

HEALTH PROMOTION AND AGING
"MENTAL HEALTH"

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Introduction: The emphasis in this paper is on the direction that health promotion efforts might take to enhance the mental health of the elderly by building on the established effectiveness of primary, secondary and tertiary health care interventions. This approach accepts that health promotion strategies should invoke the capacity of elderly persons to take responsibility for their health style and care decisions and should thus make available the requisite information and a social and service environment which allows a proper role in such decisions; and that individuals at high risk for mental health problems should be targeted for special efforts in health promotion as well as screening, risk appraisal and early intervention programs.

Partly because of space limitations, this paper does not do justice to the complexity and activity of developments in this field. A supplement will be available to address two substantial limitations in the coverage of this review:

1. The set of conditions which are discussed here are not intended to be exhaustive: The specific mental health conditions chosen to illustrate the discussion are in the realm of dementia, delirium, schizophrenia, depression, and anxiety. Taken together, these conditions constitute the great majority of severe mental health problems among the elderly (alcoholism is omitted because it is covered in another background paper). Notably missing are problems which lie in the range between severe conditions and normal states: Low morale, grief reactions, loneliness, diminished self-esteem, age related slowing of intellectual processes, loss of creativity and productivity, reduced social engagement and activities, lack of friendly relationships, changes in sexual performance with aging, and the like. These are not less important or less accessible to preventive interventions than the more severe conditions which are discussed, although arguably, their consequences appear to be less devastating and the urgency of the need for interventions less pressing.

2. The types of interventions which are described are not restricted to classical health promotion techniques: Biomedical treatments are covered on the grounds that these are main reference points in the content of health education, in decisions on mental health care that the elderly are called upon to make, in restructuring of social environments to foster autonomy and self-care, in the purposes of screening and in selecting modes of early intervention. However, some widely used interventions do not receive the space they deserve in this review: Such as stress

management including relaxation exercises, autogenic training, biofeedback, assertiveness training and self-hypnosis; bereavement counselling, easing relocation stress, resocialisation, memory training, cognitive-behavioral methods of redressing self-defeating ways of responding to perceived experiences, and skills training in coping with problems; and methods of empowering the elderly through involvement in service to others, advocacy groups, resident's councils and the like. The central reasons for the omission of discussion on these and many other interventions are lack of space and (in some instances) their uncertain relevance to the severe mental conditions that serve as the focus of the paper.

Severe mental health problems: Interventions aimed at promoting the mental health of the elderly should be built on an understanding of certain characteristics of severe mental health problems among the elderly:

I. The effects of age on mental health and its treatment; as an indication of what knowledge can be transferred from experience with younger persons and what is unique to old age. II. The frequencies of specific conditions and the sites at which they may be found; to show the size and distribution of the public health problem. III. The consequences of specific conditions in terms of the distress, disability and danger to the patient, and disturbance to others; as a gauge of the urgency of the need for health promotion and preventive intervention. IV. The etiology of mental health conditions; as a guide to the potential for health promotion and preventive intervention. V. The ways in which problems are amenable to prevention; with respect to the onset, relapse or consequences of disease. VI. The barriers to seizing the opportunities that may arise for intervention; and the strategies and needed resources for enhancing the chances of successful intervention.

I. The effects of age on mental health and its treatment.

There are three broad groups of elderly patients with mental health problems: 1. Those who developed their problem during adult life and have since grown old. 2. Those who have a problem which more commonly presents in adult life but in this instance is of late onset. 3. Those whose problem typically presents in old age.

The fact that the person is chronologically elderly reveals very little about the circumstances surrounding a mental health problem because the elderly are a differentiated group. Only in some elderly do mental health problems acquire a distinctive 'geriatric character'; that is show the effects of age:

1. On the clinical presentation: The picture of mental illness in old age is largely similar to that in younger patients; the specific conditions should therefore be readily recognizable by professionals familiar with adult psychiatry. Exceptions to this rule are of significance to health promotion in that potentially

treatable conditions may be overlooked: for example, depression in the elderly is often overshadowed by complaints of somatic symptoms, or masked by ambiguous descriptions of distress such as complaints of emptiness, anxiety or unease. Subjective reports or objective signs of memory impairment dominate the clinical picture in about 10% of severe depressions; phobic anxiety is often disguised as disability.

2. On outcomes: There is a tendency to underestimate the potentially good spontaneous and treated outcomes that can be obtained with most mental conditions occurring in old age; even relative to the outcomes in younger patients. For example, schizophrenic-like states which begin in old age (paranoias or paraphrenias) even if untreated are less likely to show progressive emotional deterioration, inability to express thoughts coherently, or loss of initiative than is typical for younger schizophrenics (Kay 1963). The symptoms of adult onset schizophrenia become less troublesome to the patient and others if the patient survives to old age. However, some aspects of mental illness become more severe with age; suicidal efforts are more determined, delusional depression is frequently a serious problem (Meyers and Greenberg 1986).

Paranoia tends to respond well to pharmacological treatment if the compliance of the patient is maintained (Post 1984b); the proportions of elderly with depressions who return to normal and symptom free function after treatment are not substantially less than in younger patients (Georgotas et al 1985; Godber et al 1987). While it is true that the prognosis for the primary dementias is generally guarded at the present, a small but important proportion of suspected cases turn out to be treatable and reversible conditions.

The successfulness of intervention in the elderly may sometimes be obscured and overlooked because of the complexity of adequate treatment and the care required in its administration. Compared with younger cases, depressions in the elderly maybe somewhat more difficult to treat because of physical complications which frequently accompany it and the age associated adjustments required in medication regimes.

3. On pharmacological treatment: Pharmacological interventions for elderly patients are given in a context of greater complexity than for younger patients. The elderly patient frequently has multiple conditions and correspondingly is often found to be on four, five or more medications; probably from more than one prescriber and several other sources such as over-the-counter and stocks of hoarded medications. There are age related alterations in metabolism, protein binding, distribution, and sensitivity to and excretion of psychotropic medications which demand greater care and special experience with administration of medications. The elderly are particularly vulnerable to anticholinergic side effects of psychotropics and to medication induced delirium. With certain medications (e.g. tertiary tricyclic antidepressants) it takes longer than in younger patients to achieve a steady state of the blood levels of the parent medication and its active metabolites, and smaller daily doses are needed to obtain therapeutic blood levels. It is not surprising that there is a higher risk of

drug interactions and side-effects in the elderly: toxic or interactive side effects are relatively common.

Accordingly, dosage and administration of psychotropic medications must be adjusted to allow for age related changes. Usual practice is to start low and increase dosage slowly but the clinician must avoid falling over backwards through giving overly cautious treatment. Although there are a few studies suggesting that moderate dosages may be effective, a high rate of therapeutic success will depend upon a willingness to pursue treatment with intensity and duration where necessary; the cooperation of the patient (and in many cases the family or other caregiver) is crucial to the success of such treatment.

4. On service patterns: The elderly may be reluctant to bring their incipient mental health problems to sites offering expert treatment (for example, community mental health centers). To address rather than overwhelm these resistances, the services need to reconsider their own organization, attitudes, procedures and location as well as channels for better informing the elderly about the resources and benefits which are being offered.

Since many elderly patients with mental health problems have multiple conditions which cut across disciplinary boundaries, their use of services differs from that in younger patients. Mental health problems are likely to present in medical and social service settings: psychiatrists may have to expand their skills to include primary medical care and conversely, primary care physicians may have to acquire psychiatric skills; bridges between social and medical settings are vital.

The elderly patient will on average require the spending of considerable time for screening, comprehensive or multidisciplinary evaluation of their problems, the eliciting of appropriate community resources, and the arranging of referrals as necessary. Coordination of services (case management) becomes important in order that the patient does not become lost or receive redundant and possibly deleteriously interacting treatments.

5. On the base rates of specific psychiatric disorders. Preventive services to the elderly must be matched to the age specific probabilities of specific mental health problems. The dementias and deliria become much more common with advancing age while schizophrenic syndromes decrease. The rates of depression remain considerable in clinical populations but despite stereotypes about the adversities of old age there is not an excessively high rate of major depression and nor other types of depression (Robins et al. 1984) among the general elderly population; it is clear that it is not normal for the elderly to be depressed and the goals of health promotion should take this into account.

6. On the person's support system. Most elderly are women, traditionally the heaviest users of mental health services at all ages. Very old women are likely to be widowed; they can be difficult to reach with health promotion information or to draw into treatment and maintain in the community, especially if there is no family to act as a line of communication or to replace the

care and attention formerly given by the spouse. However, about two thirds of the elderly live with someone else in the household and around 80% have a family member or friend who is willing to help look after them. Thus there is usually an opportunity for health promotion efforts to draw upon the assistance of the informal support network. Nevertheless, there is a call for extraordinary determination on the part of health promotion and prevention services to reach the needy segment of the elderly who are truly isolated.

Comment: Age induced alterations in mental health and its treatment are sometimes for the better, not always for the worse; either way they require new understanding of the biological, psychological and social processes of aging in order to adequately plan for health promotion and preventive interventions.

Some older patients are like younger patients and some are different; it is these latter who require special geriatric approaches. The principles of geriatric interventions to improve mental health are modifications of those governing adult mental health strategies. Mental health professionals who are interested in reaching the elderly must master an additional knowledge base and set of skills, and expand the organization of their referral network for health promotion, screening, consultation, community services and relocation; and will need a deep interest in, and empathy with, the problems of the aged.

There is no justification for setting the goals of treatment at a lower level for the elderly than for younger patients; either because of a presumed lesser ability to respond to treatment or the even more dubious grounds that they have a briefer life expectancy or less need to be optimally functional.

II. The frequencies of specific conditions and the sites at which they may be found.

DEMENTIAS AND DELIRIA: The dementias are a set of typically chronic syndromes in which the most striking features involve deterioration of memory, orientation, general intellectual and specific cognitive capacities and social functioning; occurring in clear consciousness and arising usually after intellectual maturity has been reached.

Among dementias in the general elderly population about 60% or more are Alzheimer's disease type, 10% or less are a relatively pure multi-infarct (or other cerebro-vascular) type and 15% a mixture of the last two; the remaining 15% are secondary to neurological diseases such as Huntington's Chorea or Parkinsonism, or a so-called reversible secondary dementia arising from such causes as intracranial lesions, normal pressure hydrocephalus, a systemic condition or depression.

Persons with primary or secondary dementia who reside in the community constitute about 5% of the elderly (i.e. 65 years and over) population; persons with these dementias who reside in long

stay institutions are a further 2 1/2% of the elderly population (although they constitute up to 50% of the long stay residents) (Gurland and Cross 1982). Therefore, most dementias live outside institutions.

Rates of dementia rise steeply with age and reach 20% over age 80. Incidence varies from less than 1% annually at age 70 to around 4% at age 85. The lifetime risk of dementia is around 1 in 3 for males who survive to 85 years. Women are probably not more prone to develop dementia but many more of them survive to extreme old age where the risk is highest.

The dementias must be distinguished from the deliria (acute confusional states), which share some of the main symptoms of dementia but are relatively acute in onset and course, and show a clouded or hyperaroused alteration of consciousness. Deliria typically result from systemic disorders arising outside the cranium.

Deliria are frequent in medical settings, especially where the prevailing physical illnesses are acute and severe; some level of cognitive impairment (not necessarily meeting criteria for delirium) has been reported in as much as 25% or more of elderly patients in such settings (McCartney and Palmateer 1985).

SCHIZOPHRENIA: Symptoms of schizophrenia occur in old age in two main contexts: 1. As a result of the aging of schizophrenics whose condition began prior to old age. 2. As part of a late onset primary psychiatric disorder known as late-life paraphrenia in European psychiatry and as paranoia in DSM-III.

Up to half the long stay patients in large psychiatric centers are elderly (Goodman and Siegel, 1986) and about half of these are schizophrenics of earlier onset who have grown old; many of these aged schizophrenics are placed in nursing homes, especially if chronic medical problems have supervened.

Paranoia is chronic but not progressive, has a predominance of paranoid delusions and often hallucinations and leads to surprisingly little impairment of affect, volition or intellect. Among psychiatric first admissions with symptoms of schizophrenia, 10% or more begin after middle age (Rabins 1984, Volavka and Cancro 1986). Paranoia is found in about 10% of psychiatric first admissions after the age of 60; in upwards of 3% of elderly nursing home residents and less than 2% of the community residing elderly population. Paranoia is predominantly a disorder of women, partly because this gender is the majority group in the elderly population but also because of a much higher risk for this disorder in elderly women than in elderly men; in contrast to the gender risk for adult schizophrenia.

DEPRESSION: The cluster of depressions of all types, major depression, dysthymia, cyclothymic disorder and atypical depression but including also dysphorias considered to be of clinical interest, is in the region of 13% of the general elderly population; with major depressions accounting for 1-2%. In inpatient settings the depressions of all types usually constitute

about half the admissions, with major depressions the predominant type. Depressions of clinical interest are also frequent in out-patient psychiatry and in primary medical care; in the latter site the major depressions are a minority of cases (Sireling et al. 1985) while masked and atypical depressions are common.

ANXIETY: It is perfectly reasonable to expect that the elderly would suffer high rates of anxiety given the frequency with which their life situations appear precarious. Nevertheless, the prevalence of anxiety disorders in the general population is around 10% of elderly women with the majority of these being phobias, especially agoraphobias (Turnbull and Turnbull 1985); prevalence in males is around half that in females. Anxiety disorders in the elderly are seen more frequently in primary care practice than in psychiatric settings; reflecting the observation that sedatives and hypnotics are widely dispensed by primary care physicians.

III. The consequences of specific conditions in terms of the distress, disability and danger to the patient, and disturbance to others.

DEMENTIA AND DELIRIUM: The primary dementias are invariably disabling as the disorder involves first the higher order tasks such as work, handling finances, finding the way in public places, shopping or doing household chores; at a later stage, the simple self care tasks such as bathing, dressing, use of toilet, mobility, continence and feeding. Dependence on others for assistance and supervision increases over time. Parietal dysfunction (difficulties in naming or understanding the use of common objects) obtrudes as the disease advances and, in the closing stages, seizures, spasticity, profound weight loss, intercurrent infections and coma. Life expectancy is considerably shortened by dementia unless assiduous nursing and medical care keep the complications (e.g. undernutrition, aspiration of food, infections and other overlooked medical illness, contractures, bedsores, overmedication, and falls) under control.

Disturbing behaviors are very frequent: Aggression, nocturnal restlessness, wandering, and incontinence are particularly disruptive and add to the heavy demands on the caregiver's time and energy. The family may be devastated also by a profound erosion of the patient's personality, a dropping of standards of decency and a patient's apparent indifference to the caregiving. Family members are more often depressed than is the patient (Gurland and Birkett 1983).

The consequences of deliria depend on whether the condition is recognized and the underlying cause promptly identified and appropriately treated. If so, the delirious consequences are usually limited and transient; if not, the mortality rate is high, and avoidable morbidity may arise as a result of the patient's confusion (e.g. falls and fractures).

SCHIZOPHRENIA: The majority of adult onset schizophrenics achieve old age. About one third of the survivors to old age have

recovered virtually completely but the remainder are left with impaired functioning; including around a third of the whole cohort who have chronic or relapsing symptoms (Ciompi 1985). With age and the passage of time the person tends to become quieter and easier to supervise or live with. Nevertheless, although patients may have few troublesome symptoms, poor social functioning or supports may make living in the community or discharge from hospital difficult; the promotion of health among this dependent population can be facilitated by access to enriched alternative environments in the community such as group homes.

The onset of paranoia is usually fairly slow. The person is preoccupied by experiences of harassment, assault, and intrusion of privacy; and eventually responds to the psychotic phenomena with vigor, making persistent complaints to authorities, striking back at neighbors because of imagined grievances, trying desperately to escape through flight or suicidal actions, or entering a state of withdrawn siege. Emaciation, shouting at hallucinations, pacing and moving furniture around an apartment, furtive nocturnal sorties and eccentric appearance may arouse the concern of others; leading to hospitalization or eviction which swells the ranks of the homeless.

DEPRESSION: The distress of a depressive disorder is worse by an order of magnitude than that of normal depression. Other mood changes that accompany depression, such as irritability, apathy and loss of interest in social roles may damage the interpersonal and supportive relationships which are vital to the patient's tenure in the community. The consequential costs are not only to be measured in human terms; there are also expenditures due to increased and inappropriate use of physicians services.

A prolonged episode of depression can lead to undernourishment, dehydration, inactivity and self neglect; with serious undermining of the patient's physical health. Mortality rates are increased by depression in excess of that explainable by suicide and declines in health behaviors; one possible mechanism being an alteration of immune mechanisms.

There are exceptionally high rates of suicide among elderly white males. This is a generational (cohort) phenomenon and not due to aging, (Gurland and Cross 1982); future groups of elderly white males will probably have lower rates as do current cohorts of females, and non whites. Nevertheless, the elderly tend to be deadly serious in their suicidal actions (their first attempt is likely to be their last). Behaviors which are potentially harmful to the self (eg. non compliance with medical regimes, failing to report warning symptoms of illness, neglect of diet, fighting, or falling) may sometimes be analagous to suicide attempts. These behaviors are seen quite often among the elderly in nursing homes and call for a search for an underlying depression.

ANXIETY: Anxiety disorder has both an emotional component (e.g. fear, tension, dread, irritability and worried apprehension), a behavioral component (e.g. distractibility, complaints and reassurance seeking), and, especially in the elderly a somatic component. The somatic symptoms of anxiety are both subjective (e.g.

feelings of respiratory restriction, palpitations, feeling shaky, dizziness and headache or chest pains) and objective (e.g. sighing and rapid breathing, trembling, diarrhea, vomiting, coughing, rapid pulse, and sweating). These symptoms are not only distressing but also can be disabling and exhausting. Self medication or inappropriate prescribing for relief of symptoms can lead to drug dependence and other serious side effects. Unnecessary and even harmful hospitalization may be precipitated by the presentation of the anxiety symptoms in the guise of an acute medical (e.g. cardiac) crisis.

IV. The etiology of mental health conditions.

DEMENTIA AND DELIRIUM: In Alzheimer's Disease the frequency of microscopically visible senile plaques around nerve terminals and neurofibrillary tangles inside neurones in the cerebral cortex (parietal, temporal and occipital regions especially) and hippocampal region of the limbic system, is increased beyond age norms (Blessed et al. 1968, Katzman et al 1983); dendritic processes and spines waste away. There is still uncertainty as to whether these neuropathological changes are the cause or result of brain dysfunction, and whether they are reversible up to a point.

The locus coeruleus and Nucleus Basalis of Meynert are particularly affected by Alzheimer changes, and through their projections, large areas of the cerebral cortex. There is degeneration of cholinergic neurotransmitter pathways essential to memory processes; choline acetyl transferase is decreased and the production of the neurotransmitter acetylcholine is presumably reduced. The muscarinic receptors situated after the neural juncture (post-synaptic) are not affected. There are other relevant structural and neurotransmitter changes but this basic model provides a rationale for the efforts to develop treatments which would enhance acetylcholine neural transmission in dementia through use of precursors (e.g. choline), extenders (e.g. physostigmine) and agonists (i.e. substitutes such as arecoline) (Lauter 1985).

The fundamental cause of Alzheimer's Disease is not known, and there is probably more than one. In surveys of precursors, head trauma occurs more often than expected by chance. The presence of amyloid and immunoglobulins in plaques in the brain has led to the suggestion of a brain tissue autoimmune disease; changes in brain antibody levels and the HLA histocompatibility system have given some support to this avenue of research. Possibly a breakdown in the blood brain barrier allows access to damaging substances such as aluminum along the lines of dialysis dementia; however the latter differs in important respects including the neuropathology. A transmissible slow virus has been sought but found consistently only in kuru and Creutzfeldt-Jacob disease. A familial pattern consistent with an autosomal dominant mode of inheritance has been reported particularly in the severe and younger cases and those with focal signs; penetrance increases with age but may be complete by the age of 90. There are also clues that there may be a link with Down's syndrome (Heston and

Mastri 1977) leukemia and an older age of the mother (and perhaps the father) at time of the patient's birth; abnormal microfilaments may be implicated in this triad of disorders. Recent studies have linked one form of familial patterning with trisomy and a subsection abnormality on chromosome 21; thus adding to the genetic and neuropathological overlap with Down's syndrome (Delabar 1987).

Multi infarct dementia is characterized by arteriosclerosis of the blood vessels supplying the brain and numerous, usually small cerebral infarcts. Cognitive impairment rather than stroke is the predominant presentation. Presumably, the well known predispositions to arteriosclerosis may play a role in multi infarct dementia as well.

The causes of the reversible secondary dementias and of deliria are to some extent overlapping: intracranial lesions such as hematomata (trauma induced pockets of blood pressing on the brain) or tumors, systemic conditions such as pernicious anemia, or metabolic and endocrine disturbance. Deliria may additionally arise from toxic states, septic agents, drug side effects, anoxia, or an intracranial infection. Reversible dementias can further be due to normal pressure hydrocephalus (enlargement of the cerebral ventricles probably due to inadequate reabsorption of cerebrospinal fluid), or even depression. Dementias may also be secondary to alcoholism, Parkinson's disease, Huntington's chorea, Creutzfeldt-Jacob disease (caused by a transmissible agent that can be carried in transplanted tissue) and repeated head trauma. Neurosyphilis is currently still a possibility and the AIDS virus may one day increase its attack on the older age groups.

SCHIZOPHRENIA: Among families of elderly patients with paranoia, the risk of a schizophrenia is raised but not as high as in families of earlier onset schizophrenics (Funding 1961, Kay 1963). The risk among relatives is raised for both adult and late onset types but with some loading towards the latter (Bridge and Wyatt 1980b). It has also been suggested that the mode of transmission is recessive. Women are particularly vulnerable to paranoia. The life long personality is usually abnormal: Unsocial, cold hearted and prone to take offense; isolated, single or divorced, or with few sibs and few children (Kay et al. 1976).

In spite of an abnormal personality, patients with paranoia maintain competence in the running of their own lives until the onset of the illness in old age. Socially evident deafness precedes the psychosis in a higher proportion of cases than for depressive disorder; a severe degree of hearing loss (as indicated by audiometric tests and social function) occurs more frequently than in depressives or the general elderly population (Cooper et al. 1976). The deafness usually dates back several decades and is of the type (conductive or mixed) caused by chronic middle ear disease and not by aging.

DEPRESSION: There appears to be a spectrum of association between old age depression and neuropathology; with the majority of depressive disorders in old age being just as functional as in

younger persons. The neurotransmitter (biogenic amine) hypothesis is as valid for the elderly as for younger depressions; moreover, there are age related changes increasing monoamine oxidase activity (leading to increased break down of the biogenic amines) and decreasing the activity of tyrosine hydroxylase (with reduced production of biogenic amines) which reinforce the rationale for biological treatment of some of the depressions in old age.

Life events are variably related to the precipitation of depression among the elderly. Most depressive episodes in old age are noted to be preceded by a negative life event, generally bereavement or physical illness and disability; depression and physical illness occur together in the elderly at a far higher rate than is expected by chance. The absence of a confidante predisposes to depression in the face of a severe adverse life event. These facts seem in accordance with the widely held view that in old age depression is often a consequence of isolation and losses of close persons, health, material resources and status, as are likely to occur at this phase of life.

A wide variety of medications may be depressogenic in elderly patients: especially the benzodiazepines, barbiturates, antihypertensives, digitalis, L-dopa, or anticonvulsants (Ouslander 1982).

ANXIETY: Cases of anxiety disorder in the elderly (with persistence of symptoms for at least a month) may fall into any of the following broad classes: Panic states with or without agoraphobia, other specific phobic states, generalized anxiety disorder, or adjustment disorder with anxious mood. These diagnostic classes and their etiologies are usually identical to those found in younger groups of patients.

V. The ways in which problems are amenable to prevention.

1. Prevention of onset.

DEMENTIA AND DELIRIA: Community resources which can be applied to supporting the family have been mentioned as a means of preventing the onset of reactive mental illness and demoralization among these caregivers. Patients with dementia are at risk for superimposed delirium, the symptoms of which may be incorrectly dismissed as an advance in the dementia process; cases of dementia should be kept in mind for active preventive efforts.

Many of the potential causes of deliria can be avoided or treated prior to their provoking the state of delirium. Mostly this involves providing good primary medical care and the early treatment of such conditions as pernicious anemia, thyroid abnormalities (e.g. hypothyroidism, apathetic hyperthyroidism), occult infections, malnutrition and dehydration. Attention must be given to controlling medications, especially those with anticholinergic properties, and coordinating prescriptions from all sources including multiple service providers, self medication and over-the-counter drugs.

SCHIZOPHRENIA: The role of deafness in precipitating paranoia can be understood as a paradigm for the effect of poor social communication and lack of opportunity for reality testing in vulnerable individuals. Other causes of poor communication such as the development of increased isolation in old age may explain the late precipitation of paranoia. The long latent interval between deafness, isolation and the onset of paranoia suggests that there are opportunities for preventive intervention aimed at improving hearing impairments and social interaction.

DEPRESSION: Key life events are markers of vulnerability to depression in the elderly person: bereavement, the onset of physical disability or illness, and relocation to a venue that is perceived as undesirable. These are opportunities for counseling, and shoring up social networks; especially involving or substituting for a confidante, preparation for relocation (e.g. to a nursing home) so as to inform and involve the entrant as a participant in making choices, and help with adjustment after bereavement. Among other external depressogenic agents, medications rank high and should be kept to a minimum routinely.

ANXIETY: The exercise of abilities which lead to experience of mastery may help to allay general anxiety; continuation of social activities may prevent the onset of restrictive agoraphobias.

2. Prevention of consequences.

2.1 THROUGH EARLY RECOGNITION: Given the highly effective treatments now available for a wide range of mental health problems of the elderly, it is important that remediable conditions be recognized and treated early. Many consequences of mental illness can thus be averted: The deterioration of the patient's health if deliria are not noticed and investigated so that the underlying condition can be reversed; the dislocation of the paranoid patient from the community and the breakdown of the patient's trust in the treatment team; the loss of independence, risk of suicide, emaciation and deleterious effects on concomitant physical disorders in the patient with depression; the social isolation and drug dependency that can emerge when anxiety is uncontrolled; and especially the unnecessary distress that may be inflicted on the patient. In primary dementia as well, early recognition and intervention can prevent a rift between the patient and supporting family and the damage resulting from indiscretions, and can permit the patient and family to become educated about the contingencies for which they must plan.

The difficulties that must be overcome to achieve the early recognition that paves the way to early intervention involve the unfamiliarity of many practitioners with geriatric presentations of mental disorder, the mixed and atypical symptom patterns among the elderly that may make differential diagnosis complex, lack of adequate testing and investigatory techniques, insufficient time given over to taking a history from the patient and family members, and reluctance of patients to report their symptoms early or to consult specialists where advisable.

DEMENTIA AND DELIRIUM: Efforts at early recognition in dementia

should first be directed at the identification of reversible conditions, which are found in up to 20% of investigated cases (Cummings 1983, NIA Task Force 1980).

The first priority in assessing patients for possible dementia is a history and a specific inquiry for symptoms of depression or delirium. Next steps are a physical examination and review of medications as causes of deliria, and a search for neurological signs or a condition associated with secondary dementia.

The clinical recognition or exclusion of dementia is assisted by brief clinically feasible tests (e.g. the Mental Status Questionnaire or Mini Mental Status Examination) together with other clinical information. An extensive range of widely accessible technical investigations of blood, urine, chest and heart are essential to detect hidden causes of deliria; and so is some form of brain imaging (usually computerized axial tomography) to help rule out an intracranial mass or normal pressure hydrocephalus, or to show up brain infarcts. Neuropsychological batteries can help to confirm a diagnosis of dementia; regional blood flow studies or electroencephalograms can assist the identification of the subtype of dementia.

SCHIZOPHRENIA: The onset of paranoia almost invariably arises out of a previously abnormal asociable personality, after a long prodrome. There may be signs of an impending episode: The patient appears at first to be merely embattled and aggrieved; the victim of an unfriendly environment. An increase of complaints and restlessness may be noticeable. As frankly paranoid symptoms emerge the condition must be distinguished from organic and depressive syndromes. A failure to begin treatment early may leave time for the patient's delusory suspicions to include medications and the health care team and lead to the patient's withdrawal and impregnable resistance to receiving help.

DEPRESSION: For the most part, the criteria for diagnosis of the depression subtypes may be applied to the elderly as is customary for younger patients. However, in a minority of cases there are special difficulties in diagnosing depression in the elderly because of masking, complication by physical illness, or presence of cognitive impairment or striking paranoid or anxiety symptoms.

The masking of depression can be minimized by routinely probing for depressed mood and associated symptoms. Furthermore, patients who have previously had a depression and are relapsing can sometimes convey that their previous symptoms are returning without being able to pinpoint a depressed mood. This underlines the value of continuing aftercare of recovered patients in view of the high rate and often subtle symptoms of relapse among elderly depressives.

Distinguishing between the somatic (vegetative) symptoms of depression and the physical symptoms of medical illness or the aging process is quite a common problem (Gurland and Toner 1982): The somatic symptoms of depression include those usual for adult major depressions but more often extend to discomforts, aches and pains which may be vague or referred to a specific site such as

the chest, abdomen, urinary tract or oral area. In medical illness, symptoms such as loss of energy and interest, sleep disturbance, loss of appetite and weight may resemble the symptoms of depression; and may precede the discovery of the underlying physical illness (particularly with secondary carcinomas in the brain, apathetic hyperthyroidism, carcinoma of the head of the pancreas, uremia, pernicious anemia, heavy metal poisoning, or collagen disease). Where the differential diagnosis of depression and physical illness arises it requires a proper investigation of evidence for both conditions and a detailed examination of the symptoms and their chronological sequencing. Blood level assays may identify whether there is a medication which might be precipitating the depression.

The conjunction of symptoms suggesting depression and cognitive impairment calls for distinguishing depressive dementia (pseudodementia) from depression in dementia. Depressive dementia is discovered in about 4% of patients referred for investigation of presumptive dementia (Rabins 1985). These patients tend to recover their normal cognitive functioning when the depression is relieved (Bulbena and Berrios 1986); although recent work suggests that after an interval of wellness (which may be lengthy) a greater than chance proportion of these cases may emerge as clearcut dementia. Recognition of the reversible depressive dementia is assisted by neuropsychological testing (Caine 1981) and certain clinical features (described by Wells, 1979, and Rabins, 1985).

ANXIETY: Aging produces an increased chance of anxiety being accompanied by a physical disorder; if the latter is present it may produce symptoms that overlap with the anxiety symptoms making differential diagnosis more difficult. In cases of late onset of anxiety disorder a determined search for a possible underlying physical condition should be instituted (Lader 1982). Even where the anxiety disorder occurs alone the physician may be unduly influenced by the age of the patient to interpret the symptoms as indicating a physical (e.g. cardiovascular) disorder with a consequently misdirected emphasis in investigation and treatment.

Several physical disorders are particularly likely to be misdiagnosed as anxiety because they produce trembling, tachycardia and hyperexcitability (eg. hypoglycemia, hyper-thyroidism); or dread, bewilderment, weakness, dizziness, respiratory distress and sweating (eg. silent myocardial infarct, pulmonary embolism, small stroke or cerebral ischemic attack). Other physical conditions mimicking the symptoms of anxiety include excess intake of caffeine, sympathomimetic medications in non-prescription drugs for colds or allergies, and the withdrawal symptoms of sedatives, hypnotics or alcohol. Probing for a depression underlying anxiety symptoms is also a high priority since the depression if present would then be the main target of intervention.

Phobic anxiety cases may not be recognized when fear or avoidance of a situation is rationalized as a disability due to frailty or chronic physical disorder. Opportunities for rehabilitation may thereby be missed.

2.2 THROUGH EFFECTIVE TREATMENT: Most mental health problems of the elderly offer the prospect of complete return to normality or at least substantial improvement, if treated appropriately and in a timely fashion. This is in contrast to such physical disorders as stroke, heart disease or cancer where permanent damage is usually incurred at or preceding the time of onset of symptoms. Conditions such as major depression, dysthymia, paranoia, and general anxiety are for practical purposes as functional (without permanent structural damage) in the elderly as in the young; these conditions do not in general herald the onset of dementia or other declines associated with aging.

However, the functional mental health disorders of the elderly often have a long duration if neglected, and may become irretrievably chronic if treated too late. Thus, the successful treatment of these disorders will truncate the episode, lower prevalence rates and prevent years of individual suffering and disability; as well as remove the risks to which the patient is exposed while ill (e.g. of suicide).

Treatment of these 'functional' conditions in the elderly is remarkably effective if applied with skill and determination; treatment of some organic disorders such as delirium is equally effective. In the case of primary dementia, effective treatments are currently directed at secondary symptoms; treatments for the basic intellectual changes are still evolving.

DEMENTIA: The treatment of a primary dementia should follow the ruling out of reversible conditions that resemble it.

The specific treatment of Alzheimer's disease is not yet out of the experimental stage. Current understanding of the pathophysiology of this condition has led to the abandonment of treatments aimed at combating anoxia and has turned attention away from drugs (such as hydergine) with uncertain and marginal effects towards those which fit the rational cholinergic model. There are several variations on this latter theme: (a) Choline, a constituent of normal diet, in the concentrated form of oral lecithin; to promote production of acetylcholine. (b) Anticholinesterase (e.g. physostigmine) parenterally (and more recently, orally) with the intention of allowing accumulation of acetylcholine at nerve endings by preventing its breakdown. Physostigmine is short acting, but newer drugs of this class are being tried (e.g. tetrahydroaminoacridine). (c) Arecoline or the longer acting oxotremorine, in an attempt to bypass the impaired neuron and stimulate post synaptic receptor sites since these remain intact. (d) Piracetam to increase the activity of neural cells and perhaps increase the firing rate.

Interventions derived from the cholinergic hypothesis of the dementia deficits have led to measurably improved cognitive functioning in some studies but not yet of a degree and duration that has clinical significance. The search will continue for an effective drug with a lasting action and tolerable side effects, which can act at specific cholinergic sites that mediate memory processes and can capitalize on the structures that retain some

functional potential, at least in the earlier stages of Alzheimer's disease.

There are also treatments specific to other subtypes of dementia. Removal of plaques in the external carotid arteries and control of hypertension may be beneficial in preventing progression of the multi infarct type. Ventricular shunts or other means of aiding the flow of cerebrospinal fluid may relieve some cases of normal pressure hydrocephalus.

Treatment of behavioral problems is not specific to the subtype of dementia. A superimposed complication of dementia such as delirium or depression must first be ruled out. The patient's restlessness at night may exhaust the caregivers; simple remedies are best (eg. daily activities, a soft night light) and a short acting benzodiazepine at night only if necessary until a non pharmacological routine is established. Anxiety, irritability, suspiciousness and repetitive overactivity should also be managed without resort to chemical restraints if possible, but psychotropics may be temporarily needed.

The management of the dementias should concentrate on adjusting the demands on the patient to be engaging but not overwhelming, easing the introduction to new caregivers or locations, and clarifying the information the patient needs to relate to the environment, other people and time through use of signs and other cues. Depending on the level of disability entailed and the capability of the family to provide the appropriate personal assistance, a lengthy list of special services can be invoked in the community or in congregate sites. Social services and local chapters of self help societies devoted to this condition offer advice on obtaining services. For example, respite care (e.g. sitting services, day care, or temporary admission to a hospital or a nursing home) is available in many communities to relieve overly taxed family caregivers and reduce the risk of permanent placement of the person in an institution. Support groups for families add emotional and practical help.

Modified psychotherapy, remotivation therapy, reality orientation can be valuable aspects of care; even though the measurable benefits for cognitive functioning are slight, if any, the impact on self esteem and social activity can be gratifying.

The underlying condition in cases of secondary dementia or delirium is either known, strongly suspected or can be discovered by careful clinical investigation. For those causes shared by secondary dementias and deliria, or peculiar to deliria, the prognosis is good for the intellectual changes if treated in a timely fashion. For some other secondary dementias there are also helpful interventions.

SCHIZOPHRENIA: In elderly patients with paranoia it is essential that compliance with treatment be obtained although this is not easy. Without treatment very few patients will recover whereas with treatment the great majority of patients should improve. A favorable response is usually quickly evident, and more than half the treated patients will return completely to their premorbid

state, usually an abnormal personality (Post 1984).

DEPRESSION: The importance of treating depression in the elderly is supported by the good initial response (which is comparable to that obtained in younger patients), the relief of distress and functional impairment, the improvement in accompanying physical illness, and the reduction in the risk of suicide that can be obtained.

With adequate treatment of major depression, the prognosis for short term improvement is good where duration is short but becomes very gloomy if the duration is over 2 years; until otherwise proved it is safest to infer that early referral and intervention will reduce the proportion of refractory cases. If a medication is at fault then withdrawing it should be followed by improvement in the depressive symptoms within a few weeks.

Suicide is usually preceded by a clinical depression or other psychiatric disorder. In the great majority of elderly suicides there has been a recent contact with a psychiatrist or primary care physician suggesting that better liaison between these professionals might create an opportunity for preventive intervention. The risk of suicide is increased by bereavement, isolation and concomitant physical illness.

Antidepressants are indicated for treatment of major depressions and other severe depressions. Differences in effectiveness between the commonly used antidepressants are not yet sufficiently marked or invariant in the elderly to dictate a rote choice of medication; however, the side effects characteristic of a particular medication require special consideration in the elderly (Neshkes and Jarvik 1986). The benefits of pharmacological treatment for depression must be weighed against side effects; of most concern are excessive sedation, cardiac arrhythmias and conduction defects, orthostatic hypotension (with the risk of falling and fracturing) or anticholinergic syndromes of the peripheral (e.g. urinary retention or narrow angle glaucoma) or central (e.g. confusional) types. Lithium carbonate is used in the elderly for the relief of the manic phase of bipolar depression, for the maintenance control of relapses in unipolar depression and as an adjuvant to antidepressants in refractory depressions.

Electroshock therapy is a safe and effective treatment for depression in the elderly. This treatment is advisable for cases otherwise refractory to treatment, rapidly progressive, severe, suicidal or losing a high proportion of body weight. The side effects of confusion or memory impairment are not lasting and are negligible with unilateral administration to the non dominant hemisphere and when the total number of treatments is not more than twelve (which should be sufficient for those who are likely to respond at all).

Psychotherapy, either individual or group, is widely used by psychogeriatricians for depressed patients, either as adjuvant to physical treatments or where the latter are not appropriate. Groups are well accepted by the depressed elderly.

ANXIETY: Reassurance and explanations to the patient, supportive psychotherapy, strengthening the involvement of the social network and reducing environmental threats are the first choices for relief of generalized anxiety in the elderly. Adequate exercise, curtailment of excessive sleeping especially during the day, regular bedtime rituals, simple relaxation routines and formal behavioral strategies for reducing tension should all be considered prior to and as adjuvants to pharmacological interventions. Psychotherapy and cognitive therapy are also helpful. Benzodiazepines are relatively free of dangerous side effects and are useful when used in low dosage for short periods; over longer periods their use can be troublesome in the elderly who are prone to drug accumulation and unwanted sedative or central inhibitory effects with intellectual changes.

The treatment of phobic anxiety is basically the same as in younger persons (e.g. behavior therapy) but may have to be blended with the techniques of rehabilitation medicine. Similarly, for panic disorder (with or without associated agoraphobia) the approach to treatment is like that used in young adults; tricyclic antidepressants and monoamine oxidase inhibitors are effective.

3. Prevention of relapses.

Elderly patients who have suffered and recovered from a mental health problem remain at high risk of relapse. Unless preventive steps are taken or maintenance treatment is introduced, disorders like major depression and general anxiety are likely to show a pattern of repeated episodes; paranoia is prone to lapse back into a chronic psychotic state; delirium may recur in a life threatening manner. Yet preventive steps or maintenance treatment can dramatically change the frequency of relapse; can make the difference between a sick and dependent patient and a person who is free of distress and able to function normally or adequately.

DEMENTIA AND DELIRIUM: Preventing the relapse of behavioral problems in dementia is crucial to alleviating the patient's distress, relieving the burden on family caregivers and reducing the likelihood of the patient needing admission to a long term care facility. Techniques for keeping the patient engaged in activities while keeping challenges within tolerable limits have been described.

SCHIZOPHRENIA: The potential for relapse of paranoia is so high that maintenance treatment is the rule. Even where maintenance is attempted, about a quarter of the patients will remain in, or return to a psychotic state. This is in contrast to the aged adult schizophrenic whose symptoms have generally become so muted that they often require little in the way of medication control.

When the symptoms have abated the neuroleptic should be maintained but reduced gradually; efforts at further cautious reduction should be made every few months and drug free "holidays" attempted twice a year. At the first sign of relapse the previous level of dosage should be reinstated. The goal is the lowest dose necessary to assist reasonable adjustment of the patient and

minimize the elderly patient's high risk of tardive dyskinesia. More general long term measures include testing the benefit of hearing aids and relieving social isolation through day care.

DEPRESSION: High rates of relapse are the rule among elderly depressives. Over 70% will recover with initial treatment but about 75% of these will relapse over the long haul unless maintained on pharmacological treatment (Post 1984). Among treated elderly depressives about equal thirds stay well, remain depressed or recover and relapse. In any event, the psychiatrist should see the patient regularly after recovery unless there is good communication through the family or primary care practitioner.

Cognitive therapy has been systematically evaluated in the older age group with favorable results (Borson and Raskind 1986). Its success seems to prove that the elderly, contrary to the stereotype, are capable of changing their habitual modes of thinking and reacting. By learning cognitive schemata less loaded with negative evaluations of their performance and experiences, they are able to respond with greater satisfaction and mastery to daily events.

ANXIETY: Some of the measures recommended for curtailing an episode of general or phobic anxiety, should also reduce the chances of a recurrence; including supportive psychotherapy, strengthening social supports and reducing environmental threats. Similarly, the routines described for improving sleep habits and reducing tension mitigate against relapses.

VI. The barriers to seizing the opportunities that may arise for intervention; and the strategies and needed resources for enhancing the chances of successful intervention.

Conventional and innovative techniques of health promotion can convey to the elderly and their support network the essential facts of mental health preventive interventions which have been reviewed here: The potential for relief of suffering and impaired functioning; the importance of seeking treatment early; the information that allows participation in treatment decisions, self monitoring of the need for initiating and cooperating in treatment, and judgments on the quality of treatment being received; the effects of life event stress and the value of interpersonal relations in coping at those times; the health implications of communicating intimately with significant others; the normal mental health standards that are achievable in old age and the snares in attributing remediable mental health problems to a deterioration brought on by aging; methods of maintaining good mental health through good physical health, rehabilitation of disability, and discretion with medications; simple measures to regulate sleep and control anxiety; and much else. In addition to arming the elderly with such facts, health promotion programs can put the elderly in a position to press for specific organizational changes consistent with the interventions they select.

Some of the difficulties facing health promotion (and disease prevention) interventions are: 1. There are too few professional and non-professional service providers who have special training in the mental health problems of the elderly and the means of preventing them. 2. There is a discrepancy between the sites to which the elderly in need of intervention tend to gravitate and the sites at which special skills and treatment are available. 3. There are attitudes on the part of the elderly which mitigate against their explicitly seeking help for mental health problems, on the part of the public which lead to underestimation of the effectiveness of current treatments, and on the part of service providers which tend to deny the elderly the time and attention that they need. 4. Medicare and other reimbursement mechanisms do not cover enough ambulatory psychiatric visits (including those to residents of nursing homes) to permit adequate prevention of the onset or relapse of mental health problems; nor to deliver the services at the sites which would gain optimum contact with the population at risk; much less for health promotion for high risk groups who are not yet ill. 5. The knowledge base is still patchy on the identification of high risk indicators for mental illness among the elderly: some predictors are strong (e.g. of relapses) and some weak (e.g. of first onset of depression in old age). Similarly, there is variability in the specification of effective interventions: some are proven effective (e.g. antidepressive medications) and some are very promising but as yet uncertain in management or effect (e.g. strengthening social supports to buffer stress). Research can redress these gaps in knowledge.

ACKNOWLEDGMENTS: With permission, this review is based upon two papers recently prepared by the same authors; the bibliography for the citations in the text of this review is contained in the two source papers and has not been repeated here because of space limitations:

Gurland BJ, Mayeux R, Meyers BS: The effectiveness of intervention for the mental health of the elderly, in Grimley-Evans J, Kane R and Macfadyen D. (eds) Improving the Health of Older People a World View. Oxford University Press, London, 1988.

Gurland BJ, Meyers BS: Geriatric psychiatry, Talbott JA, Hales RE, Yudofsky S (eds): Textbook of Psychiatry. American Psychiatric Press, 1988.