

Geriatric Giants Lecture Series

FRAILITY AND GERIATRIC ASSESSMENT

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Frailty and Illness Presentation in Old Age

Even for the experienced clinician, the manifestation of acute illness in a frail older person can be a perplexing challenge. Too often, when a physician is asked to assess an older person in the emergency rooms who presents with acute illness, all the “rules” have changed. Otherwise serious illnesses such as pneumonia, myocardial infarction, and bowel obstruction are masked with bland clinical presentations such as confusion, immobility or new onset of incontinence. If recognised at all, these bland manifestations are sometimes attributed to ageing and deferred for work-up at a later time. Finding the predisposing and precipitating causes of an atypical manifestation of illness is the primary responsibility of the physician. Failure to identify and address causation will result in prolongation of the illness and its consequences.

Barriers to the investigation of these bland manifestations of illness may exist at a more basic level. The very model of causation used by clinicians to assign etiology is often inadequate when applied to “geriatric syndromes” such as delirium, falls, immobility, functional breakdown, acute urinary incontinence, and dehydration. The traditional medical assessment would seek to explain these disease manifestations as a single disease entity.

However, research into the causation of geriatric syndromes has illuminated an extremely powerful model with different philosophical underpinnings. In this model, clinicians are encouraged to delineate multiple predisposing factors or aspects of vulnerability and also to clearly enumerate acute precipitating factors, ‘stressors’ or insults. This model welcomes the possibility of multi-factorial processes. It also naturally leads to the opportunity for prevention. The clinician who holds to the ‘single disease entity’ model when attempting to prevent these geriatric syndromes will, like Don Quixote, frequently return frustrated despite their best efforts.

This overview will first frame the usual physiological changes of aging, then introduce key concepts of frailty and disease presentation in old age. An approach that is custom fit to the needs of the frail elderly will be introduced – Comprehensive Geriatric Assessment (CGA). The role of an interdisciplinary team in assessing the frail older adult with complex health needs and circumstances will then be highlighted. Finally, you will find a practical description of the place of CGA within inpatient and community resources. A more detailed discussion of dementia, delirium, falls and immobility, incontinence syndromes, iatrogenesis, continuing care, elder abuse, driving, and competency is available in other lectures.

A. BIOLOGY AND PHYSIOLOGY OF AGING:

“Aging” can be defined as “irreversible time-dependent changes that occur in biological systems once peak vitality has been reached. **“Normal” aging** changes are universal (eg. Menopause), while **“usual” aging** changes are an accumulated result of disease and accidents. **“Senescence”** is a universal, intrinsic process that results in increased probability of dying.

Thus, the theories of aging focus on intrinsic processes that increase susceptibility and on extrinsic factors that increase the possibility of diseases and accidents. This theme of usual aging should remind the clinician of the multifactorial model of disease described already. The intrinsic influences on the aging phenotype are mostly genetic and cellular. However, there are clearly neuroendocrine, immunological, and behavioural traits that are crucial to an organism’s response to environmental stressors. Extrinsic factors may include caloric exposure, ambient temperature and metabolic rate, physical exposures and interpersonal factors that influence our aging phenotype.

An understanding of common physiological changes of aging helps to identify overlying diseases or geriatric syndromes when they occur. Some of these will be described in other lectures. A few key changes will now be emphasized:

1. **Narrowed homeostatic responses.** Examples include blood pressure (risk of orthostatic hypotension), thermoregulation, and body volume regulation.
2. **Diminished host defenses.** Skin becomes thin and dry; mucous membranes are more prone to bacterial colonization; airways are less effective in preventing aspiration; and the immunity is hampered especially by an impaired cellular response.
3. **Body composition.** Some decline in lean body weight, muscle mass and body water is usual with aging, though the positive benefits of exercise to minimize this cannot be overestimated. There is typically an increase in the proportion of body fat from 15% to 30%.
4. **Nervous System.** Commonly, aging is accompanied by atrophic changes in the brain and minor cognitive difficulties that have no functional consequence. There is a loss of anterior horn cells in the spinal cord resulting in some decline in vibration sense.
5. **Vision.** Periorbital atrophy increases the risk of entropion and ectropion. There is a decline in lacrimal gland functioning. Atrophy of the conjunctiva and retina may occur. Presbyopia causes a loss in dynamic acuity. The lense accumulates insoluble protein, becoming less elastic, and the pupillary light response may be more sluggish.
6. **Hearing.** Impaction with cerumen explains much of the hearing loss with age. There is also some loss in the ability to hear high and low frequencies. Unless there is sensorineural hearing loss, there is no need to speak loudly to older individuals. Sometimes, receptive language decline is mistaken for poor hearing.
7. **Cardiovascular System.** Lifestyle and disease explain many of the common cardiovascular impairments that occur with aging. Age related changes in this system are irrelevant when the heart is at rest.

However, when cardiovascular requirements increase, the sympathetic nervous system may be less responsive due to a decline in the maximal inotropic and chronotropic responses, and a decline in β_1 responsiveness. However, vascular changes in the large elastic arteries exhibit thickening in the vascular intima leading to “stiffening”. Some elderly may have an increased systolic blood pressure as a result. To exclude “pseudohypertension”, wherein blood pressure readings are falsely elevated due to inflexible arteries, Osler’s maneuver is helpful. A palpable peripheral pulse with the blood pressure cuff inflated above the systolic level confirms it.

8. **Respiratory System.** Again, age-related changes in the respiratory system are mostly evident during exercise. The key changes are in the lung and chest wall function (eg. decreased elastic recoil, increased chest wall stiffness, decreased respiratory muscle strength), gas exchange (eg. decreased pulmonary capillary blood volume, decreased lung surface area), and ventilatory control (eg. decreased responsiveness to hypoxia and hypercapnea). As a consequence, older adults are also more susceptible to infection and more likely to experience hypoxia when ill.
9. **Gastrointestinal System.** Most of the common changes in the gastrointestinal system are disease-related rather than age-related. While small intestinal motility is maintained throughout age, there is a decline in the surface area of villi resulting in problems with absorption of some essential nutrients. There is also a decline in colonic mucosal secretion, atrophy of colonic muscle layers, and weakness in abdominal wall musculature. However, even these changes do not appear to result in decreased colonic transit time, except in the disabled elderly with decreased mobility.
10. **Renal System.** The changes in renal function during normal aging are perhaps the most dramatic of any organ system. After the fourth decade of life there is a steady decline in the renal mass, number of nephrons, glomerular filtration rate (GFR) and renal blood flow (RBF). The fading GFR is sometimes obscured by a concurrent decline in muscle mass and a relatively normal serum creatinine level. The capacity for fluid and electrolyte homeostasis in the aging kidney declines, making the hospitalized or ill older adult more likely to experience fluid imbalances and disorders in sodium and potassium.

B. FRAILTY AND DISEASE PRESENTATION

At any age, presentation of illness may be “typical” – that is, a patient presents to a physician with one or more symptoms and signs characteristic of an underlying condition to which the physician may attribute the illness. The term “silent” presentation is used when no symptoms of underlying disease are present yet the condition is detected by other means – an example is silent myocardial infarction. “Atypical” presentation of underlying disease occurs when

symptoms confusingly point to disorder in organ systems other than that involved by the underlying disease. An example of atypical presentation is a patient with a myocardial infarction presenting with weakness, falls, abdominal pain or intractable hiccups.

Presentation of illness in older persons may be typical, but is silent or atypical more commonly than in younger adults. The reasons why atypical and silent presentation of illness and disease is more common in older persons includes one or more of the following:

- Biological age-related changes.
- Multiple pathology (co-morbidity).
- Effects of prescribed and non-prescribed drugs.
- Cognitive and sensory impairments.

Atypical Disease Presentations

Jarrett et al demonstrated that in the frail elderly who develop acute illness, “atypical disease presentations” (delirium, falls, immobility, functional decline etc.) are common (1). Furthermore, there are remarkable similarities between delirium and the other atypical disease presentations (ADP). All of these acute geriatric syndromes represent a failure of those complex human behaviours, which require higher-order integration of multiple body systems and external factors. For this reason, the causes are likely to be multi-factorial. In fact, there is remarkable homology amongst these ADPs regarding the precipitating factors. For example, Tinetti argues for a shared list of precipitants for falls, incontinence and functional dependence (2).

In the context then of the acute development of delirium, falls, immobility, urinary incontinence, functional dependence and dehydration, the clinician who would find an acute etiology will be led down different paths depending on the relative burden of pre-disposing problems.

For example, these syndromes in an otherwise vigorous individual with few if any comorbidities likely represent a severe single insult involving the obvious body system. In this setting, delirium may reflect CNS pathology, dehydration may suggest circulatory or nutritional pathology, and urinary incontinence undoubtedly reflects urinary tract pathology.

However, in the frail elderly where there is a complex mixture of comorbidities and vulnerabilities the same manifestations of illness no longer speak to problems in the presenting body system. These manifestations all at once may suggest (a) multiple acute insults located outside the obvious body system and (b) the “weakest links” or predisposing variables within the obvious body system. An example is that while delirium in the frail elderly only uncommonly can be attributed to acute central nervous system event, a previously unrecognised dementia often is uncovered while the more common precipitants of the delirium are recognised and successfully treated.

The Concept of Frailty

Frailty has proven to be an elusive yet enticing conceptual model to understand multifactorial illness presentations. In one model, frailty is a “weakened state”. Frailty implies any performance below an optimal threshold, whether at an organ system level or at a daily functional level..

Frailty can also be viewed as a “precarious state” either in reference to an organ system or overall daily functioning. This “dynamic model of frailty” has been proposed to better understand acute functional breakdown in the elderly (3,4). Frailty has also been conceptualised as being distinct from traditional models of ageing and disability (5). Unique aspects of frailty include the presence of multi-system impairment, vulnerability, and heterogeneity.

The dynamic model of frailty can be conceptualized as a balance scale in which pre-existing factors either strengthen or threaten functional independence. In this model, frailty exists when functional independence ‘hangs in the balance’ (Fig. 1). In such a precarious state, it not surprising to see that less severe insults (stressors) are sufficient to tip the scale toward functional breakdown and acute geriatric syndromes. These stressors may be any acute illness, medication change, surgical intervention, or change in environment and support system.

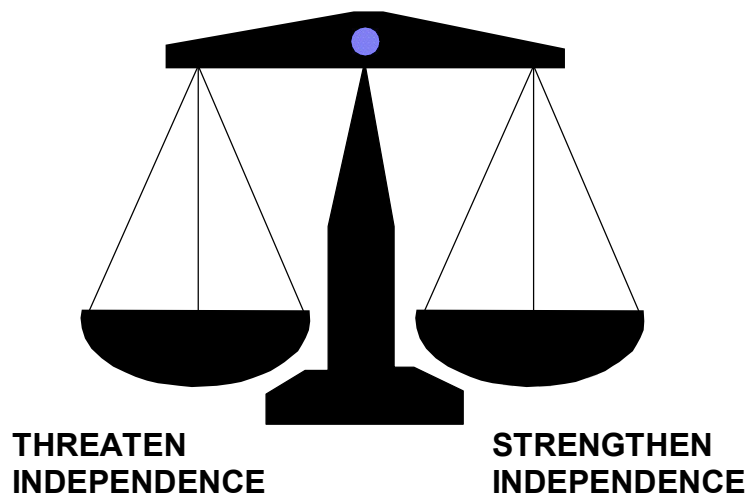


Figure 1 Dynamic Model of Frailty . Frailty is represented by a balance of the factors that threaten and strengthen functional independence.

Co-morbidity

Trainee physicians are encouraged to apply Occam’s Razor in formulating their diagnostic hypotheses. The English philosopher, William of Occam (*Circa 1285-1348*) developed a principle to be applied to data. Occam’s Razor requires us to seek the explanation that requires the smallest number of entities to explain the facts (*pluritas non est podena sine neccesitate*). Applied to diagnosis, the

Principle of Parsimony encourages the diagnostician to seek a single explanation for multiple symptoms.

While application of this law is a good general principle, multiple pathology, or co-morbidity, is so common in older patients that the diagnostician must be open to multiple possibilities. An active medical problem list of 8-10 concurrent diagnoses is not uncommon in frail older persons. An older patient complaining of chest pain, for example, may have several types of chest pain – angina pectoris, esophageal pain and chest wall pain.

Geriatric Syndromes

Another way of describing disease presentation in old age is the term “Geriatric Syndromes”. This refers to the way in which acute illness or decompensation of chronic illness presents through a “final common pathway”. There are several common pathways through which illness presents in frail older people. These include delirium, dehydration and malnutrition, urinary and fecal incontinence, falls, immobility and dizziness, and declining ability to perform instrumental and/or basic activities of daily living.

Performance of daily activities and maintenance of the upright posture, balance and functional mobility, and control of bladder and bowel function require the integrated function of several body systems. For example, maintenance of urinary continence requires not only an intact bladder connected to the central nervous system but also intact cerebral function and the ability to reach an appropriate place to void, undress and dress and use a urinary receptacle in time. Thus, central nervous cardiovascular, respiratory, musculoskeletal, peripheral nervous systems and vision are required to maintain anti-urinary continence. Any disruption in the function in any one of these symptoms may prove to be the “weakest link” in a chain of necessary activities that must function in an integrated fashion. Thus a geriatric syndrome (or atypical disease presentation) may arise from dysfunction in one necessary component or in a failure in integrative function of the entire chain. Similarly, integrated activities of other systems are required for maintenance of balance and mobility, performance of activities of daily living.

C. COMPREHENSIVE GERIATRIC ASSESSMENT

Since frailty is a multidimensional state, comprehensive geriatric assessment needs to take into account multiple dimensions that transcend disciplinary boundaries. The typical manifestation of a discrete illness in an otherwise healthy and independent adult may well be addressed by a single discipline. However, the physician who endeavors without partnership to address the needs of a frail older person presenting in crisis will quickly become frustrated. Comprehensive Geriatric Assessment (CGA) thrives on collaboration and partnership. Interdisciplinary Assessment can be viewed as the technology of Geriatric Medicine.

Perhaps no other discipline has been so scrutinized. Stuck et al provided a summary of randomized trials that have compared CGA to usual care for effectiveness. Inpatient programs that ensured targeting and had some control over the implementation of recommendations were found to be the most effective. There is an evidence basis for the effectiveness of CGA in improved functional status, affect, cognition, diagnostic accuracy, and appropriateness of placement. CGA leads to reduced number of medications, use of hospital services and medical care costs. CGA is associated with prolonged survival (6).

Comprehensive Geriatric Assessment (CGA) is a team effort. However, the specialist geriatrician should be prepared to stand behind the conclusions drawn by the team and communicate effectively all of the “issues” which have a bearing on the health of an older person. To this end, the medical assessment is modified somewhat from the traditional:

Seven Habits of Geriatric Assessment

A Geriatric Assessment should not be the “holy grail” of assessment, only available to the “initiated”. It is really nothing more than a proper history, physical exam, mental status exam and formulation. Despite the complexity of the patients, geriatric assessment need not be a cumbersome process. The following seven habits can be built into the assessment of every physician and will enhance accuracy and speed.

1. **Understand Function as the Language of Illness.** This has been thoroughly emphasized in the discussion above on frailty, geriatric syndromes, and atypical disease presentation.
2. **Don't trip over the hurdles.** The analogy here is the hurdles in a race. If you see the hurdles coming, you can minimize the chance of lost time and disappointment. Just as there is a sequence of hurdles in a race, there is a sequence of hurdles you will want to focus on in the geriatric assessment. If you cannot pass one, you may never reach the rest.
 - **The Attention Barrier** – Does the sensorium allow meaningful dialogue? Is delirium a possibility?
 - **The Language Barrier** – Education and English as a second language can impact performance on tests. Consider aphasia.
 - **The Behavioral Barrier** – A number of psychiatric and psychological conditions may be “under the surface”, affecting interactions. One of the most difficult is the individual with frontal lobe dysfunction who lacks personal insight, has impaired regulation of behaviour but remains articulate. They may try to “send you away” for no apparent reason.
 - **The Cognitive Barrier** – Similarly, an individual with impairment in memory and insight may also lack insight and provide a cooperative history which is completely off the mark.

- **The Special Sensory Barrier** – Correction of hearing and vision may transform an individual with apparent dementia into a scholar. There is a real “payoff” by attending to small details such as hearing and visual aids.
 - **The Comfort Barrier** - Brief attention to comfort at the beginning can promote good will and make for a cooperative and attentive historian.
 - **The Endurance Barrier** – Interviews should not last longer than one hour. Take into account what other interviews or procedures the older adult may have endured before you came.
3. **Use Screening Tools to your Advantage.** As in other fields of medicine, there is no need to conduct any aspect of the history or physical exam without the expectation that the response or finding will be meaningful. This evidence-based approach has given rise to the “Rational Clinical Exam” (7) and “Periodic Health Exam” (8). These approaches advocate for an evidence-based clinical encounter for problems that are likely in any given population. Positive screening should lead to a more in-depth assessment. Geriatric Assessment is no different. A number of screening tools for geriatric syndromes will be covered in other lectures. Some of these include the “Confusion Assessment Method” for delirium, the “Clock Test” for dementia, and the “Timed Get Up and Go Test” to predict the risk of falling.
 4. **Start and End with a Problem List.** A “problem” is a clinical, functional, or social issue that has an impact on the current health and well being of your patient. If your role is as a consultant, the “problems” should be the stated reason for consultation, rather than “filler” with problems already being addressed by the primary care team. Common problems in geriatrics are reflected in the topics of our core lectures. The “problem list” in the history should be a descriptive history with relevant positive and negatives and presented with your final conclusion in mind. The final “problem list” is really a formulation that accounts for other objective findings such as the mental status exam and leads to specific plans/recommendations. It will help you to “build” this problem list from its basic and acute elements toward more chronic and functional issues and finally to discharge and rehabilitation issues.
 5. **Obtain Collateral Input with permission.** The telephone and the team are the “scope” of the geriatrician. Collateral history is time well spent because it illuminates function and context. It also can expedite solutions to perplexing problems that do not depend solely on the care team. Request permission from competent patients and (at least) “assent” from those of more questionable capacity.
 6. **Expand on the traditional history.** The traditional medical history should not be abandoned in the frail older adult. However, a few modifications enhance their assessment. The use of a **Problem List** is one example. The habit of **Rationalizing Medications** is another and will be described last. A

Cognitive History will be reviewed in the dementia and delirium topics elsewhere.

The **Functional History** includes the Activities of Daily Living (ADLs) including dressing, grooming, bathing, feeding, toileting, transfers, and ambulation. Instrumental ADLs include meal preparation, shopping, housekeeping, laundry, telephone use, yard work, driving, financial management and medication management. For each ADL, you will want to be clear on whether the individual is independent and how they may depend on assistive devices or other individuals to maintain that independence.

The **Social History** should go beyond the use of tobacco and alcohol. It should explore the past personal history, the current home environment and co-habitants, and the support network, both formal and informal. It is important to be clear on “who does what” and “for what reason”, especially as it relates to ADLs. The presence and “activation status” of medico-legal documents such as personal directive, power of attorney and (in the case of dependent adults) guardianship and trusteeship are important to clarify.

7. **Rationalize Medications.** The Iatrogenesis lecture is intended to provide a more comprehensive approach to medication use in the elderly. Medication reviews can be built into every history you taken need take no longer than a few extra seconds. By matching the medical problems and medications in parallel, you can often spot issues of medication appropriateness, drug-drug interactions and drug-disease interactions.

The Value of Teamwork

No more would a gastroenterologist effectively assess and treat diseases of the gut without an endoscope than would a geriatrician effectively assess and treat geriatric syndromes without the right partnerships. As a minimum, teams are comprised of a nurse, a physician and a social worker. The involvement of physiotherapists and occupational therapists is extremely helpful in addressing cognitive and functional problems. Other disciplines such as pharmacists, registered dietitians, speech therapists, recreational therapists and psychologists are involved in larger teams, sometimes on an as-needed basis. In a family conference, the patient and/or family should be dynamic participants.

The overlap between the roles of team members can be understood using the World Health Organization’s definition of impairment, disability, and handicap:

- Impairment: Anatomical or physiologic abnormality at the organ system level
- Disability: The functional limitations which result from impairments
- Handicap: The social impediments to the adaptation to disability

Roles of Interdisciplinary Team Members

Discipline	Primary Focus	Tasks
Physical Therapist	Impairment and Functional limitation.	Assessment and training to ↑joint ROM, strength, endurance, coordination. Includes mobility aids and treatment with physical modalities.
Occupational Therapist	Functional limitation, Disability, Handicap	Assessment and training in self care activities, cognitive ADLs, and home safety
Speech Therapist	Impairment, Disability	Assessment and Training in all aspects of communication. Therapy for swallowing disorders
Nursing	Disease to Handicap continuum	Evaluation of independence with ADLs. Education of patient and family
Pharmacist	Disease to Handicap continuum	Assessment of medication use within the context of disease, function and resources
Social Worker	Handicap	Evaluation, disposition and liaison with community. Counseling
Dietitian	Impairment	Assessment of nutritional status → diet adjustment
Recreational Therapist	Disability, Handicap	Assistance with maintaining social roles

A multidisciplinary team has a clear division of roles and is satisfactory for simpler cases. An interdisciplinary team involves members who have overlapping knowledge and skills. At its best, team members will be “cross trained”, thus allowing meaningful team discussions and analysis. Interdisciplinary work requires skillful communication but is more likely to address complex issues when they arise.

MULTIDISCIPLINARY	INTERDISCIPLINARY
Primary Care Physicians	Geriatricians and Physiatrists
Consulting Relationship	All team members meet periodically to discuss the patients progress
Each team member conducting independent assessment, communicating with each other through notes and telephone	Considerable overlap in roles
Physician Directed	Team directed
Simple cases	Complex cases

Effective communication between team members is often achieved through the use of standardized assessment instruments. Constant vigilance is necessary to ensure that interdisciplinary teams focus their efforts on those issues that maximize full team involvement. Thus, teams that discuss only acute medical issues will be as inefficient as those that discuss only discharge planning.

For each individual, the list of relevant issues may be short or long. Often the discussion focuses on medical issues and functional issues. The clarity of

the team's recommendations will depend largely on how clearly these are defined and prioritized.

D. COMMUNITY RESOURCES: "THE WORLD OF PLACEMENT"

To the overworked resident in medicine who is just completing a 30 hour period of in-house call, the prospect of selecting the appropriate discharge options for a frail older person can be daunting and disheartening. Nearly all medical training occurs within the walls of a hospital. Before long, in the training of a resident, perceptions can become distorted, and older adults are viewed only in the context of their acute care hospital experiences. Yet, achieving optimal outcomes for our patients requires that resident to be knowledgeable in that which transpires after discharge.

The resident in the hospital typically experiences brief 'snapshots' of each older adult. The first snapshot occurs at the time of admission when the patient's profile is scrutinized for suitability to be admitted to an acute care bed. Only those seniors who happen to have the "ticket" will be admitted: namely, the obvious presentation of acute illness. Chronic illness, functional breakdown and the adequacy of formal and informal caregiving in the community are often overlooked at this time. The next snapshot will occur after admission when the senior either rallies or succumbs to the presenting acute illness. The hospital stay will commonly be punctuated with other acute illnesses or complicated by the effects of iatrogenesis and immobility. As the acute problem for which the frail senior was admitted ("the ticket") resolves ("expires"), discharge is all that seems to matter.

Appropriate and timely discharge from the hospital requires the physician to have skills and knowledge to determine the suitability of a patient for further assessment, rehabilitation or the provision of health services outside of the hospital. These skills, which should be possessed collectively and individually by care teams are highly valuable for the frail senior. He or she will thank you for a thoughtful discharge and curse you for being thoughtlessly ushered out the door.

Formulating a discharge plan begins with an accurate assessment of the remaining issues, developed if necessary through comprehensive geriatric assessment. Considering all of these issues, the first and most basic question is "Does this individual primarily require continuing care (community based or institutional) or will they first require a further period of assessment and rehabilitation?"

1. REHABILITATION AND ASSESSMENT

"Rehab?" After no question at all, this one liner is the most common reason for referral written on an inpatient consultation request to geriatric services. Geriatric services are often requested at a time of transition. Commonly a senior is recovering from an acute illness and their ability to smoothly return to their home circumstances is questionable. Geriatric assessment may determine the need for physical or cognitive rehabilitation in a post acute setting. Assessment

by an interdisciplinary team in programs such as the Northern Alberta Regional Geriatric (NARG) program may be helpful to further fine tune the problems and implement the treatment plan. Evidence suggests that to be effective, geriatric assessment must be targeted and there must be some control over recommendations. Which patient factors will guide the geriatric consultant team to find the right program and setting?

- a) **The disability gap** - What is the difference between the previous and current functional level? If there is no difference, then rehabilitation may not be needed. However, a major new disability that is unlikely to improve despite the best efforts of the most suitable team must also be recognized so that transfer to a setting that can offer the proper level of care is not delayed.
- b) **Burden of acute illness** – Rehabilitation and Geriatric Assessment can occur in the context of acute illness. The advantage to the patient is that the dangers of hospitalization (iatrogenesis and deconditioning) can be avoided or minimized early in the hospital stay. Transfer to a rehabilitation hospital while acute management and investigations are ongoing will hinder progress.
- c) **Cognition** – Before committing a person to a long cycle of inpatient rehabilitation, it is crucial to know whether their cognition is a barrier to achieving meaningful goals. Much can be achieved in the context of dementia, brain injury and stroke. The key is to identify the setting that is best suited to the patient's cognitive abilities.
- d) **Motivation** – What does the patient really want to achieve? Seemingly insurmountable obstacles can be conquered in a sufficiently motivated patient. A lack of motivation may be a clue to underlying physical or mental illness or it may simply reflect a preference. If an unmotivated individual is anticipated to improve with a specific treatment plan, inpatient rehabilitation may still be realistic. For example, physical rehabilitation may occur concurrently with the pharmacological treatment of depression.
- e) **Community Network of Support** – The community resources available and their collective ability to provide what is needed will often dictate which assessment and rehabilitation setting is just right. If institutional continuing care is likely to be the eventual discharge location, rehabilitation within that setting may be in the patient's best interests.

Inpatient Programs

Geriatric Programs are diverse and some are in evolution. However, their commonality is the availability of comprehensive geriatric assessment through interdisciplinary teams. The **Glenrose Hospital** houses much of the NARG program where the bulk of inpatient geriatric rehabilitation and assessment 'beds' are available in Edmonton. **The Misericordia's RICE unit** has a smaller capacity but is well integrated with the hospital and community. Patients on these units are generally medically stabilized. The patients are often frail, complex and in need of physical rehabilitation. Interdisciplinary Teams are linked with each patient. Geriatricians are available on a consulting rather than primary care basis in most cases.

A senior who is medically acute and consequently experiencing functional decline will be well suited to the **ACE unit at the Royal Alexandra Hospital**. Patients are first seen in consultation by a geriatrician or geriatric nurse specialist, then “transferred to the team.” Conversely, similar patients seen at the **University Hospital** or **Misericordia** may remain on their care unit while mobile assessment teams will go to the patient.

Assessment and rehabilitation for frail and dependent older adults with complex health needs is custom fit for the Northern Alberta Regional Geriatric (NARG) Programs. However, there are many other programs in the city that can address the needs of seniors who require rehabilitation without ongoing geriatric assessment. For example when, the assessment needs are minimal and the discharge planning is straight-forward, rehabilitation in a **subacute unit** is ideal. Subacute units are housed within long term care centers (such as at Norwood and Grandview), but ironically will rarely accept in transfer an individual who would potentially be subsequently transferred to a long-term care bed. Alternatively, if the rehabilitation and assessment needs are minimal, but time and skilled discharge planning is required, the **transition unit** at Norwood is a good option.

Day Hospitals

A “Day Hospital” provides outpatient diagnosis, rehabilitation and treatment to selected patients who attend several times each week for a period of weeks or months. Recommendations go back to the community physician and home care. Patients must be able to manage at home during the remainder of their week. In Edmonton, an excellent example of this is the ‘START’ programs at the Glenrose.

Interdisciplinary Clinics

Interdisciplinary teams can also do assessments in a clinic, such as the ‘Senior’s clinics’ at the University Hospital, Good Samaritan and North East Health Center sites. Targeting is crucial in these settings to ensure that the resources are maximized.

Home Assessment Teams.

If doctors don’t do housecalls anymore, can you imagine the how strange it would seem for an entire team to assess a community dwelling senior in their own home? Yet this kind of assessment service is well developed in some Canadian centers and is practiced to a limited extent here in Edmonton as well. The assessment of polypharmacy, mobility, cognition and general health take on an entirely new meaning when viewed in the real-life context.

2. CONTINUING CARE

The Continuing Care Lecture provides a comprehensive overview of the settings and services. Perhaps the most important point has already been made: Before making plans for a particular care service or setting, ensure that the assessment and rehabilitation has been completed to the point that there is consensus on the “assessed needs” for care support, and housing. As geriatric teams in hospitals and the community are often involved in the interface with these services, three simple suggestions will now be stated.

- a. Clarify the need and preference for health and support services.
- b. Recognize “who is paying” and “for what kind of service”
- c. Include the patient, family and community agencies in the discussion on transitions of care

The Settings and Services can be grouped from institutional to supportive living settings:

- a. **Institutional Settings** – Auxiliary and Nursing home level of care
- b. **Supportive Living Settings** – Traditional settings such as Lodges, Group Homes and Senior’s apartments. Newer models such as CHOICE, Designated Assisted Living, and Dementia Care Settings.

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