Notes on Presentation: “Trauma Informed Palliative Care”

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SLIDE 2. Objectives:

a. Overview of trauma as a neglected central aspect in the development of illness, as well as a hindrance on self and social resourcing to endure it
b. Introduction to ‘parts work’ and how this could be of use in clinical palliative care scenarios
c. Review the medical evidence for psychedelic work in chronic symptomatology and end of life
d. Deeper exploration of the agent that today holds a legal framework to work with; ketamine as a multifaceted psychotropic in palliative medicine.

SLIDE 3. Medicine at a crossroads:

a. The role of subspecialist care can become reductionist
b. The missing link of relational care in modern medicine
c. Guideline evidence based medical care standardizes practice, to a fault?
d. What about the hallmarks of healing that are not easy to measure in every day clinical practice?
    i. Connection
    ii. Self compassion
    iii. Love
    iv. Vocation
    v. Awareness

SLIDE 4. The T factor:

a. In the mid 90s the CDC and Kaiser Permanente discovered an exposure that dramatically increases the risk for seven out of 10 of the leading causes of death in the United States.
b. In high doses, it affects brain development, the immune system, hormonal systems and even the way our DNA is read and transcribed.
c. People who are exposed in very high doses have triple time in the lifetime risk of heart disease and lung cancer and a 20 year difference in life expectancy.

d. And yet doctors today are not trained in routine screening or treatment.
e. The exposure that I'm talking about is **childhood trauma**.

SLIDE 5. Childhood Trauma and Disease; the ACE trial:

a. ACEs; Adverse Childhood Experiences trial:
    i. This started with a landmark study published in 1998: a survey aimed at over 17 thousand patients.
    ii. Participants completed confidential surveys about their childhood experiences and later-life health.
    iii. These were patients receiving physical exams at Kaiser Permanente in San Diego between 1995 and 1997. Largely college educated higher upper class white American adults with consistent private health coverage.
    iv. Rate of response of survey 70%.
b. What did ACE include when this survey was first implemented:
    i. Abuse:
        1. Emotional abuse (verbal insults, humiliation)
        2. Physical abuse (hitting, physical harm)
        3. Sexual abuse (any unwanted sexual contact)
    ii. Neglect
        4. Emotional neglect (feeling unloved, family not feeling close)
        5. Physical neglect (lack of food, clean clothes, or protection)
    iii. Household Dysfunction
        6. Domestic violence (mother or stepmother treated violently)
        7. Household substance abuse (living with an alcoholic or drug user)
        8. Household mental illness (living with a depressed or mentally ill person)
        9. Incarcerated household member (a relative going to prison)
        10. Parental separation or divorce (loss of a biological parent)
c. The aftermath of the ACE trial:
    i. More than 70 peer reviewed articles
    ii. Subsequent ace questionnaires continue to be revised and expanded to include racism, gender discrimination, witnessing a sibling being abused, witnessing violence outside the home, witnessing a father being abused by a mother, being bullied by a peer or adult, involvement with the foster care system, living in a war zone, living in

an unsafe neighborhood, losing a family member to deportation, and more.

SLIDE 6. The results of the ACE trial:

a. A whopping two thirds of the 17,000 people in the ACE Study had an ACE score of at least one — 87 percent of those had more than one.

Number of Adverse Childhood Experiences (ACE Score)	Women	Men	Total
0	34.5	38.0	36.1
1	24.5	27.9	26.0
2	15.5	16.4	15.9
3	10.3	8.6	9.5
4 or more	15.2	9.2	12.5

b. With 4 ACE points, compared to a person with 0:
   i. 2.5 times the risk of COPD
   ii. 4 times the risk of MDD
   iii. 12 times the risk of Suicidality
c. With 7 or more ACE points:
   i. 3.5 times the risk of CAD
   ii. 3 times the risk of Lung Cancer

SLIDE 7. How does an ACE predispose to illness?

a. Chronic CNS dysregulation
b. Endocrine and immune dysregulation
c. Chronic inflammation
d. Pleasure and reward centers, as well as impulse control, executive function and learning areas of the brain affected
e. Overfunctioning of the dorsal branch of the vagus nerve; dissociation.

SLIDE 8. Can Trauma Informed Care (TIC) improve health outcomes?

a. A survey of 179 U.S. physicians found that only 16% estimated that more than half of their patients had a trauma history, and commonly perceived barriers included time/resource constraints, provider stress, limited referral knowledge, and inadequate TIC emphasis in medical education.

b. The evidence base remains limited by heterogeneous implementation strategies and lack of standardized outcome measurements.
c. A 2024 systematic review of 36 studies (>7,843 participants) found that TIC frameworks significantly improved provider knowledge, confidence, and attitudes ($P < 0.05$ to $P < 0.001$), and when applied to patient care, were associated with reduced depression and anxiety ($P < 0.05$), increased trauma disclosures (5–30%), and enhanced mental and physical health ($P < 0.001$) across settings including women's health, IPV, PTSD, and inpatient psychiatry.
d. A 2024 cluster RCT in Chile (214 patients, 85% female, 61% with ≥4 ACEs) demonstrated that collaborative trauma-informed care reduced depressive symptoms at 6 months compared with usual care (adjusted PHQ-9 mean difference −3.09, 95% CI −4.94 to −1.23).
e. SAMHSA principles for TIC:
    i. **Safety**: Use nonjudgmental language; obtain permission before touch; explain the presence of extra staff
    ii. **Trustworthiness**: Narrate examinations; warn of sounds/sensations; avoid unexpected touch
    iii. **Empowerment**: Offer choices (even minor ones); obtain consent for all examinations; allow patients to listen to music during procedures
    iv. **Collaboration**: Ask patients for their goals and priorities; explain procedures and invite questions

SLIDE 9. Trauma and end of life care:

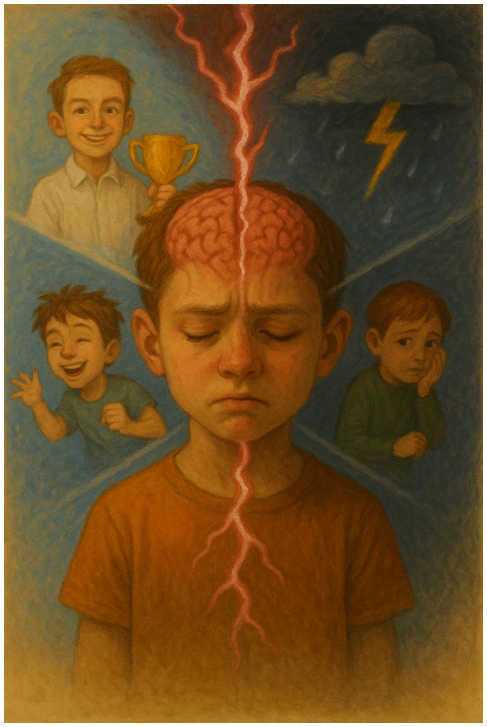
a. Psychological trauma associated with increased distress and perceived pain in medical patients.
b. In addition, patient–staff collaboration and patient care may be compromised because patients struggling with trauma histories are more likely to be anxious, depressed, distrustful, angry, and/or avoidant of trauma reminders, which may include medical settings and medical personnel.
c. Unfortunately, age itself is a risk for trauma exposure and it is estimated that 70%–90% of adults aged 65 and older have experienced a trauma-level life event.
d. Some of the most potent forms of trauma exposure occur in the context of an individual’s closest relationships (e.g., sudden death or serious injury of a loved one or the life-threatening illness or death of a spouse or child). These

relationship-based traumas are often endorsed by people as their worst trauma, regardless of their other life experiences.

e. One of the developmental tasks of normal aging includes meaning-making through the review of old memories, including memories of old traumas. This review may reactivate old trauma memories, producing a resurgence or new development of trauma-related symptoms, up to and including PTSD.
f. Example: End-Stage Cancer: study found that 69% of patients reported high levels of psychological distress and reduced well-being, in addition to PTSD symptoms such as avoidance (72%) and intrusion (67%). Approximately a third of the sample had scores consistent with clinical PTSD.

SLIDE 10. How to bring trauma informed care to Palliative Care? Potential role for Parts Work (Internal Family Systems Therapy)

a. Evidence Based Trauma Informed Psychotherapeutic model.
    i. The IFS model; multiplicity of mind.
    ii. Why could IFS be useful in Palliative Care?
        1. Compassion based, trauma informed model
        2. Aims to soften a (CN) system by understanding each of our parts by their intention.
        3. Holding ambivalences (in patient and caregiver)
        4. Symptom care is PARTS care
        5. Parts can magnify a symptom, or challenge its management.



b. An example of how parts come to be:
    i. The mind is naturally divided into sub-personalities striving for different aspects of an individual's nature.
    ii. When trauma strikes -at an early age- some of these parts can take an extreme role ("I will never be hurt again", "I will never make a mistake again", "I won't trust 'cause people betray") in order to keep the part holding the hurt at bay. Since parts are in a system, usually another part will respond to the one taking an

extreme position; this creates polarities.

iii. In the image example:
    1. A shaming experience comes in as the childhood trauma
    2. As a result, a part that holds the hurt of the humiliation and shame is taken deep into subconsciousness
    3. Two protectors arise in order to keep shame away (1) a high achiever, and (2) a glass half full part
    4. Depending on the internal and external environments that these parts experience, their role can become extreme and inflexible (e.g. perfectionist)
    5. As a result of the polarized system, the individual usually suffers internally and externally from the imbalance.

SLIDE 11. Bringing parts language to Palliative Care:

a. In a patient with chronic pain from cancer, we could find activated parts like:
    i. Worried parts: "will this pain only get worse?"
    ii. Resigned or meaning making parts: "I am being punished for the wrong I've done", "I have to endure this pain and not complain."
    iii. Relational parts: "If I am always in pain, I will drive everyone away."
b. In a patient facing terminal disease:
    i. Parts that want to fight for life
    ii. Parts that are ready to die.

SLIDE 12. Bringing parts language to Palliative Care (2):

a. There will be many parts activated in all individuals involved in a dire goals of care discussion
b. Physician: "I am afraid even with all these treatments, we are running out of time"
c. Patient: "STOP, I don't want to have this conversation"
d. Family member: "I guess we are locked down on continuing aggressive medical care".

SLIDE 13. Bringing parts language to Palliative Care (3):

a. Understanding the parts system of the patient:
    i. A self critical part: talking about not being able to sustain further treatments activates a self critic that will not allow the goals of care conversation to progress. Strong critics are often protecting deep early experiences of shame.
    ii. A rageful part: a part responds to the conversation about medical failures with anger. Behind this part, a young one carrying the wound of being ignored in his childhood.
    iii. A hopeless part: a part bringing in intense hopelessness could still be protecting from early experiences of deep disappointment in childhood, like emotional or physical neglect.
    iv. A dissociated/avoidant part: shutting down of emotionality or awareness is done by a part in efforts to prevent the patient from being perceived as "too much".

SLIDE 14. Bringing parts language to Palliative Care (4):

a. Understanding the parts system of the loved one:
    i. A guilt evoking part: painful and yet frequently activated part in these scenarios "what could I have done differently", "I wonder if this is my fault". This part could be protecting from early experiences of humiliation.
    ii. Resentment carrying parts: parts that carry contrarian feelings about the loved one are commonly there. They could be protecting from early experiences of worthlessness or boundary violation at the hands of the loved one.
    iii. Placating part: parts that 'run' when the loved one has any symptomatology. How interesting to understand that sometimes parts with such strong externalized behavior ("don't let dad have pain for one second") could be in fact protecting from inside pain; in this case pain of feeling inadequate.

SLIDE 15. Bringing parts language to Palliative Care (5):

a. Understanding the parts system of the physician (the role of self exploration):

vi. A part that evokes extreme responsibility over a situation: could be protecting from early experiences of neglect and unsafety.
vii. A detached part that activates to make us indifferent to a patient: these parts could be participating in a polarization with a part that holds excessive empathy.
viii. A detail oriented part; scapegoating to details of the MRI or the biological markers of tumor. Information rich parts like these, could be activated to stave off exiled parts that took in being ridiculed.

SLIDE 16. How does polarization happen in parts theory?

a. Parts carrying opposing goals or roles, can escalate in their positions, leaving the individual split between diametrically different stances on an issue.
b. For example:
    i. A **boundary** setting part: "I wish that everyone would leave me alone"
    As a result of this activation:
    ii. A self-**critic** part: "How dare I push people away, they're trying to help me"
    As a result of this activation:
    iii. A **soothing** part: "This is causing discomfort, I will have a cigarette"
    As a result of this activation:
    iv. A **shaming** part: "I should be ashamed of myself for smoking while having cancer"
    As a result of this activation:
    v. **Suicidal** thinking: "I could be dead right now and all this suffering would go away"
    As a result of this activation:
    vi. Concerned with **others**: "How could you do that to your family?"

SLIDE 17. The Psychedelic renaissance:

a. The turn of the millennia has welcomed the so-called Psychedelic renaissance with plethora of research and public and institutional interest.
b. On Psychedelics and Psychedelic Medicine.
    i. A psychedelic is a class of psychoactive substances that produce unconventional states of consciousness. These substances alter perception, thought, and feeling in ways that are qualitatively different from ordinary waking awareness.

ii. There have been attempts to establish and theorize the neurophysiological effects of psychedelic drugs. Various mechanisms of action—such as increased plasticity, serotogenesis, entropy and network integration—have been suggested and remain explanatory candidates.
iii. Similarly, the appropriate way to understand the subjective effect of psychedelics, which includes perceptual, affective, mystical and spiritual experiences, remains elusive.
iv. This can include new realizations or (relational) insights into the self, others, or the world which often have a noetic quality, meaning that individual's experience a profound—and perhaps even revelatory—sense of the significance, meaning or validity of their experiences

c. On existential distress:
    i. No single definition.
    ii. It can be experienced at any point in someone's life.
    iii. On one hand the realization of the imminence of one's own death
    iv. Plus, the problem of meaning, wherein the lack-of hurts our sense of life. A "profound sense of meaninglessness" and a high degree of demoralization.
    v. For some authors a phenomenon intimately linked to the human condition, therefore the question; should it be treated as an ailment?

SLIDE 18. An evolutionary argument for Psychedelics:

a. The PFC (prefrontal cortex):
    i. Is involved in higher-level cognitive processes grouped under the term of "executive functions" in humans, as well as language, emotional processing and sociality.
    ii. Executive functions include the organization of input from diverse sensory modalities, the maintenance of attention, the monitoring of information in working memory, and the coordination of goal-directed behaviors.
    iii. Together, these abilities would have been necessary for navigating both the complex social groups and unpredictable, dangerous environments of our hominin ancestors.
    iv. Thus, the capacities enabled by the PFC, while most are not exclusively human, are certainly a crucial aspect of what we think of as "human" in cognition. One of the most fundamental problems to

be solved by any animal (Fuster, 2001), human, or otherwise, living in a complex and ever-changing world, is how to make sense of this setting.

v. A comparative exploration of PFC microstructure is all the more necessary given both that the PFC is one of the last regions of the brain to mature, based on most indices of development (Fuster, 2002), and that neurons in areas that develop later in life have more complex dendritic trees than those that mature earlier, such as primary somatosensory and primary motor cortex (Jacobs et al., 2001; Travis et al., 2005).

b. Amygdala:
    i. The amygdala plays a central role in processing and storing the implicit, emotional, and survival-based elements of trauma.
    ii. **Instead of recording a logical storyline of an event, it encodes the raw sensory and physiological data** associated with threat.
    iii. The amygdala appears early in evolution, with evidence suggesting its presence in most, if not all, tetrapods (animals with four limbs), indicating its development likely occurred before the split between reptiles, birds, and mammals, making it a very ancient brain structure in evolutionary terms.
c. Classic psychedelics fundamentally disrupt the normal hierarchical relationship between the prefrontal cortex (PFC) and the limbic system, reducing top-down cortical control over subcortical emotional processing while increasing cross-network connectivity that is normally segregated.

SLIDE 19. An evolutionary argument for Psychedelics (2):

a. Applying this to trauma:
    i. When we think of parts of our brain that carry the emotional component of trauma as well as its evoked reliving (e.g. PTSD) like the amygdala -which appears on the roster of evolution 415 million years ago- and we compare that to the cognitive executive parts of our brain, that completed its evolution 150 thousand years ago, the dissonance doesn't appear to be so striking.
    ii. The quandary here becomes how to reconnect and rewire with the most impactful traumatic experiences of our lives, by way of a processor that evolved 400 million years later. This is what we are doing in conventional psychotherapy.

SLIDE 20. Overview of the evidence of psychedelics in palliative medicine:

a. We have evidence of safe effectivity, with the caveat that these results are statistically of low certainty -particularly due to inability to blind patients since psychedelic effect is so symptomatically dramatic.
b. ACROSS all these studies, no major side effect reported.
c. Griffiths et al. (2016): Crossover RCT of 51 patients with advanced cancer comparing high-dose (22 mg/70 kg) to low-dose psilocybin with supportive psychotherapy. Large decreases in anxiety and depression persisted at 6-month and 4.5-year follow-up.
    i. This is a landmark crossover RCT, conducted at the Johns Hopkins University School of Medicine, Baltimore, Maryland.
    ii. 51 cancer patients randomized to psilocybin 22/30 mg/70 kg, versus low placebo-like dose. High-dose psilocybin produced large decreases in clinician- and self-rated measures of **depressed** mood and **anxiety**, along with increases in **quality of life**, **life meaning**, and **optimism**, and decreases in **death anxiety**.
    iii. At 6-month follow-up, these changes were sustained, with about 80% of participants continuing to show clinically significant decreases in depressed mood and anxiety.
d. Ross et al. (2025, Phase 2b): 35 participants with life-threatening illness randomized to 25 mg psilocybin vs. niacin placebo.
    i. Psilocybin produced significantly greater reductions in HADS depression (d = 1.12), BDI-II (d = 2.97), and STAI-State anxiety (d = 4.51), with benefits sustained at 26 weeks.
    ii. Exploratory outcomes showed improvements in spiritual well-being, demoralization, death anxiety, and hopelessness.

SLIDE 22. The argument for Ketamine, starting with the pharmacology:

a. Ketamine (K) is an anesthetic drug first synthesized in 1962 at the Parke-Davis pharmaceutical company following the discovery of phencyclidine (PCP); K ideally lacked the unwanted psychotropic effects of PCP.
b. It can be argued that even beyond its important role in anesthesia, ketamine is a top contender for being the drug with the largest impact for research and treatment of psychiatric disorders in the past several decades.
c. Despite its relatively fast pharmacokinetics, the antidepressant effects of ketamine are sustained for up to 1-2 weeks

d. An ever-increasing number of molecular targets and mechanisms have been associated with the antidepressant effects of ketamine
e. Ketamine offers a relatively wide dosing range, produces a sympathomimetic effect that supports cardiovascular stability along with maintenance of respiratory function, and provides a good level of analgesia comparable to that produced by morphine.
f. Ketamine refers to the mixture of two water-soluble, optical stereoisomers: S(+) and R(-)-ketamine. It is pharmaceutically produced in both racemic and enantiopure preparations.
g. Both enantiomers share the ability to non competitively block NMDARs but differ slightly in their potency. S-ketamine is often preferred in clinical anesthesia owing to its stronger ability to block NMDARs, whereas R-ketamine has a lower affinity for NMDARs (N-methyl-D-aspartate Receptor).
    i. The channel is permeable to both monovalent cations (Na^+ inward, K^+ outward) and divalent cations (Ca^{2+} inward).
    ii. Ca^{2+} permeability is notably high compared to other ionotropic glutamate receptors (AMPA and kainate receptors), making the NMDAR the primary route for activity-dependent Ca^{2+} entry at excitatory synapses.
h. By entering the ion channel and then being captured inside the closing pore, they elicit a trapping block (Fig. 1). In contrast, drugs such as memantine act as partial trapping blockers, which only hinder the channel closure but do not entirely prevent it from functioning.
i. Although ketamine exerts its most pronounced effects through the blockade of NMDARs, it has been proposed to also affect many other targets, including dopaminergic, serotonergic, adrenergic, opioid, cholinergic, etc
j. How can inhibition of an excitatory pathway improve depression?
    i. Increase in glutamate release and burst is a proposed mechanism for K's effect on depression.
    ii. Disinhibition hypothesis proposes that subanesthetic doses of ketamine preferentially inhibit NMDARs present in GABAergic interneurons, this **decreases the inhibition of excitatory pyramidal neurons and increases glutamate release and burst which continue to activate neurotrophic signaling mechanisms leading to the amelioration of chronic stress-induced synaptic deficits**.
    iii. Also suggested to inhibit NMDAR-mediated spontaneous neurotransmission (spontaneous release occurs independent of action potentials).

1. Ketamine's preferential blockade of NMDARs activated by spontaneous (miniature) neurotransmission at rest
2. Under basal conditions, spontaneous glutamate release activates postsynaptic NMDARs, which maintain tonic calcium influx that keeps eukaryotic elongation factor 2 kinase (eEF2K) active. Active eEF2K phosphorylates eEF2, which suppresses dendritic protein translation, including BDNF synthesis.
3. Knockout of eEF2K eliminates the antidepressant behavioral effects of ketamine, confirming the centrality of this pathway.

a. After administration, ketamine is rapidly distributed in the body and has low plasma protein binding and a short elimination half-life of approximately 2-4 hours in humans.
    i. The initial metabolic reaction-N-demethylation to NK-is mainly catalyzed by liver cytochrome P450 enzymes CYP2B6 and CYP3A4.
    ii. The initial metabolite is (R,S)-norketamine (NK), but (2R,6R;2S,6S)-hydroxynorketamine (HNK) and (R,S)-dehydronorketamine (DHNK) are the major circulating metabolites in human plasma
    iii. Ketamine does not primarily act through gamma-aminobutyric acid (GABA) receptors like most other anesthetics that possess sedative or hypnotic properties.

SLIDE 23. Clinical Data on Ketamine:

a. MDD:
    i. The seminal study by Berman (small (n of 7) RCT to IV K (.5 mg/kg vs saline), improvement at 72h only on K groups) et al. was the first to demonstrate the rapid-acting antidepressant effects of an intravenous subanesthetic infusion of ketamine in patients suffering from major depressive disorder (MDD).
    ii. Since then, a number of clinical trials have replicated these results and extended the findings to treatment-resistant patients, which has rapidly increased the use of ketamine for the treatment of depression.
    iii. Ketamine’s antidepressant effects develop within hours of drug administration and may last from a couple of days to approximately 2 weeks following a single dose. The antidepressant effects often peak at 24 h after the infusion. Similar antidepressant effects have also been observed in patients suffering from bipolar depression. Studies

have shown equal effectivity for antidepressant effect in IV, IM and SQ dosing.

b. PTSD:
    i. The first randomized controlled study in this context demonstrated that a single subanesthetic dose of iv ketamine (0.5 mg/kg) was superior to midazolam (0.045 mg/kg) in rapidly reducing PTSD (and depressive) symptoms within 24 h; however, PTSD symptoms often started to recur 48 h post-infusion, and no significant difference was detected at 1 week post-infusion.
    ii. Another open-label trial studied repeated iv ketamine infusions (0.5 mg/kg; six infusions over 12 days) and found rapid improvement in both PTSD and depressive symptoms, with the median time to relapse in PTSD remitters being 41 days.
c. ADDICTION
    i. Several clinical studies provide support for the potential of ketamine in the treatment of alcoholism as well as opioid and cocaine addiction and cannabis use disorder.

SLIDE 24. Clinical Data on Ketamine in Palliative Care:

a. Although small studies, and with the caveat of all psychedelic trials (trouble with blinding, small n), the results for Ketamine in palliative care are consistently positive.
b. The INKeD-PC trial (phase II, n=20):
    a. Intranasal racemic ketamine (50–150 mg, 3 doses over one week) achieved a 70% response rate and 45% remission rate on MADRS in patients with advanced cancer and MDD
    b. Effects were partially sustained at Day 14.
    c. Adverse effects were mostly mild and transient.
    d. A secondary analysis of this trial showed clinically meaningful improvements in existential distress (Death and Dying Distress Scale, d=0.91), anxiety (GAD-7, d=1.22), and quality of life (MQOL, d=1.53), with psychological symptoms improving more than physical symptoms.
c. The SKIPMDD trial (phase II, n=10):
    a. Weekly subcutaneous ketamine (0.1–0.4 mg/kg over 2 hours) was feasible and well-tolerated

b. 50% of participants achieving ≥50% reduction in MADRS. No clinically relevant harms were encountered.

SLIDE 25. Caveats of Ketamine:

a. No single drug will be the solution for trauma or for the suffering of our patients.
b. The risk of the oversimplification of a powerful tool.
    i. The importance of set and setting. The power of the subjective. How does the patient prepare for the session? What role does the clinician play in this preparation?
    ii. The importance of the relational aspect in a psychedelic experience.
    iii. The importance of psychospiritual context.
    iv. Same dose, same route, same client, same preparation: different outcome.
c. The risk of addiction.
    i. Recent review of 16 eligible studies from RCTs to case reports suggest that ketamine does not appear to induce dependence in the same fashion as other drugs such as opioids or benzodiazepines.
    ii. This observation is further supported by the fact that the vast majority of the population examined in this review did not develop tolerance to the antidepressant effect of ketamine or dependence on the drug.

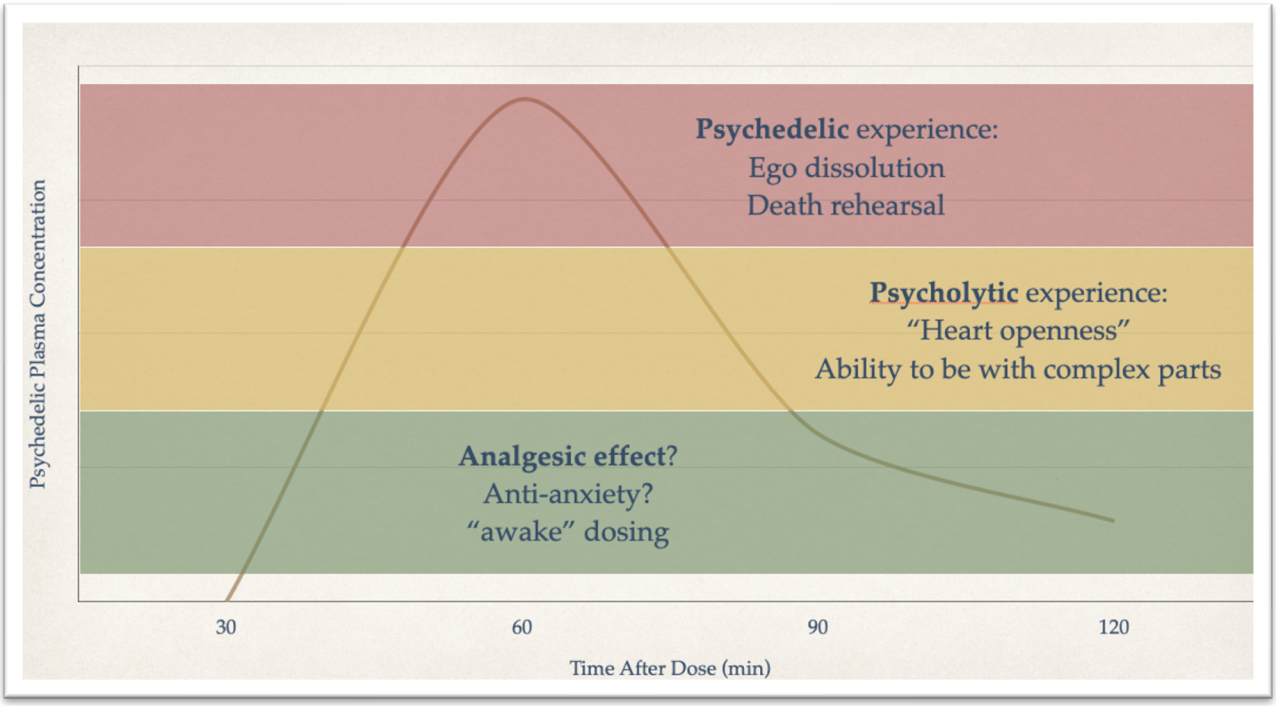
SLIDE 26. Ketamine as potential psychedelic of choice in Palliative Medicine:

a. Legal framework
b. Rapid onset of action
c. Compatibility with most CNS medications
d. Potential effects on mood and existential distress
e. Terminal conditions and the role of thinking differently
f. The possibility of death rehearsing
g. Opening up the relational aspect of healing

SLIDE 27. Ketamine role in Palliative Care guided by dosing:

Dosing	Effect	Dose	Comments
Anesthetic	Deep dissociation Amnesia Sedation	IV: 1-2 mg/kg bolus followed by 1-6 mg/kg/h infusion.	Sympathomimetic No respiratory depression
Psychedelic	Dissociation Awareness Subconscious content	IV, IM: 0.5-1.5 mg/kg (INJ or INF) SL: 1.5 mg/kg	Opportunity for "death rehearsal" Mystical experiences
Psycholytic	Almost full awareness "Heart openness" Increase in range of emotional tolerance	IV, IM: <1.5 mg/kg (INJ or INF) SL: <1.5 mg/kg	Opportunity to deepen relational opening and trauma work
Analgesic	Analgesia *Mild antidepressant effect?*	**0.02–0.05 mg/kg/hr** as cont IV inf PO: 10-60 mg Q8h	Ideally to be used with adjuvant/opioid

SLIDE 28. Ketamine role in Palliative Care guided by dosing (2):



SLIDE 29. Ketamine and MAiD:

a. Ketamine as a Tool to Clarify MAiD Requests
    i. A key concern in MAiD is whether comorbid depression impairs a patient's decision-making.
    ii. Ketamine's rapid antidepressant effect (onset within hours) has been proposed as a means to disentangle depression from an autonomous wish for hastened death.
    iii. A case series described three terminally ill patients with cancer and comorbid depression who requested physician-assisted death and were treated with intranasal ketamine.
        1. All three experienced significant antidepressant effects; one patient withdrew her request, recognizing in retrospect that it had been "largely driven by guilt and distorted self-perceived burden, because of low self-worth".
        2. The other two patients maintained their requests with clearer decision-making capacity.
    iv. A Canadian case report described a patient with severe treatment-resistant depression who was actively pursuing MAiD eligibility until achieving remission with IV ketamine infusions — reportedly the first case of any intervention yielding remission in a patient otherwise likely eligible for MAiD for a psychiatric condition.
    v. These cases have prompted discussion about whether a trial of ketamine should be considered before approving MAiD requests, particularly for psychiatric indications, to help establish the "irremediability" criterion required in several jurisdictions.
    vi. Guideline Context
        1. The NCCN Palliative Care Guidelines emphasize that expressions of distress, including requests for hastened death, should prompt exploration of underlying causes — particularly depression, anxiety, and existential suffering — and reassessment of palliative care needs before proceeding with MAiD evaluation.

SLIDE 30. CONCLUSIONS:

a. In a time when mainstream medicine becomes more impersonal, an invitation to make palliative medicine relational, trauma informed and less pharmaco-centric.

b. The burden of trauma in advanced medical illness is clearly present, both as risk factor and as a complicating factor in adjusting and recovering from disease, as well as preparing for death.
c. IFS (Internal Family System Therapy) is one of many trauma models. By allowing open hearted dialogue with intrapsychic ambivalences and detecting precious vulnerability underneath strong protective mechanisms, it can prove useful in palliative medicine and chronic symptom care.
d. Ketamine lends itself well to palliative care, from its rapid onset of action for mood disorders, to the invitation of the mystical and the relational aspects of care; it might be a cheap low hanging fruit that our specialty can own and develop in medicine for the suffering.

SLIDE 31. REFERENCES:

a. Ganzel, Barbara L. "Trauma-informed hospice and palliative care." The Gerontologist 58.3 (2018): 409-419.
b. Hughes, Karen, et al. "The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis." The Lancet public health 2.8 (2017): e356-e366.
c. Shadick, Nancy A., et al. "A randomized controlled trial of an internal family systems-based psychotherapeutic intervention on outcomes in rheumatoid arthritis: a proof-of-concept study." The Journal of rheumatology 40.11 (2013): 1831-1841.
d. Anda, Robert F., et al. "The enduring effects of abuse and related adverse experiences in childhood: A convergence of evidence from neurobiology and epidemiology." European archives of psychiatry and clinical neuroscience 256 (2006): 174-186.
e. Emmerich, Nathan. "Responding to existential distress at the end of life: Psychedelics and psychedelic experiences and/as medicine." Neuroethics 17.3 (2024): 37.
f. Teffer, Kate, and Katerina Semendeferi. "Human prefrontal cortex: evolution, development, and pathology." Progress in brain research 195 (2012): 191-218.
g. Ramakrishnan N, Murphy NRE, Walker CP, Cuellar Leal VA, Soares JC, Cho RYJ, Selvaraj S. Neurophysiological Effect of Ketamine on Prefrontal Cortex in Treatment-Resistant Depression: A Combined Transcranial Magnetic Stimulation-Electroencephalography Study. Chronic Stress (Thousand Oaks). 2019 Jul 23

h. Gasser, Peter, et al. "Safety and efficacy of lysergic acid diethylamide-assisted psychotherapy for anxiety associated with life-threatening diseases." The Journal of nervous and mental disease 202.7 (2014): 513-520.
i. Griffiths, Roland R., et al. "Psilocybin produces substantial and sustained decreases in depression and anxiety in patients with life-threatening cancer: A randomized double-blind trial." Journal of psychopharmacology 30.12 (2016): 1181-1197.
j. Grob, Charles S., et al. "Pilot study of psilocybin treatment for anxiety in patients with advanced-stage cancer." Archives of general psychiatry 68.1 (2011): 71-78.
k. Rosenblat, Joshua D., et al. "A phase II, open-label clinical trial of intranasal ketamine for depression in patients with cancer receiving palliative care (INKeD-PC Study)." Cancers 15.2 (2023): 400.
l. Kohtala, Samuel. "Ketamine—50 years in use: from anesthesia to rapid antidepressant effects and neurobiological mechanisms." Pharmacological Reports 73.2 (2021): 323-345.