+ with their loved ones, resulting in a significant cost saving to government insurers. The primary principle of the program is to provide an efficacious program that **teaches the family and the patient to take ownership of their disorder.**

Currently there are over **3,000** participants taking E.M.Power+, many for bipolar disorder. For mood disorders in general, the success rate appears to be over 80%. Many of the participants have been able to return to their careers, education, and -- most gratifying -- to their family relationships.

### **Summary:**

Many studies of nutritional supplementation are showing positive effects in restoring health to the mentally ill. Nutrients are not toxic when used appropriately, and do not have the same damaging and dangerous side effects that medications do. Research is showing that not only are nutrients safer to use, but also they are more efficacious. The philosophy behind E.M.Power+ is that the mentally ill and their families take ownership of the disorder; this philosophy is certainly in line with governmental policy directed toward having patients take more responsibility for their health condition. This approach to mental illness will reduce the financial burden of the health care system.

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