VERNON IAN NATHANIEL: Her presentation will be about deprescription and optimization of medications.

So we'll be discussing what does it mean to deprescribe and its application to the field of psychiatry, as well as how the concept of deprescription was applied to the management of an individual whom we followed with Dr. Chenkova at the LTSR when she was transferred from the acute setting.

Like I said, so we're going to be talking about what does it mean to deprescribe and its application to the field of psychiatry, and how this concept of deprescription was applied to the management of an individual whom we followed with Dr. Chenkova when she was transferred to the LTSR from the acute setting.

So we're going to provide an overview of her presentations, two years before LTSR placement, her time at the LTSR in collaboration with our assertive community treatment team, followed by her LTSR transition, approximately two years out from LTSR discharge.

So what does it mean when one brings up deprescription? So a 2016 article from*The Journal of Psychiatric Services* provides a great overview of deprescription and the context in which it could be considered. Deprescription was first introduced in the fields of geriatric and palliative medicine, with their patient population tending to have a more robust medication regimen. There were also higher incidence of med-med interactions and the consideration of the pharmacodynamics of drug metabolism in an aging population.

So what it is, it's the practice of reducing or discontinuing medications whose current or potential risks outweigh their current or potential benefits. So risk/benefits not being a static thing, and must be something that is continually assessed. So what we're doing is we're identifying, reducing, or discontinuing medications from the individual's medication regimen, taking into account several factors, including the current medical status, current level of functioning, and the individual's values and preferences.

What it doesn't mean-- and one has to be very mindful of this-- is having the individual interpret the consideration to deprescribe as a message that no treatment is further warranted or it's a withdrawal of care. Actually, deprescription, it may be more time and labor intensive than the introduction of a new medication to the individual's medication regimen.

So when it comes to issues regarding polypharmacy-- there's a rise in polypharmacy-- there's a difference that Doctors Gupta and Cahill noted in their article between practice guidelines, which tend to recommend an adequate trial of a single medication before an addition of a second medication. However, at times our real world practice could differ. And what this leads to is meds adding on each other, polypharmacy.

And as providers, at times we can become locked into a med regimen with our patients, because a certain drug combination may prove to have some benefits and not challenging the possibility of discontinuing the other medication, which could establish the true need for the actual combination.

So deprescription is not a one size fits all approach to care. It's definitely person-centered. It must be a collaborative and well-thought out process. Numerous factors to consider-- the timing and the context of the change, the patient's alternative coping strategies, the meaning of the change for the individual, the strength of the treatment alliance, level of risk, and whether the individual is receiving mandated treatment. And we'll get back to these factors later in the presentation. So with that brief overview of deprescription, let's move on to our case discussion.

So this individual, Cindy, she was referred to our Western Science Community Treatment Team Transitional Agent in December 2010 for an evaluation of appropriateness for CTT services due to her inability to participate in traditional community-based services, her historical need for advanced services and structural settings, and to provide psychiatric care in the least restrictive means possible in the community.

So at the time of the referral, she had about seven inpatient psychiatric hospitalizations, as well a history of overdosing on her prescribed medications, cutting, being homicidal in the context of consuming alcohol on one occasion. And at the time of the referral she was she was hospitalized for an attempted suicide, had been taking vistaril in an excess amount over the course of several days.

Reports of a history of sexual assault by a cousin when she was 12 and he was 16. Her family history is significant for a schizophrenia diagnosis in her mother and severe alcohol use disorder in both parents. Her late mother spent extended periods of time in state hospitals. She reported one sister was diagnosed with bipolar disorder. So lots going on with her.

Cindy stated that much of her hospitalizations began following the death of her mother in July 2008, stated that she was very close with her mother and who was her primary support. She continued-- at least she tried making the effort to continue attending classes at CCAC to become a CNA. However, I started getting poor grades, missing classes. I'm just going through a grieving process.

Then reports of a problem with-- impulse problem with pills. And so this method of self injury usually involved ingesting large quantities of prescription or over-the-counter medications, and these various methods of self injury also occurred when she was a resident in a step down facility post-hospital discharge.

So these hospitalizations typically followed arguments at home, strained family dynamics. She reported not feeling wanted. And she used this way of self injury as a way of coping.

The symptoms are endorsed by Cindy previously included auditory hallucinations of a command nature, which Typically occurred under stressful circumstances, such as during severe family conflicts, which often led to feelings of abandonment by immediate family members, stating the voice was her own instructing her to take pills. No prior evidence of bizarre delusions, negative symptoms, disorganized thoughts or speech. And during these episodes of decompensation from her baseline, no symptoms of mania, sustained depressed mood, or anxiety were endorsed or observed.

So while she endorsed these suicidal ideations with plan, intent, and means during numerous ER presentations, post-ingestion, she would state that her intention was not to end her life, but rather to evoke concern in her in her family members.

So over the course of several years, and despite intensive wraparound CGT services, she accumulated about 25 inpatient psychiatric hospitalizations, numerous presentations to resolve. She also accumulated an additional eight general medical hospitalizations and well as over 50 combined visits to hospital emergency departments and urgent care facilities. So we have the cycle of recurring hospitalizations going on with this individual.

So her med regimen would change with these recurrent hospitalizations. So she'd be on maybe an anti-psychotic, a mood stabilizer, an antidepressant, and sometimes PRN benzo. And these meds would be streamlined by her outpatient psychiatrists. However, due to the ongoing cycle of crisis presentations, there was no appreciable time to monitor symptoms in the community in any meaningful way.

So along with the ongoing changes in her med regimen, have various discharge diagnoses, which would include schizophrenia, schizoaffective disorder, which was her initial referral diagnosis, as well as borderline personality disorder, and borderline intellectual functioning.

So over time, we've had this pattern of increasingly impulsive behaviors. She's unable to remain safe in the community. And she had more frequent episodes of injections of over-the-counter medications. And one of the last injections was a intentional ingestion of about 20 vitamin pills. She said she wanted to make her heart stop after a conflict at home. And after this ingestion, she presented to the emergency department, where she stated if she was discharged, she would kill herself by taking better pills.

So subsequently, she spent about 60 days in an inpatient acute setting, and afterwards was stepped down to a extended care facility, where she was there for about a month and a half. She had already had numerous inpatient hospitalizations that year. She failed this placement after she presented to the emergency department after another suicide gesture. She drank a bottle of hand sanitizer. So again, so she was admitted yet again to the inpatient acute unit, where she spent about 50 days, followed by transfer to another step down unit, where she spent about a month, but with a subsequent transition to the LTSR, which lasted about 11 months.

So our goal was to break the of the recurrent hospitalizations. And at that time, her engagements with her ACT team was primarily acute crisis management. So next, Susan will talk about the rationale for the LTSR transition.

SUSAN WOLFE: So one might think that thinking about a long-term structured residence might be sort of counterintuitive given all the kind of clinical information Dr. Nathaniel just shared. So I did want to really kind of talk a little bit about why we really seriously considered the next step as a long-term structure residence for Cindy. One of the things was our ACT engagement really had been really just centered around helping her through all these crisis situations. So we never really had a good opportunity to see what actual kind of supportive treatment we could provide, because it was only crisis-oriented. And so with no really course of significant stability, it really made it impossible to see what really could happen.

Cindy really had her own frustration with her quality of life as a result of all of these frequent crisis episodes and the many, many inpatient psychiatric stays. And so the LTSR really provides the least restrictive setting in terms of compared to an inpatient stay at a hospital, but it also gives you that 24-hour kind of safe place and an opportunity to do some new medication trials, if noted. We could do close observation for emergence of symptoms or any kind of other psychiatric decompensation that might be happening.

And the other thing, it really provides a respite from her chaotic life situation. The family situation, again, really contributed to the many crises that happened. And it really didn't give us the opportunity to develop kind of a meaningful person-centered treatment plan with Cindy, again, because there really wasn't a very supportive environment.

Some additional considerations for the LTSR step down from inpatient is really giving us an opportunity to work with Cindy, the LTSR staff, and the ACT team of really establishing and helping her develop some DBT skills. And we were able to work in conjunction with both sets of staff to really provide good teaching and good sessions with the DBT skills.

Also, with an opportunity to have a gradual community integration, living at the LTSR, we were able to eventually have Cindy go out on day passes or spend some time with family. But these were short spurts, and then she would have the opportunity to come back to a safe environment and also kind of a chance to kind of debrief from what happened on those days, what went well, what didn't go well, and really gave us an opportunity to be able to look for ways that we could help her in the future.

Also, gave an opportunity to promote therapeutic work with the family. Sometimes the family would be involved in the treatment. And again, this was in a safe environment outside the home, and really gave Cindy and the family some distance from all the continued stressors they'd endured over the past years.

The other thing, really, another opportunity to kind of minimize all the reinforcement of the destructive coping mechanisms that she had developed over time. And this included, as Dr. Nathaniel pointed out, often overdosing or ingesting and all the frequent emergency room visits.

I want to welcome Stacey up. And she's going to really talk to you about, more specifically, what happened at the LTSR, the long-term structure residence, during Cindy's stay there.

STACY MARTIN: Hello. So Susan gave a brief explanation about the LTSR and Cindy at the LTSR. But I just wanted to define it for everyone that doesn't know. LTSR is a recovery-oriented long-term structured residence, where we focus on the skill development of the resident. We focus mainly on all these skills, but we will really hone in on certain ones.

And the LTSR where Cindy was at and where I'm at is called Pathways LTSR. And I remember my first year there, people were like, let's change our name. And we came up with a lot of names that had to do with bridges, for some reason, I guess, with Pittsburgh. But if you think about pathways, it shows from inpatient to a residential facility back to community living. So it's a good visualization. So I was really glad we didn't change the name and we kept it as Pathways.

So for Cindy, we really focused on the medication management, which is the whole presentation about do prescription, budgeting, physical health care, daily hygiene, socialization, really structuring her personal time, and education and vocational skills.

So Cindy's admission to Pathways was 11 months. That's a typical stay at Pathways. And her discharge planning was to go back with family. And we looked at different housing and placements and maybe her living alone with the ACT team. But Cindy always lived with her family, and that was most comfortable for her, and we decided it would be the most successful return to community living.

So skill development and treatment at the LTSR that we focused on was when Cindy came to the LTSR, her main complaint was her medications make her sleep all the time. So we worked with her on structure, her structuring her entire day from 8:30 to 3:00, and really letting her structure that day, so that she would participate in all of her activities and be engaged in her treatment, and we looked at medication management, educating Cindy in her medications and the ones that we're looking at de-prescribing, monthly treatment team meetings with the ACT team, Pathways staff, family, and then individual and group therapy.

So the therapies that we really focused on with Cindy was DBT, and the two that she was very interested in was emotion regulation and distress tolerance because of her urges to self-harm. And she did well with those two skills of DBT. With [INAUDIBLE], she really enjoyed doing yoga, coming to talk to people, calling her ACT team, if needed, listening to music.

So we also focused on CBT, focusing on her fears of abandonment, her past trauma, and she really reported higher self-esteem, higher moods, and less negative thoughts from the CBT therapy, psych rehab, direct skill training for her, and cooking, taking care of her living environment, laundry, social skills, and then community integration, which was through weekly passes and social outings with Pathways staff and the ACT team, wellness goals, dietary counseling, as she was pre-diabetic, weekly visits to a workout center, which she enjoyed, which was swimming, cardio workouts, yoga classes, and Zumba, yoga movement groups, which she really loved to lead these groups, and that gave her a sense of responsibility.

So the next part is the returns to the ED during Cindy's LTSR admission. And Dr. Nathaniel talked about that as her history. So during her admission at Pathways, early on, we saw her returning due to somatic complaints. And she reported these returns to the ED were to help her cope with any stress going on-- family, arguments, canceled passes.

Well, I actually asked Cindy early on, what do you like about going to the hospital? And she told me it was like she was a guest at a party and liked people checking on her. And how can we replicate that for her? So we tried to really do that, and individual outings, giving her positive reinforcement, things like that.

So when Cindy would return to the ED, we worked with the hospital staff there to streamline that process, get her in, get her assessed, focus on coming back to the community, coming back to Pathways, and meeting with her ACT team there, and discussing what was going on with her at that time that she felt she needed to go back to the ED. So during the de-prescription process at the LTSR, we were able to monitor all these things with Cindy, and see if she was having any mood swings, isolating from her peers or family, any appetite changes, sleep problems, and any increases in self-injurious behavior.

During her admission at Pathways, she would report urges to ingest soap. And she did have one ingestion while there, June 2017. She wasn't able to identify what the trigger to this ingestion was, but she was able to work with staff and her ACT team about coping skills using to replace these self-injurious behaviors.

So the next thing is the collaboration with the ACT team, which we all worked as a team to integrate Cindy back into the community. So she was going to CTT groups twice a week, weekly check-ins, and then that team would offer us crisis support when needed if Cindy was having urges or reported any stressors going on. And the other nice thing is if we knew there was going to be a stressor for Cindy, like a family was unable to pick her up for a family pass, the ACT team jumped right in and would transport her to help us all out with that.

So I'm going to turn it back over to Dr. Nathaniel.

VERNON IAN NATHANIEL: So Cindy's psychotropic medication regimen upon admission to the LTSR from the inpatient unit, included Haldol Dec, 150 milligrams every month, Olanzapine, 20 milligrams at bedtime, benztropine/Cogentin 1 milligrams twice a day, and melatonin, 9 milligrams at bedtime. So a relatively robust psychotropic med regimen. She was also on meds for physical health issues, including iron sulfate, two antihypertensive medications, hydrochlorothiazide and metoprolol. And she was on pantoprazole for reflux and Synthroid or levothyroxine for hypothyroidism.

Her discharge diagnosis at that time was a schizoaffective disorder, bipolar type meds. As previously mentioned, we have this ongoing various discharge diagnoses of schizophrenia, schizoaffective disorder, borderline personality disorder, et cetera, et cetera.

So what are we treating? And that requires some diagnostic clarification. And so a consensus was reached between the LTSR and ACT team psychiatrists, and is including her treatment team staff at the LTSR and CTT, that she met criteria primarily of a borderline personality disorder.

We undertook a careful chart review. There was collaboration with current and past treatment providers as well as touching base with her primary support system in the community, ongoing interviews and assessments, and observing her behaviors in this supportive 24/7 staffing environment. And so what this allowed was for a careful formulation of a treatment plan and also evaluation of her current psychotropic med regimen, as well as past psychotropic medication regimen, and also presented the opportunity or the possibility of trials of medications with obviously close observation for any emergence of any symptom exacerbation or psychiatric decompensation.

So psychotropic medication management for Cindy focused on prescribing a med regimen that was clinically appropriate for symptom management, while also being mindful of any side effects. Medication, evaluation, and treatment were facilitated to address her hypothyroidism, reflux, and obesity.

So Sue mentioned her previous discharge diagnosis of schizoaffective disorder, as well as schizophrenia or bipolar disorder, could not be affirmed. So it became clear that these self-harm behaviors and the emergency room presentation and urgent care visits, what was going on was a severe and intense dysregulation, if there was a distress intolerance, low frustration tolerance, as well has a long history of maladaptive coping behaviors. That developed over time. That was in relation to acute stressors, as well as past trauma, rather than any sustained mood or psychotic disorder.

So we reviewed, with Cindy and her relatives, the lack of evidence for a long-term use of psychotropic medications in the treatment of borderline personality disorders. So Cochrane and other reviews showed a lack of high-quality evidence for the use of psychotropic medications, yet polypharmacies is definitely common. Essentially, other reviews have shown marginal effects for first-generation anti-psychotics and antidepressants. However, their use cannot be ruled out, because it may be helpful in the presence of comorbid problems that are often noted in borderline personality disorder patients. There's better evidence for these second-generation anti-psychotics or mood stabilizers.

So following the discussion with Cindy and her older sister, we agreed to initiate a taper of olanzapine, or Zyprexa, giving her metabolic concerns associated with the second-generation anti-psychotics. She had gained about 40 pounds while on this medication and she had established hypertension. So the olanzapine was tapered and discontinued by 5 milligrams decrements over the course of three months, and there was no reoccurrence of psychosis or mood symptoms. She also participated in dietary counseling, followed by a portion control regimen, and she lost about approximately 30 pounds while she was at the LTSR.

So six months into her stay at Pathways, she remained clinically stable and going at home passes successfully. So the next medication that underwent tapering was the Haldol decanoate long-acting injection, and that was decreased by 25 milligrams decrements until it reached about 50 milligrams once a month. And it was discontinued a month prior to Cindy's discharge from the LTSR. So again, no recurrence of psychosis or mood symptoms, any mood disregulation upon continuation of the Haldol Dec.

And so while the Haldol was being tapered, it was also tapered with-- and then discontinued the Cogentin or benztropine. It was decreased by 0.5 milligrams decrements and stopped within four months. She complained of no side effects from the medication. No stiffness or cogwheeling noticed on examination.

When she first arrived at the LTSR, she denied any sleep difficulties. And so her melatonin, which was, like, about 9 milligrams, was tapered by 3 milligrams to commence over the course of two months. However, after this, she reported of some sleep difficulties, and a lower dose of 3 milligrams of melatonin was reinitiated, and her complaints of insomnia abated. Her PCP also discontinued one of the two anti-hypertensive medications-- it was the hydrochlorothiazide-- while she was at the LTSR.

So upon discharge from the LTSR and return to the community, she had a much more streamlined medication regimen, which included the melatonin, the pantoprazole, polyethylene glycol, levothyroxine, and the metoprolol.

So when it comes to the framework of de-prescribing psychotropic medications, I wanted to kind of review the seven-step process. And this is from Drs. Gupta and Cahill's *Psychiatric Services* article. So step one-- choosing the right time for de-prescription. So what does this mean avoiding times of crisis or the acute phase of the illness ensure that there's a treatment alliance that's well established.

And so that also means like a willingness to collaborate regarding the possibility of medication discontinuation from the outset and equal weight to conversations about deprescription and prescribing medications. Using caution when the individual is actively abusing substances and, you know, patients with a history of suicide attempts, homicide attempts, multiple hospitalizations in the recent past or, you know, severe relapse after dose reduction and poor social supports in the community, we would need to be more cautious.

Step two would be compiling a list of the patient's medications. Again, very important to coordinate with the individual's primary care physician or whatever providers or specialists that they may be seeing in the community. So that would entail documenting the dose, the route, the expected duration and the original indication for the medication, documenting current therapeutic and adverse effects, and estimate any potential drug-drug interactions, future risk-benefit ratio. So any high risk, low benefit medications would be at the top of the list for discontinuation.

Step three would be to initiate a discussion with the patient. So I call this like a pre-description discussion. And we'd ask, what's the patient's knowledge and attitudes about the medications? What's their perception regarding the benefits and risks of each medication? And explore the meaning of the medication to the patient.

And step four would be introduced deprescribing to the individual and this would be informing the patient about potential indications for and the process of deprescribing. You know, soliciting any ideas concerns, expectations about this process, addressing any anxieties on the part of the prescriber, the patients, the family or clinical care team. Again, family and caregiver buy in from all stakeholders is very important in this process.

Step five would be, identify which medications would be most appropriate for taper. So we're collaborating, you know, weighing the pros and cons of deprescribing each medication and soliciting the patient's preferences. Moving on to developing a plan, one would want to set a start date and maybe the rate of taper. You know, is a switch to another medication or formulation indicated, you know, considering a long acting injectable?

And also reinforcing any alternative psychosocial strategies for addressing symptoms, such as maybe teaching a patient breathing exercises or mindfulness when preparing to decrease an as-needed anxiolytic. Consideration of the CBT for insomnia before reducing sleep medications. It's also important to inform the patient about expected and possible discontinuation effects and their timing of their medications.

And agree also on a monitoring and follow up schedule and crisis plan. So this might be a good time to introduce a WRAP plan or Wellness Recovery Action Plan, if not already a consideration. And so this would have early warning signs, preferences during times of crisis, as well as post-crisis planning.

And step seven, you want to monitor and adapt this plan as necessary. And we may be adjusting the rate of taper, more frequent visits if advised, or you know maybe we'd have to table the deprescription for another time if, you know, there's more concerns from the individual about the process. So that would require, again, an ongoing conversation with the individual about their concerns.

So these next two slides kind of the same thing. I just thought that the prior slides gave a better overview of the steps deprescribing. But again, painting a detailed history, investigating the underlying meaning of what the medications mean to the individual. You know, some people might be hesitant to relinquish a complex med regimen, or maybe the attachment to the sick role. Assessing the risk versus benefits of each med.

So you'd want to start with the most risky, the least likely to be missed, the medication the patient's most motivated to discontinue. This would be a very slow process. You know, again, replacing medications with alternatives, such as the CBT or deep breathing exercises so that they don't feel that you're just taking things away and not coming with a plan for management of symptoms or breakthrough symptoms.

So upon discharge and return to the community, Cindy has continued to receive services through her act team, meeting with her therapist for CBT and CBT skills development and integration. She was restarted on an SSRI approximately nine months after discharge from the OTSR to target symptoms of anxiety primarily manifesting as excessive worrying, with the addition of [INAUDIBLE] and Vistaril for breakthrough symptoms.

She's had an overall decrease in inpatient admissions and emergency room presentations since her OTSR discharge. So in the 23 months following her OTSR discharge, Cindy has had one emergency room visit, two brief inpatient psychiatric hospitalizations. Again, during these two hospitalizations, ziprasidone and Geodon was initiated during these brief admissions. However, she was tapered off of it in partnership with her outpatient psychiatrists within a week of discharge.

And so she's had-- again, and there were no symptoms of psychosis or mania observed. So she's had markedly less than the 18 emergency room visits, 15 inpatient psychiatric hospitalizations, and six general medical hospitalizations she had in the two years prior to her OTSR stay. So some clinical situations to consider when deprescribing-- and this comes from internal [INAUDIBLE] psychiatry.

Considering deprescription when the current treatment is misaligned with the patient's preferences. Some individuals may choose to experience symptoms rather than taking medications every day. Not really due to side effects of the medication, but just what the act of taking the medication every day may mean for that individual. Also the maintenance phase of treatment of chronic psychotic disorders or bipolar disorders, you know, lower doses maybe are needed for management of symptoms in the maintenance phase than for acute symptoms.

So, you know, you want to consider a minimum effective dose or the discontinuation of the added medication once the individual is more stable. Again, the continuous polypharmacy. In the absence of experiencing side effects or drug-drug interactions, sometimes, you know, we get locked into the-- you know, with an addition of a second antipsychotic or an antidepressant or augmenting agent, such as BuSpar and ABILIFY.

Again, we have to reconsider when would be an appropriate time to maybe transition the individual from that. Again, as well as the medication prescribed for off label use, such as the use of Seroquel for management of insomnia and in patients with psychiatric disorders. Again, as well as antipsychotic medications that are often prescribed for aggression and other behavioral problems not necessarily caused by psychosis.

So Susan will give an overview of the hospitalizations and ER presentations.

SUSAN WOLFE: Well, as you can see in the slide, major decrease in the amount of emergency room visits. 50 to 20 post-OTSR. That's really looking at two years prior to OTSR and two years after. Resolved crisis. She had a minimal use of resolve crisis pre and post. Certainly a decrease in the general medical kind of admissions as well as a major decrease in inpatient psychiatric admissions, from 25 to just two.

And so one of the things I want to really point out, I think-- OK. Of course, we always look at the priority of being a positive outcome for the individual and certainly what their perception of care is. But there's no denying the cost portion of all of this. And as you can see pre-OTSR-- and really I think the combination of the deprescribing and all of the support that she got at the OTSR through their services, the act team, the introduction of skill development during that stay.

The financial evidence is quite dramatic here. Well, you know, prior to her OTSR stay, we had spent around $194,000 on inpatient stays for Cindy. And since that time it's reduced in the last two years to about under 23,000. So I think that's really important for us to consider, as well. The act costs have stayed fairly similar, but I think it's better money spent now, because we're not just providing crisis services.

We're providing weekly therapy. We're providing continuation of skill development. She's looking at returning to work and, you know, really her living situation has been much enhanced since her return to living in the community. So that's pretty much our presentation for today. We do want to open it up to questions, if anybody has any questions primarily, I'm sure, to be answered by Dr. Nathaniel.