Study Title: De-Implementation of Low-Value Castration for Men with Prostate Cancer - Living Well with Prostate Cancer

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De-Implementation of Low-value Castration For Men with Prostate Cancer - Living Well with Prostate Cancer

A pilot randomized implementation trial comparing an ADT order check attestation with a provider script intervention to reduce chemical castration as localized prostate cancer treatment and treatment for non-metastatic biochemical recurrence with low PSA levels in Veterans.

DeADT – Living Well Pilot Manual

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ABSTRACT

Project Background: Prostate cancer is the leading male cancer. One in three men with prostate cancer is chemically castrated at some point with long-acting injectable drugs (i.e., androgen deprivation therapy or ADT). This impacts the well-being of thousands of men annually. Although some patients benefit in terms of survival and symptom improvement, chemical castration with ADT is also commonly performed when there are little to no health benefits to patients raising questions of low value care. A growing awareness of castration harms (e.g., heart attack, osteoporosis, loss of sexual function) creates patient safety concerns. Despite this, ADT use in low value cases, such as for localized prostate cancer treatment and biochemical recurrence in non-metastatic disease persists.

Ineffective and harmful practices such as chemical castration of prostate cancer patients with ADT outside of the evidence base are ideal targets for de-implementation. De-implementation, or stopping low value practices, has the potential to improve patient outcomes and decrease healthcare costs. For example, stopping low value chemical castration could prevent harm, limit spending, and maintain survival. However, provider preferences regarding de-implementation are not well understood, and possible de-implementation interventions range from blunt formulary restriction policies to shared decision-making. Blunt policy interventions such as formulary restriction of ADT (e.g., pre-authorization, order templates) might seem warranted given patient safety concerns, yet could result in significant provider resistance and work-arounds if introduced poorly. More nuanced, patient-centered interventions such as shared decision-making (e.g., decision aid, talking points) likely involve extra clinical time. Both intervention strategies need tailoring based on provider input for acceptability and feasibility in clinical practice, including piloting prior to trialing. As many medical practices lack evidence and cause harm, robust, behavioral theory-based methods for incorporating provider preferences into de-implementation strategy development will advance both implementation research and practice.

Project Objectives: This study will compare two different de-implementation strategies that vary in delivery, impact, and expected results for reducing low value ADT use.

Research Plan/Methods: Compare two tailored de-implementation strategies to reduce chemical castration as localized prostate cancer treatment and treatment for non-metastatic biochemical recurrence with low PSA levels.
Our specific Aim is to evaluate the implementation of an ADT order check (Or) versus a provider script (Sc) on decreased low-value ADT use after six months. We will first examine low-value ADT use for up to 6 months of early piloting at 4 VA sites, as well as refine our proposed RE-AIM implementation outcomes and ascertainment, study of moderators (e.g., fidelity) and causal mechanisms underlying implementation interventions. The work will inform the subsequent 4 site pilot randomized implementation trial by addressing preferences and concerns through pilot tailoring. Based on the early pilot work, we will refine our site engagement strategies and study protocol methods and materials for the trial. This work will advance de-implementation science for low value cancer care.

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☒ This Study **WILL** use the VA electronic health record (EHR) or EHR Data on or after March 2022 (for example: entering notes; entering consults; ordering labs, medications, procedures, imaging, etc.; eligibility screening with EHR chart review or CDW; using CDW data; etc.).

☐ This Study will **NOT** use the VA electronic health record (EHR) or EHR Data on or after March 2022 (for example: entering notes; entering consults; ordering labs, medications, procedures, imaging, etc.; eligibility screening with EHR chart review or CDW; using CDW data; etc.).

ACRONYMS/ABBREVIATIONS

ADT: Androgen Deprivation Therapy

AUA: American Urological Association

BCR: Biochemical Recurrence

BNED: Biochemically No Evidence of Disease

BRPC: Biochemically Recurrent Prostate Cancer

BCW: Behavior Change Wheel

CAC: Clinical Applications Coordinator

CCMR: Center for Clinical Management Research

CDW: Corporate Data Warehouse

CHIO: Chief Health Informatics Officer

CMS: Centers for Medicare & Medicaid Services

COM-B: Behavior Change Model ('Capability', 'Opportunity', 'Motivation' and 'Behavior')

CROC: Clinical Reminder Order Check

CRPC: Castration-Resistant Prostate Cancer

DeADT: De-Implementation of Low Value Castration for Men with Prostate Cancer, development work title

DeADT-Living Well With Prostate Cancer: Pilot/cRCT title

DCE: Discrete Choice Experiment

IES: Implementation Education Session

LVADT: Low-Value Androgen Deprivation Therapy

mPCa: Metastatic Prostate Cancer

NLP: Natural Language Processing

Or: ADT Order Check Attestation Intervention

PC/PCa: Prostate Cancer

PSA: Prostate Specific Antigen

RE-AIM: Implementation Outcomes - Reach, Effectiveness, Adoption, Implementation, Maintenance

RP: Radical Prostatectomy

Sc: ADT Provider Script Intervention

TDF: Theoretical Domains Framework

VSSC: VHA Support Service Center

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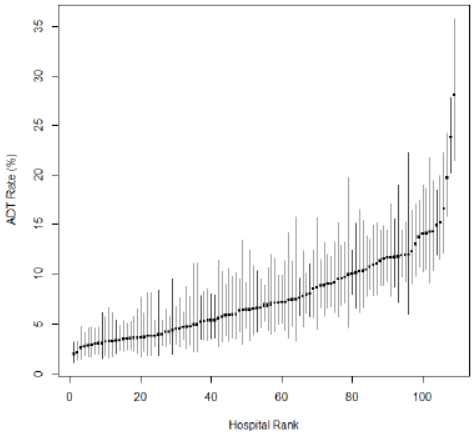
* All Investigators represented in this project have submitted an OGE-450 Alt VA for review by the VA Ann Arbor COI Administrator. The person designated to conduct fCOI reviews at the VA Ann Arbor have completed fCOI review for the investigators and identified no conflicts of interest.

Introduction

A1. Evidence for castration as prostate cancer treatment

Figure 1. Variation in hormonal therapy use (i.e., castration) as primary treatment across VHA facilities

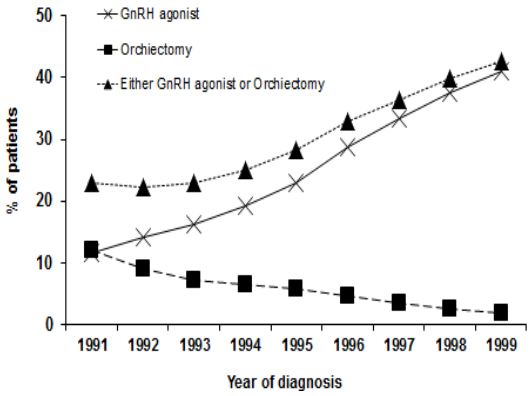


Because prostate cancer cells are dependent on androgens, i.e., testosterone, depriving them of this hormone through castration can improve clinical outcomes, for some patients.[1] The highest levels of evidence for chemical castration with androgen deprivation therapy (ADT) injections to treat prostate cancer occur in two scenarios: 1) high risk localized disease in combination with radiation therapy, and 2) metastatic cancer with spread to bones or other organs causing symptoms.[2-4] However, a significant amount of castration in Medicare and integrated delivery systems (e.g., VA), occurs outside scenarios where high levels of benefit exist.[5,6] For example, using castration for the primary treatment of localized prostate cancer is likely ineffective and harmful, yet remains common in VA with five-fold variation across facilities (Figure 1). Neither long-term studies nor current guidelines support castration as primary treatment for localized prostate cancer.[1,3,4] Many times, this castration is continued indefinitely. Additionally, the efficacy of using castration for treatment of biochemical recurrence in non-metastatic disease is not well supported by long-term studies nor current guidelines, particularly in patients with lower risk of disease progression.

A2. There is a disconnect between the value and use of castration in prostate cancer

A2.1 Surgery to remove testicles is no longer needed for castration

Figure 2: Increasing use of chemical castration with ADT versus surgical orchiectomy for 100,274 men with prostate cancer



The discovery that castration could be used as palliation for patients with metastatic prostate cancer revolutionized the oncology field in 1941.[8] Depriving prostate cancer cells of testosterone to relieve urinary tract blockage and decrease bone pain from metastatic lesions ushered in a new way to think about treating the disease that continues to fuel treatment approaches today. However, surgical castration via orchiectomy (i.e., testicular removal) fell by the wayside in the 1990s as long-acting injectable approaches to androgen deprivation (GnRH agonists) became available, and even lucrative, leading to dramatic increases in use across all stages of the disease (Figure 2).[9-11] This phenomenon essentially lowered the threshold for treatment with ADT injections due to ease of use, patient acceptability as they no longer needed their testicles removed, biological plausibility, and low appreciation for side effects of chemical castration among the surgical specialists prescribing ADT (i.e., urologists) with little training in primary care.

A2.2 Lucrative business practice thwarted by Medicare payment reform

The story of Medicare reimbursement for ADT is a fascinating example of how financial incentives can drive medical overuse.[9] In short, Medicare reimbursed providers at 95% of the average wholesale price for these injections throughout the 1990s making it profitable since many providers acquired the drug at 82% or less of the average wholesale price.[12] Up to 40% of urology practice revenues were derived from this business practice in some cases.[13] Orchiectomy was driven out of practice, and thresholds for castration were lowered such that nearly half of prostate cancer patients received ADT by 2000.[10] Despite a stable evidence-base, more patients were getting injections in cases where there was no evidence to support use (e.g., primary treatment) alongside a growing awareness of harms. When the Medicare Part B tab for ADT injections reached $1 billion in 2003, the practice came under intense scrutiny.[14] As a result, the Medicare Modernization Act reduced payments by approximately 50% leading to significant reductions in inappropriate use as published in the *New England Journal of Medicine* by Co-Investigator Dr. Shahinian.[9,15] Despite a decrease in what was termed 'inappropriate use' of ADT for localized prostate cancer through this

policy intervention, such use persists today indicating other interventions are needed.

A2.3 Growing recognition of castration harms has led to patient safety concerns

Not surprisingly, the side effects of castration are common and impact a host of physiologic mechanisms that rely on the male hormone testosterone.[16] Castration results not only phenotypic changes due to feminization, but also osteoporosis, metabolic syndrome, cardiovascular disease, loss of sexual function, and decrements to overall quality of life.[17] Evidence also suggests the risks of diabetes,[18] cataracts,[19] deep vein thrombosis,[20,21] stroke[22] and even acute cardiac death[23] all increase for men receiving ADT. This led the American Cancer Society and American Heart Association to issue a 2010 consensus statement on the importance of secondary preventative measures for men treated with ADT.[24]

A2.4 Reasons castration harms overlooked by providers and patients

ADT decreases the serum PSA level, a biomarker of prostate cancer activity, falsely reassuring people there is a 'remission' of the prostate cancer. This is potentially harmful in at least 2 ways. First, depriving prostate cancer cells of testosterone too early in the disease process may foster castration resistance, limiting effects when it is actually needed (e.g., metastatic setting).[25,26] Second, PSA is a poor surrogate marker for survival in localized disease. That is, lowering PSA in localized disease is not associated with improved overall survival, creating false optimism.[6,27] In addition, surgical specialists are prescribing a drug with devastating metabolic and cardiovascular effects creating a disconnect between treating PSA levels and the consequences, often dealt with in primary care. While lowering PSA might make sense on the surface, understanding beliefs and preferences for using ADT is a critical step in stopping its low value use. In many respects, this is an ideal model for understanding de-implementation of low value cancer care.

A4. The benefits of unlearning ineffective, low value clinical practices and ties to behavior change

Unlearning routinized clinical practices is challenging even if they are no longer or never were considered effective.[32,33] This is particularly true when it comes to treating patients with cancer where provider reluctance to hold off on treatment is often a significant barrier to stopping or not initiating treatment when there are no symptoms. Unlearning clinical behaviors such as prescribing ADT in low evidence settings can have substantial benefits. First, patients are no longer subjected to treatment harms with little to no benefit. Second, unlearning misaligned castration practices can provide opportunity for more efficient, higher value use of specialists. Last, acquiring the skill of unlearning can increase flexibility and willingness to adapt to evidence more proactively.[33] We believe unlearning is captured in the Behavioral Regulation domain of the Theoretical Domains Framework (TDF), our behavior change framework, for which there are evidence-based behavior change techniques to consider. This novel TDF connection to a limited unlearning literature may play a significant role in advancing de-implementation science.

A3. Strategies to stop chemical castration as prostate cancer treatment are sorely needed

De-implementation, or stopping practices that are not evidence-based, has tremendous potential to improve patient outcomes and mitigate rising healthcare costs.[29,30] This is important given recent campaign attempts to curb overuse of services. In fact, one group has called for including castration as primary prostate cancer treatment in the next generation of *Choosing Wisely*.[34] De-implementation efforts have addressed analgesic[35] and antibiotic[36] use, glucose control,[37] and blood transfusions.[38] For this study, stopping low value castration might help prevent fractures, heart disease, and metabolic syndrome, preserve sexual function, in addition to freeing up provider time and decreasing pharmacy spending.

A3.1 De-implementation categories and tailored de-implementation strategies

Three categories have been proposed when deciding what and how to de-implement: 1) contradicted, established, 2) unproven, and 3) novel medical practices.[29] Most indications for castration fall into the second category. Given the limited evidence base for castration in primary prostate cancer treatment, its cost, harms and ubiquity in other low value settings (e.g., non-metastatic biochemical recurrence), understanding how best to de-implement low value initial and ongoing castration could yield significant benefits. De- implementation strategies for unlearning castration practices will need to be tailored to provider preferences, facilitators, and barriers to maximize effectiveness.[31,39-44] Even though we have identified two very different strategies for de-implementation (i.e., order check, informed decision-making), these are broad strategies, with considerable space in each for tailoring. In this study, we are using the term "tailoring," often used to describe approaches to fitting implementation interventions to local context or site characteristics, to mean designing specific aspects of each strategy to increase acceptability and likelihood of effectiveness.[45] Barriers and preferences, including facilitators, for operationalization of two different de-

implementation interventions represent clinically-relevant knowledge gaps this proposal will inform in preparation for a comparative effectiveness trial. We believe our prior work has delineated the most important factors influencing ADT treatment for inclusion in our tailoring approaches.

A4. Impact: This innovative approach to de-implementation strategy development is directly aligned with state-of- the-art complex implementation intervention development and implementation science. We believe this study will transform how and why chemical castration is performed for men with prostate cancer through combining trans- disciplinary expertise, rigorous assessment of provider preferences, and de-implementation strategy tailoring. This work will broadly advance de-implementation science for low value cancer care, and foster participation in our de-implementation evaluation trial by addressing barriers, facilitators, and concerns through pilot tailoring. Our proposal has implications for the following cancer care stakeholders:

- **Implications for patients:** Due to the large population of prostate cancer patients, enhancing safety by promoting evidence-based use of chemical castration promotes quality care and quality of life.
- **Implications for providers:** Understanding how providers unlearn ineffective clinical behaviors is a critical step towards optimizing prostate cancer care and de-implementation of low value services.
- **Implications for low value cancer care policy:** This proposal will address important issues surrounding provider behavior change and serve as a model to decrease overtreatment more broadly. This is especially relevant given *Choosing Wisely* and a growing need for effective de-implementation.

A5. Innovation: Our focus on understanding barriers and facilitators to and priorities for de-implementation of low value services is highly innovative. Despite the call for a better understanding of how to de-implement practices shown to have more harm than benefit (including many cancer-related services such as mammography, lung cancer and PSA screening), little applied research has been conducted to inform tailoring of strategies to be most acceptable and effective for stakeholders. In addition to the topic, this proposal is innovative in that it advances cancer care and implementation science by:

- Building the evidence base for de-implementing medical interventions with unclear or no benefits. This is novel and critical given our increasing healthcare costs and the harms of overtreatment.[29,30]
- Using a systematic, theory-based approach to tailor effective, reliable de-implementation interventions and strategies. Our prior work linking the TDF to behavior change techniques is especially innovative and has enhanced the tailoring of interventions significantly.[46,47] This project will enhance our ability to map causal relationships to professional behavior change and advance implementation science.
- Better understanding acceptable ways to stop aggressive, low value cancer care. This is necessary across disease types to maximize patient welfare and control spending.

B. PRELIMINARY STUDIES

Our multi-disciplinary team is exceedingly well-positioned to successfully carry out the proposed work. We have collaborated previously. We have extensive expertise in clinical prostate cancer care, implementation research, survey methods, qualitative & quantitative analyses, decision-making, informatics tools, pharmacy applications, and theory-based intervention design and tailoring.

B1. Variation in low value castration rates indicate the need for ADT de-implementation

In our prior work in preparation for the pilot and cluster randomized controlled trial (cRCT), we identified trends in ADT use as primary treatment for localized prostate cancer (Figure 1) and for treatment of non-metastatic biochemical recurrence. We found persistent low value ADT and marked variation in facility level rates. While some might argue relatively low numbers of patients are unnecessarily treated, patients are routinely committed to lifelong ADT injections once the treatment decision is made. Better understanding de-implementation of ADT also opens the door to stopping additional low value use (e.g., duration of greater than 18 months of adjuvant ADT with radiation therapy in high risk prostate cancer).[4]

B2. American Cancer Society Prostate Cancer Survivorship Guidelines highlight ADT harms

As lead author of the guidelines,[17] Dr. Skolarus (Co-PI) led a team to develop clinical follow-up care guidelines for primary care clinicians. The harms of castration were stressed as they impact most long-term effect domains. In addition, Drs. Skolarus (Co-PI), Caram (Co-I), Shahinian (Co-I) co-authored a manuscript on ADT- associated bone disease emphasizing restriction of castration to evidence-based settings to limit unnecessary harms.[51] Drs. Skolarus (Co-PI) and Hawley (Co-I) have also work closely on a randomized trial of tailored self-management strategies to address prostate cancer treatment side effects including those of ADT.

B3. De-implementation of cancer care: the case of bilateral mastectomy overuse
The growing rate of contralateral prophylactic mastectomy among women with breast cancer raises concerns about overtreatment driven by extra-scientific factors such as payment policy and media coverage akin to the ADT castration story. As highlighted by Dr. Hawley (Co-I) in peer-reviewed and media outlets,[52] and reinforced by Montini & Graham's *Implementation Science* paper on de-implementation of entrenched practices,[30] contextualizing provider perceptions is critical to any de-implementation strategy.

B4. Extensive prior collaborations to understand prostate cancer provider behavior
Drs. Skolarus (Co-PI), Hollenbeck (Co-I) and Shahinian (Co-I) have characterized prostate cancer care delivery over the last decade including castration with ADT in the Medicare population.[10,28,53-55] They found urologists prescribed 95% of ADT as initial treatment,[28] low bone health surveillance for ADT,[56] as well as significant provider-level variation in ADT use among patients unlikely to benefit from treatment.[57]

B5. Theory-driven barrier assessment and intervention development
Dr. Sales (Co-I) has conducted several implementation research studies within and outside VA. She has developed numerous tools to guide theory-based implementation, including reminders, provider led clinics, and feedback reports.[58-61] Dr. Hawley (Co-I) also has extensive experience with theory-based cancer decision-making interventions and clinical trials.[62-65]

B6. Which de-implementation factors are most important for limiting ADT-based castration?

Table 1. Examples of barriers and TDF domains linked to evidence-based behavior change techniques for de-implementation strategy development[47]

Barrier attribute	*TDF Domain*	*Behavior change technique*
Value of physician autonomy	Professional role \ identity	Education, modeling, persuasion
Evidence for appropriate use	Knowledge	Education
Clinical time, patient education	Environmental context / resources	Training, restriction, restructuring

Currently, priority setting for which barriers and facilitators to address during implementation strategy development is many times a matter of convenience, gestalt and ignorance as to which are the most common barriers versus most important.[31,40,47,61,70] The TDF was recently used to direct development of an instrument that could readily identify hand-hygiene barriers and link them to evidence-based behavior change techniques.[31] *While this advanced theory-based barrier assessment exists, there are no current tools to guide tailoring of (de-) implementation interventions to the most important barriers, stakeholder preferences, and facilitators.* In our prior work, we asked local urologists who treat prostate cancer to identify potential barriers to stopping castration. We identified barriers and mapped them to TDF domains and candidate evidence-based behavior change techniques (Table 1). Conducting qualitative work across facilities and using a quantitative discrete choice technique to prioritize barriers in our prior work has informed tailoring of our two intervention strategies.

B7. Informatics tools to de-implement low value prostate cancer clinical practices
Dr. Skolarus (Co-PI) collaborates with Dr. Shelton (Consultant) and his informatics team at the Greater Los Angeles VA Medical Center. They recently developed and implemented a highly-specific computerized clinical decision support alert to remind providers, at the moment of PSA screening order entry, of current guidelines against screening elderly men for prostate cancer – essentially *de-implementation of PSA screening.* In a prospective study involving over 30,000 patients published in *Journal of General Internal Medicine,* the screening rate decreased by over 30%.[71] Dr. Shelton and his team are fully supportive of development of an EMR-based intervention for de-implementation of low value ADT (Appendix I).

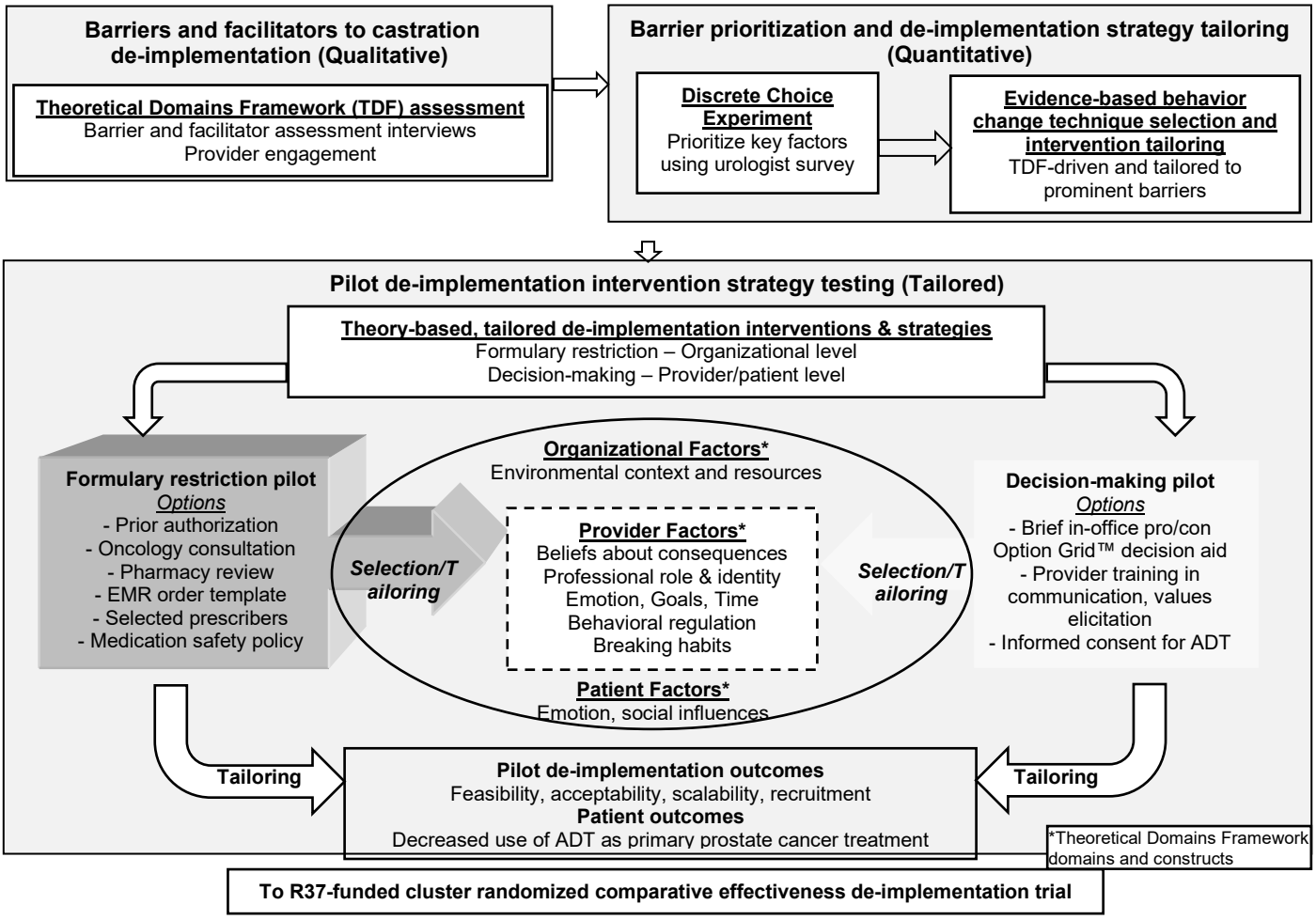
B8. Decision-making to inform prostate cancer treatment selection
This team has tremendous clinical and research expertise in decision-making for cancer care. Dr. Skolarus (Co-PI) updates an evidence- and expert opinion-based shared decision-making tool for prostate cancer decision making endorsed by the American Urological Association. In addition, Dr. Hawley (Co-I) has led decision aid studies in both breast and colorectal cancer.[62,64] She also has experience with using Option Grid™, a clinical encounter decision support tool.[72] In addition, Dr. Makarov (Consultant) chaired the American Urological Association's 2015 White Paper on 'Implementation of Shared Decision-Making into Urological Practice'[73] and will support intervention development and piloting (Appendix I).

C. APPROACH

C1. Overview and conceptual model

It is useful to consider the following conceptual model for piloting of de-implementation strategies tailored to provider behavior change techniques. Based on the results of our development work, we highlight several TDF domains and constructs in our conceptual model that may contribute to organizational, provider, and patient behavior in the setting of ADT for localized prostate cancer. In addition, our qualitative approach allowed for flexibility as we conceptualize the main issues when it comes to chemical castration. Last, the quantitative discrete choice methods used in our prior work created significant opportunities to examine interactions among domains and constructs allowing us to select, tailor and pilot the most informed organizational and individual level de-implementation interventions.

Figure 3. Conceptual model for de-implementation strategy development



C1.0 Study population

Sampling, participant identification and recruitment

To compare the interventions, providers who prescribe ADT (urologists, medical oncologists, and radiation oncologists) at participating sites will see order checks and/or a note template in CPRS for their patients identified as receiving ADT as primary treatment for localized prostate cancer or for non-metastatic biochemical recurrence with low PSA levels. Prior to implementation of the interventions, study staff will send providers an email with an attached Information Sheet informing them of their ability to opt out as well as information on the Implementation Education Session (IES). (See protocol section below for detailed descriptions of interventions and study protocol procedures).

We will administer a survey to assess feasibility and acceptability of the intervention, determine organizational structure and support, and assess fidelity in the interventions. We will work with study consultants throughout the pilot to further refine the survey, inviting the consultants/Site Champions at each of the 4 pilot sites to test the preliminary survey at baseline and 6 months in VA Qualtrics to understand how

best to use the survey in our cRCT. The purpose of piloting the survey with the consultants/Site Champions is to help inform further refinement of survey questions as well as implementation procedures in preparation for the cRCT. During the cRCT, selected providers and stakeholders at the 20 participating sites will be sent an email at baseline and 6 months inviting them to participate in the survey. The email will contain a link to an anonymous survey hosted in VA Qualtrics.

C2.0. Broad intervention categories require tailored design: Formulary restriction & decision-making

There are several potential implementation interventions to de-implement low value castration within each broad intervention category we identified for this study. We focus on an order check and physician communications during the informed decision-making because of their difference in key attributes, including likelihood of quick success vs. long-term sustainment and effort required by clinicians. We describe some possible intervention design features briefly for each intervention type in Table 2. While several options exist, there is no existing evidence to inform which is the best approach from the provider perspective. Our early work has informed which of these specific approaches is likely to be most acceptable to clinicians, and provided data needed to tailor these broad interventions. For example, we do not know how a blunt formulary restriction can be implemented at a national level. Nuances around order restriction need to be addressed and order checks programmed to only trigger when a patient meets certain criteria based on their medical record data without burdening providers with additional steps even when prescribing ADT within guidelines.

Table 2. Examples of potential pilot interventions

Formulary restriction	
Prior authorization Oncology consultation Pharmacy review	Used in infectious disease
Criteria for Use EMR order template Selected prescribers	Currently used for restricted drugs
Medication Safety (VAMedSAFE)	Evaluate, educate and prevent adverse events
Decision-making	
Decision aid using a brief in-office pro/con (e.g., Option Grid™)	Commercialized shared decision-making for prostate cancer
Provider training in communication and values elicitation	Evidence-based practice though difficult to implement/sustain
Informed consent for ADT	VA iMed consent

While formulary restriction of ADT for localized prostate cancer seems warranted, we may find that it is widely considered unacceptable to providers. Nor do we know how informed decision- making can be efficiently operationalized in a clinical setting for providers considering castration for localized disease or for non-metastatic biochemical recurrence. By tailoring each intervention strategy using behavior change techniques and barrier solutions derived from our prior work, we believe we have designed strategies that will be accepted by providers, but still allow us to test differences in the widely varying mechanisms of action. We have refined these approaches through robust efforts in our prior work and the expertise of our trans-disciplinary, multi-site investigative team, and will continue to refine these approaches based on this pilot study.

C2.1 Selection and tailoring of formulary restriction and decision-making pilot interventions

C2.1.1 Formulary restriction interventions available in the integrated delivery system

The VA Pharmacy Benefits Management Services uses several tools to encourage optimal use of medications including: 1) National Formulary, 2) Prior Authorization, 3) Criteria for Use, and 4) VA Center for Medication Safety. ADT is currently listed on the VA National Formulary as a standard pharmacy benefit to eligible patients. No prior authorization is necessary to ensure ADT use is appropriate. For this pilot, we plan to test implementation of a CPRS order check at the facility level. An order check was selected because it will flag prescribers that ADT may not be guideline supported for the Veteran, but it will not be a hard stop – providers can move through the order restriction to order ADT without additional delays upon entering the indication (or any text) into a text field. To reduce burden on providers as much as possible, this flag will only be triggered for Veterans with localized prostate cancer getting primary ADT or Veterans getting ADT for non-metastatic biochemical recurrence with a low PSA level. We note that this approach makes this a benign intervention: providers are not required to cross administrative hurdles to be able to order ADT if they feel they have good reason to do so.

C2.1.2 Tailoring a formulary restriction strategy for ADT de-implementation

Our formulary restriction intervention involves a refined version of the current EMR order check template developed and in use by Dr. Shelton and Dr. Skolarus (Co-PI) at the VA Ann Arbor to limit inappropriate prostate cancer screening.[71] In general, these templates vary widely across the system, can be made more or less extensive, and can build in limited forms of decision support to specialists prescribing ADT. This is a very flexible, widely used approach, for which the technology already exists and is integrated into the EMR.

We used the taxonomy outlined by Wright et al.[84] to describe the decision support content and the Template for Intervention Description and Replication (TIDieR) checklist guided the refinement and tailoring.[85] For example, when an ADT injection is ordered, a brief interruptive message *tailored* to our prioritized barriers TDF themes and behavior change techniques (e.g., *persuasion*, *training*, *education*) based on our prior work, will be shown on the ordering screen. This will allow the provider the option of proceeding or cancelling the order, with or without justification. To ensure this formulary restriction approach is 'smart' we will use the following criteria as we begin and explore options during refinement: 1) injectable ADT order in pharmacy claims (e.g., leuprolide J9217), 2) prostate cancer diagnosis (ICD-9 185, ICD-10 C61), and 3) low PSA level (e.g., levels <2 ng/mL are consistent with non-metastatic disease[4]). We will continue to refine these criteria throughout the pilot with the investigative team. We will vary alert criteria (e.g., prior ADT injection, PSA level) to ensure the number of triggers are acceptable to providers as done previously. We will pilot our theory-based messaging, presentation, and approach, at the VA Ann Arbor Healthcare System, VA Greater Los Angeles Healthcare System, and VA NY Harbor Healthcare System, with ongoing refinement. These pilot sites have been selected because we have study team member presence to help facilitate implementation and assessment.

C2.1.3 Decision-making interventions to de-implement low value care Informed and shared decision-making are increasingly recognized components of high quality care.[63,73,86] This approach has been associated with less decisional regret and conflict, increased adherence to a treatment plan, empowerment, higher satisfaction with care, and more realistic expectations.[73] One relevant example is a randomized trial of shared decision making leading to an absolute 25% decrease in antibiotic use for acute respiratory illness.[88] Similarly, treatment of localized prostate cancer and non-metastatic biochemically-recurrent prostate cancer with ADT are ideal conditions for improving patient-centered care through better decision-making as continuous chemical castration with ADT is not guideline recommended in most cases. There are numerous treatment options in the case of localized disease: observation (i.e., watchful waiting, active surveillance), surgery, and different types of radiation therapy—each with different risks and benefits (e.g., oncological "cure" vs. potential urinary or sexual dysfunction). We plan to explore provider factors associated with the decision to continue or stop ADT for localized prostate cancer and for non-metastatic biochemical recurrence, and believe ADT prescribing is a prime candidate for at least 2 reasons. First, it is not guideline recommended in most cases for localized and non-metastatic recurrent disease. Second, there are significant harms that may be under appreciated prior to using our decision-making approach therefore decreasing ADT use through our interventions. Therefore, our interventions to de-implement low-value ADT include: 1) Brief provider training in communication and values elicitation, 2) talking points for providers embedded into a CPRS note template, and 3) clinic handout entitled "Living well with prostate cancer – is hormone therapy still right for you?" (Appendix II). Most of these are not routinely used in practice but could decrease ADT use. We include information about the harms of ADT with a focus on alternative treatment options in the clinic handout. Decision aids are one approach to help communication about treatment options thereby enhancing informed decision-making, and in some cases decreasing overtreatment especially when risks outweigh benefits.[73]

As with the formulary restriction, we argue that this is a benign intervention focused on the provider. Education is a common event in health care settings, and this is designed to be brief, non-intrusive, and focused on a well-accepted practice of sharing elements of decision-making with patients.

C2.1.4 Tailoring the decision-making strategy to de-implement low value ADT
We are *tailoring* our intervention for castration with ADT as primary treatment in localized disease and for non-metastatic biochemical recurrence. Our extensive experience with the University of Michigan Center for Health Communications Research and its tailored approaches to health care behavior change for Drs. Skolarus' and Hawley's prostate cancer survivorship trial, social marketing in health literature,[90-92] and Dr. Sriram, all indicate that, in fact, the way information is presented in our intervention could lead providers to withhold ADT in the face of risks dramatically outweighing benefits, in addition to perceptions of organizational support to decrease low value treatment with ADT. We involved several experts during development including Dr. Hawley, expert in breast and colon cancer decision-making, Dr. Makarov (Consultant), Chair of the American Urological Association's Shared Decision-Making White Paper, and marketing expert Dr. Sriram to ensure our interventions are in line with state-of-the-art decision-making and marketing evidence. We will continue to refine the intervention and theory-based messaging, presentation, and approach as needed based on the pilot work.

The pilot work plays a critical role to help us understand the acceptability, feasibility, and scalability of these complex interventions in preparation for the full-scale randomized de-implementation evaluation trial.[45] In fact, the UK Medical Research Council guidance indicates piloting is essential to complex intervention development and testing prior to large-scale evaluation.[93] The main goal of both interventions will be to decrease castration rates for patients with localized prostate cancer and patients with non-metastatic biochemical recurrence, but to do this in a way that is acceptable to the clinicians who treat these patients. We are purposely choosing intervention strategies from opposite ends of the behavior change continuum because of their evidence-based potential to change provider behavior. Specifically, we are selecting one approach (formulary restriction policy – order check) that operates at the site level and is widely perceived as a forcing function, asking providers to provide a reason regarding their clinical decision. The other, physician communication during the informed decision-making process, operates at an individual and dyadic level, and is perceived as maximizing the opportunity for clinical discussions. The first approach requires little to no learning on the part of providers, while the second requires considerable upfront learning ("cost" to the provider). This approach sets up a testable hypothesis for our comparative effectiveness trial, that a blunt de-implementation policy may be effective in the short term but that it will lose its effects as providers learn work-arounds. Conversely, an informed decision-making approach to de-implementation might take longer to observe measurable decreases in castration rates, but its effects will create sustainable change as providers internalize and routinize this clinical practice.[94]

(See protocol section below for detailed descriptions of interventions and study protocol procedures).

C3.1 Methodological issues to be addressed in de-implementation pilots A well-designed pilot study has many purposes, including testing methods of recruitment; selecting the most appropriate primary outcome; testing acceptability of the intervention by stakeholders; ironing out feasibility and fidelity issues; refining the full study protocol; and estimating sample size for a full trial.[45,95] As highlighted in implementation literature, preparation and planning are central to successful intervention development and implementation. The need for clear outcomes (e.g., castration rate), systematic, theory-based interventions to change provider behavior, and a timetable are necessary to successfully set up our full- scale evaluation trial. Further refinement in the pilot work will allow us to explore outcomes including the total number of ADT injections as we will also be working to stop treatment with low-value ADT. As illustrated in Table 3 below, the piloting of the intervention strategies will focus on 4 major methodological issues.[45] We will examine issues surrounding recruitment, acceptability, feasibility, scalability, and data collection for the full-scale trial.

Table 3. Methodological issues requiring pilot evaluation prior to a full-scale de-implementation trial

Issue	Assessment	Potential outcome
Recruitment randomization scalability	Monitor proposed recruitment strategy at each facility; check practicality of cluster randomization of facilities; identify issues of participation refusal or withdrawal; acceptability of randomization; number of eligible participants per month; compare clinic flow across recruitment strategies	Select most effective recruitment and randomization strategy; trial messaging to sites; discern patient, provider and cluster sample sizes; refining eligibility screening
Acceptability of intervention	Check acceptability of interventions with ADT prescribers and clinic staff at pilot sites; settings for each intervention; consent and documentation practices; tailoring strategies are acceptable; timing of intervention relative to visit	Identify acceptable components of each intervention in clinical practice; consent processes; efficient documentation practices
Feasibility in clinical practice	Assess burden on clinic staff and providers to participate; monitor clinical time and workflow; assess adherence to intervention; technical performance of EMR-based intervention(s); participants representative of those expected in full-scale trial; intervention fidelity	Time and resources needed to roll out in randomized sites; learn research and clinic administrative staff roles for trial; standardization; scheduling practices
Data collection and outcome assessment	Monitor follow up practices for patients on ADT; monitor for asymmetric attrition/retention across intervention sites; missing data; review choice of primary outcome, study design; effect variability	Willingness to participate by intervention preference; effect size; consider hybrid study; duration; full-scale protocol

C3.2 Study populations

We will conduct pilot testing at 4 sites with multi-disciplinary review by study team members to confirm target clinic visits prior to engagement with site provider. Dr. Skolarus (Co-PI) will lead the pilot efforts at the VA Ann Arbor Urology Clinic with Dr. Caram leading pilot efforts at the VA Ann Arbor Urologic Oncology clinic and Dr. Elliott leading the efforts in the VA Ann Arbor Radiation Oncology clinic. Drs. Shelton, and Makarov, each with urologic oncology practices, will lead pilot efforts at their respective VA sites (Greater LA and NY Harbor). The number of patients receiving primary ADT for localized prostate cancer and receiving ADT for non-metastatic biochemical recurrence with low PSA levels at each site should be adequate for piloting based on preliminary data. However, the primary purpose of the pilot is to assess for

issues in the implementation process in order to further refine the intervention plan. The pilot testing will play a critical role to help us understand the acceptability, feasibility, and scalability of these strategies in order to conduct the full-scale pilot randomized implementation trial. In particular, we expect to learn best practices in introducing both strategies to sites in the most efficient, least intrusive ways.

For the 4-site pilot randomized implementation trial, we will recruit sites from the VA facilities with the highest levels of low-value ADT use. We will target facilities with high rates of low-value ADT for localized prostate cancer and non-metastatic biochemical recurrence. Sites will be identified through a combination of CDW data pulls and chart reviews, with expert multi-disciplinary review by study team members prior to moving forward with site providers. We will also match our 4 intervention sites with up to 8 control sites acting as contemporary controls for ADT overuse and our effectiveness outcomes.

C3.3 Data sources and analysis

We anticipate conducting the pilots for six months. For the pilot, our research team will host regular calls between Drs. Skolarus (Co-PI), Caram (Co-I), Shelton (Consultant), Leppert (Consultant), Makarov (Consultant), the Ann Arbor project team, other Co-I's and consultants to discuss issues. We will take notes during these calls. At the beginning, we anticipate calls will occur weekly to deal with barriers and complications. By the end of the interventions, we anticipate that calls will be shorter and less frequent, and will focus more on achievements and lessons learned regarding methodological issues as we prepare for the pilot randomized implementation trial. We will extract data on ADT use from VA and Medicare data to remain informed and updated about the status of chemical castration as primary treatment and treatment for non-metastatic biochemical recurrence across VA (including the pilot sites). This will allow us to monitor secular trends in performance and assess possible changes in chemical castration over the pilot period in our pilot sites. We will collect and maintain descriptive data, which is most appropriate for pilot studies.[95] We will use content analysis methods to assess key issues arising from conference call field notes. We will use bivariate analyses (t-test or chi-squared test) to assess the parameters (central tendency and variation) for pilot intervention variables including patient and provider demographics.[90] In preparation for our pilot randomized implementation trial, we will use national VA data to identify potential sites. Data collection and analysis procedures will be further refined during the pilot.

D. Human Subjects

D1. Risk to subjects

D1.1 Human subject involvement and characteristics

Prior to commencement of study activities, we will obtain VA Ann Arbor Institutional Review Board approval, requesting exemption under categories 2 (survey), 3 (benign behavioral interventions), and 4 (secondary data analysis). As an exempt project, all project modifications will be submitted to the VA Ann Arbor Research & Development Committee for approval.

We will conduct pilot testing among clinicians who prescribe ADT at VA Ann Arbor Healthcare System, VA Greater Los Angeles Healthcare System, and VA NY Harbor Healthcare System. Drs. Skolarus (Co-PI), Caram (Co-I), Shelton (Consultant), Leppert (Consultant), and Makarov (Consultant) will serve as champions for the pilot sites, working with the Ann Arbor project team to help with implementation. This includes providing information on site workflow, regular status updates, and feedback on implementation. For the pilot randomized implementation trial, the study team will recruit Site Champions (e.g., Urology Chiefs) at each of the participating sites. All clinicians who prescribe ADT at participating sites will be eligible to receive the interventions. Ann Arbor team members will send clinicians an email with an attached Research Information Sheet providing an opportunity to opt out of participation. Opting out means that they will not be asked to participate in surveys or other approaches to measuring provider responses and the interventions will not be triggered for any of their patients or clinic visits.

No other inclusion or exclusion criteria will be applied. No patients will be recruited for either the pilot testing or pilot randomized implementation trial; however, identifiable data will be collected from national VA CDW, Central Cancer Registry, Vital Status, and CMS data, and chart reviews will be conducted using CPRS/Capri/JLV/ WebVRAM, to identify target clinic visits and assess outcomes. Identifiers will be stripped as early as possible, once analytic data sets are created.

D1.2 Sources of materials

As part of our development efforts, we have created real-time 'smart' criteria to support streamlined implementation. We will collect data using CDW/Cancer Registry/Vital Status/CMS data from October 1, 1999 to June 30, 2024 on up to 100,000 patients to identify low value ADT use at pilot testing sites and to determine eligibility of implementation trial sites. While the cohort will be defined using 2020 – 2022 data, the remaining data is needed to properly identify target clinic visits and ensure the alert criteria (e.g., prior ADT injections) triggers are acceptable to providers. We will develop and test the intervention strategies focusing on major methodological issues including: provider engagement, acceptability, feasibility, scalability, and data collection for the full-scale trial. Dr. Skolarus (Co-PI) and the research team, with the support of weekly study team meetings, will be responsible for each pilot assessment and provider engagement. There will be regular calls between Dr. Skolarus (Co-PI), the pilot Site Champions/Study Consultants, the Ann Arbor project team, Co-I's and consultants to discuss common issues or concerns during the pilot. We will take field notes during these calls. At the beginning, we anticipate the calls will occur weekly and deal with barriers and complications. By the end of the intervention, we anticipate that calls will be shorter and less frequent, and will focus more on achievements and lessons learned regarding methodological issues as we prepare for the randomized evaluation trial. We will extract data on ADT use from VA and Medicare data to remain informed about the status of chemical castration as primary treatment for localized prostate cancer and treatment for non-metastatic biochemical recurrence across VA (including pilot sites). This will allow us to monitor secular trends in performance over this period, and to assess possible changes in chemical castration over the pilot period. We will collect and maintain descriptive data, which is most appropriate for pilot studies. We will use content analysis methods to assess issues arising in each site from the conference call field notes. All data will be collected specifically for the purposes of proposed research.

Table. D1.2 Sources of Materials

Pilot		
Engagement, randomization, Scalability	Monitor proposed engagement strategy at each facility; check practicality of cluster randomization of facilities; identify issues of participation refusal or withdrawal; number of eligible clinic visits per month; compare clinic flow across engagement strategies.	Select most effective engagement and randomization strategy; messaging of trial to potential sites; discern patient, provider and cluster sample sizes; eligibility screening refinement
Acceptability of intervention	Check acceptability of interventions with providers clinic staff at pilot sites; settings for each intervention; documentation practices; tailoring strategies acceptable; timing of intervention relative to visit	Identify acceptable components of each intervention in clinical practice; efficient documentation practices
Feasibility in clinical practice	Assess burden on clinic staff and providers to participate; monitor clinical time and workflow; assess adherence to intervention; technical performance of EMR-based intervention(s); participants representative of those expected in full-scale trial; fidelity to each intervention;	Time and resources needed to roll out in randomized sites; learn research and clinic administrative staff roles necessary for trial; standardization of intervention; identify scheduling practices
Data collection and outcome assessment	monitor for asymmetric attrition/retention across intervention sites; missing data; review choice of primary outcome, study design; variability in effects	Willingness to participate may depend on intervention preference; estimates of effect size; consider hybrid study; duration; full-scale protocol

D1.3 Potential risks
Risks for participating providers include possible slight disruption of clinical workflow and a low likelihood of psychological distress. These risks will be site- and intervention-dependent. We are requesting exemption under categories 2 (survey), 3 (benign behavioral interventions), and 4 (secondary data analysis). Providers will be emailed a Research Information Sheet with details of the study. The right of providers to discontinue their involvement in the research at any time will be fully disclosed in the Information Sheet. We are also requesting a waiver of HIPAA authorization for access to PHI. The proposed research qualifies for this waiver because it involves no more than minimal risk to subjects and the waiver will not adversely affect the rights or welfare of subjects. In addition, the research could not practicably be carried out without the waiver. In order to be granted the waiver, we demonstrate procedures (outlined below) that protect patient identifiers from improper use and disclosure.

The investigative team has considerable experience in maintaining the confidentiality of large datasets and has established procedures in place to ensure data confidentiality. All investigators and research staff will have met training requirements for handling protected health information as defined by the Health Insurance Portability and Accountability Act (HIPAA), data security, and privacy. All data storage and handling will follow defined protocols at the VA Ann Arbor Healthcare System. All data collected from VA CDW/Cancer Registry/Vital Status/CMS records and CPRS/Capri/JLV/ WebVRAM will reside on VINCI and in an access-restricted study folder on the AAVA OI&T secure drive. Paper records created for chart review purposes will be labeled with a study ID only and stored in locked filing cabinets in the locked 3rd floor CCMR suite in VA-rented space at NCRC. Once data is digitized, the paper copies will be placed in the VA's secure shredder bin. Survey data will be collected anonymously in VA Qualtrics and downloaded into the access-restricted study folder for additional analyses.

D2. Adequacy of protection from risk
D2.1 Recruitment and informed consent
Providers, service leadership, and staff involved with ADT prescribing at the participating sites will be given an overview of the site-specific intervention, highlighting the nature and purpose of the proposed research, as well as what they should expect to encounter during routine clinical care should they agree to proceed with the study. Providers will be sent an email with a Research Information Sheet (attachment) attached informing them of their ability to opt out and inviting them to the Implementation Education Session (IES) (attachment).

D2.2 Protection against risk
All study staff will have met local training requirements for handling protected health information. All data will be stored on VINCI and in an access-restricted study folder on a secure server at the Ann Arbor VA, or in VA Qualtrics, accessible only by authorized study team members. Individual real social security numbers (SSNs) will be needed to link individual data across data sources (e.g., CDW-Oncology to clinical data) and to conduct chart reviews. An electronic cross-walk file will be used when accessing large datasets for analyses. Access to the cross-walk file will be restricted to authorized personnel, who have met the security criteria necessary for access to patient identifier mapping files at the VA's Austin Automation Center. As VA employees, all study staff members are subject to the Federal Privacy Act. Site Champions will not use coercion in their role and will not be privy to names of providers opting out of the research.

D3. Potential benefits of the proposed research to the subject and others
Though participation in the research study may not directly benefit participants, the data collected will benefit future providers and patients by improving the quality of prostate cancer care in and eventually outside the VA through theory-based interventions to reduce low value cancer care. Due to the expanding population of aging men with prostate cancer, enhancing safety by promoting evidence-based use of chemical castration promotes quality care and likely will improve quality of life. It is possible that providers taking part in the interventions will gain knowledge about better use of chemical castration for prostate cancer patients, particularly with respect to localized disease and non-metastatic biochemical recurrence. Moreover, understanding how providers unlearn ineffective clinical behaviors is a critical step towards optimizing cancer care and de-implementation of low value services. Unlearning clinical behaviors such as prescribing ADT in low evidence settings can have substantial benefits. First, patients are no longer subjected to treatment harms with little to no benefit. Second, unlearning misaligned castration practices can provide opportunity for more efficient, higher value use of specialty care providers. Last, acquiring the skill of unlearning can increase flexibility and willingness to adapt to evidence more proactively. The risks posed to research participants are minimal, consisting of potential

breaches in confidentiality. We believe we have procedures in place that will minimize these risks, and that the overall project has a highly favorable risk:benefit ratio.

D4. Importance of knowledge to be gained

Many men with prostate cancer are castrated with long-acting injectable drugs (i.e., androgen deprivation therapy or ADT). Although some patients benefit, it is also used in patients with little or nothing to gain. The best ways to stop, or de-implement, low value cancer care are unknown. A significant scientific and clinical knowledge gap remains in prioritizing which barriers to stopping castration in low value settings need to be targeted for effective de-implementation. We will compare two different approaches for reducing low value ADT use. In doing so, this study will address important issues surrounding provider behavior change and serve as a model to decrease overtreatment more broadly. This is especially important given *Choosing Wisely* and the need for effective de-implementation strategies. Throughout this study, we will keep a broad focus so that our work lays a foundation for transforming how and why castration is performed for prostate cancer treatment across the globe. This work will address provider preferences and concerns through pilot tailoring and advance de-implementation science for low value care through our subsequent de-implementation evaluation trial.

D5. Data Safety and Monitoring Plan

Drs. Saini (PI) and Skolarus (Co-PI) will be responsible for reporting all adverse events that might arise during the course of the study to the Ann Arbor Veterans Affairs Health System IRB as well as to the ISSO and PO as appropriate. Adverse events during this study would likely consist only of breaches in confidentiality. As outlined above, precautions have been taken to prevent this. However, should such breaches occur, Drs. Saini (PI) and Skolarus (Co-PI) will report these occurrences to the overseeing IRBs as well as the ISSO and PO within 48 hours of discovery.

D6. Inclusion of Women and Minorities

For provider recruitment, no exclusions will be made on the basis of gender, race or ethnicity. The only eligibility requirement is that participants be providers with experience caring for prostate cancer patients on ADT.

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PROTOCOL

STUDY OVERVIEW

We are using theory-based, mixed methods to approach de-implementation of low-value androgen deprivation therapy (ADT). Based on our prior work (DeADT RDC-2017-1070/ IRB-2017-1047) involving behavioral theory-based qualitative analyses and national provider survey and discrete choice experiment (DCE), we selected competing de-implementation strategies for multi-site pilot testing in preparation for an innovative 4-site pilot randomized implementation trial to decrease low-value cancer care. This study is funded by NIH National Cancer Institute with the VA Ann Arbor Center for Clinical Management Research, an HSR&D Center of Innovation, providing all necessary resources, space, and support for conducting this research.

During our development work, we engaged our team to identify and create the competing de-implementation strategies based on our prior qualitative research eliciting stakeholder input. We chose an ADT order check attestation **(Or)** versus an ADT provider script **(Sc)** as a communication aid to be used and documented as an accountable justification in the electronic medical record. Sites receiving the **Sc** intervention will also receive an educational handout that providers may elect to share with patients during clinic visits. Both strategies have a strong evidence-base for changing provider behavior and are tailored based on the COM-B and DCE survey. The work from pilot testing will play a critical role to help us understand the acceptability, feasibility, and scalability of these strategies in order to conduct the full-scale pilot randomized implementation trial. We will conduct pilots for up to six months across 3 VA sites and the pilot implementation trial across 4 VA sites.

The main goal of both interventions will be to decrease ongoing low-value ADT use for patients with prostate cancer, but to do this in a way that is acceptable to the clinicians who treat these patients. From a scientific perspective, we are purposely choosing to trial strategies from opposite ends of the behavior change continuum because of their evidence-based potential to change provider behavior. Specifically, we are selecting one approach **(Or)** that operates as an organizational constraint and a competing approach **(Sc)** that operates at an individual and dyadic level to build individual capacity, perceived to maximize ability of providers to communicate effectively. The first approach requires little to no learning on the part of providers, while the second requires upfront learning ("cost" to provider).

As illustrated in Figure 2, this approach sets up a testable hypothesis: that a blunt de-implementation organizational approach may be effective in the short-term, but that it will lose its effects as providers learn work-arounds. Conversely, an individual capacity building approach to de-implementation using a script might take longer to observe measurable decreases in castration rates, but its effects will create sustainable change as providers internalize and routinize this clinical practice.

Figure 2. Comparative effectiveness of de-implementation strategies addressing low value cancer care

STUDY DESIGN

Pilot testing will be done at 3 VA facilities and the pilot randomized implementation trial will be conducted at 4 VA facilities that care for prostate cancer patients with localized disease and non-metastatic biochemically-recurrent prostate cancer with low PSA levels receiving ADT injections. Our rigorous prior research demonstrates opportunities at the organizational level to address ongoing systematic use of ADT, as well as at the provider level where barriers to individual behavior change need to be addressed.

We will pilot the **Or** vs. **Sc** de-implementation strategies for up to six months across 3 sites to reduce low-value ADT use in prostate cancer patients with localized disease and non-metastatic biochemically-recurrent prostate cancer with low PSA levels. This pilot work will play a critical role to help us understand the acceptability, feasibility, and scalability of these strategies to conduct the 4-site pilot randomized implementation trial. Using the RE-AIM framework, we will evaluate methods of recruitment and acceptability of the intervention by stakeholders, identify and troubleshoot any feasibility and fidelity issues, and refine the study protocol and power analysis for the pilot implementation trial.

We have the following specific aim:

Aim 1: **To evaluate the implementation of an ADT order check (Or) versus a provider script (Sc) on decreased low-value ADT use after six months.** We will first examine low-value ADT use during 6 months of pilot testing at 3 VA sites, as well as refine our proposed RE-AIM implementation outcomes and ascertainment, study of moderators (e.g., fidelity) and causal mechanisms underlying implementation interventions. This work will inform the subsequent 4-site pilot randomized implementation trial by addressing preferences and concerns through tailoring during pilot testing. Based on pilot testing, we will refine our site engagement strategies and study methods and materials for the trial.

Data collection

All 3 pilot test sites will be followed for up to 6 months. To implement the interventions and assess for issues in the implementation process in order to further refine the intervention plan, information will be collected regarding the process of ADT ordering at each site, including who is involved, through conversations with the Site Champion (who is also a project consultant) or their designee. Additionally, information regarding implementation status as well as any changes in site processes around prescribing ADT will be discussed at regular team meetings with the project consultants (including Site Champions). For both the pilot and implementation trial, outcomes will be collected from VA CDW/Cancer Registry/Vital Status/CMS records and CPRS/Capri/JLV/WebVRAM for all clinic visits documented as providing low-value ADT at baseline, 3 and 6 months. An organizational survey will be developed and refined throughout the pilot. For the pilot implementation trial, an anonymous clinic assessment survey will be administered to Site Champions at baseline and an ADT provider assessment will be administered to participating site providers at baseline and 1-month post-intervention through VA Qualtrics (Appendix VI).

Outcomes Analyses

Primary analyses: Comparing the effectiveness of two de-implementation strategies, **Or** vs. **Sc**, on continued low-value ADT use after six months. Our primary outcome is stopping ADT injections, which will likely be evaluated through a combination of chart reviews and informatics data generated through the ordering process. We will also explore the feasibility and impact of six-month outcomes during pilot testing to increase study efficiency and timeliness.

Secondary outcomes: RE-AIM implementation outcomes, changes from baseline measures, total ADT injections per arm at 6 months post implementation. (Table 4). We will examine moderators of strategy effectiveness (e.g., fidelity) and causal mechanisms underlying the strategies through content analysis from study team and pilot site meeting documents and discussion and based on our organizational assessment.

Table 4. Implementation Outcomes (based on the RE-AIM framework)

Domain	Order entry	Script
Reach	(1 - # ADT providers opt out) / (total ADT providers)	(1 - # ADT provider opt out) / (total ADT providers)
Effectiveness *** (primary implementation outcome, and primary outcome of trial)	Low value ADT (LVADT) prescription order decrease (LVADT candidate expected orders – LVADT not ordered) / (LVADT got order + LVADT stopped order)	
Adoption (provider level)	At least 1 order fired and signed (provider level)	At least 1 script signed (provider level)
Penetration Adoption (order level)	(# times order entry justified) / (# times order went through anyway)	# scripts signed / (LVADT got order + LVADT stopped order)
Implementation	Did implementation vary? - Differential adoption/penetration in medical oncology vs radiation oncology vs urology - Measure adoption/penetration at different time points (e.g., 3/6 months) - Number of sites that withdraw from participation (e.g., 3/6 month withdrawal rates)	
Fidelity	- Were the justifications appropriate? (i.e., was something entered, or was no reasoning put in (enter n/a, etc))	- Was the script edited? (i.e., not just signed)
Maintenance (site/setting level)	Proportion of sites that would elect to continue intervention, if available	

TIMELINE

	2021			2022									2023											
				PILOT									RANDOMIZED TRIAL											
Month	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Pilot																																							
Or/Sc Interventions Development	x	x	x	x	x	x	x	x	x	x	x	x																											
Regulatory Approvals													x	x	x	x	x	x	x	x	x																		
Obtain Pilot Facility Approval (Site Champions)																	x	x																					
Or/Sc CPRS Programming (All Sites)																	x	x	x																				
Pilot Site Implementation Education Sessions																			x	x																			
Pilot Testing																			x	x	x	x	x	x	x														
Randomized Trial																																							
Survey Development																					x																		
Obtain National Union Notification																					x	x																	
cRCT Site Identification Data Collection																						x																	
Obtain cRCT Facility Approval (MCDs & Site Champions)																									x	x	x	x	x										
Randomize cRCT Sites																									x	x	x	x	x										
cRCT Site Implementation Education Sessions																									x	x	x	x	x										
cRCT																										x	x	x	x	x									
Organizational Assessment																										x	x	x	x	x	x								
Patient-Level Outcomes Data Collection																															x								
Implementation/Secondary Data Collection																										x			x		x								
cRCT Data Analysis																										x	x	x	x	x	x	x	x	x	x	x	x	x	x
Manuscript Preparation/Submission																									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

R37 Funding: 1/1/2022 – 12/31/2023

PILOT SITE SELECTION

- The **Or** and **Sc** interventions will be piloted at the study PI and consultants' sites as follows:

Site	Site Champions	Intervention
VA Ann Arbor Healthcare System	**Ted Skolarus, MD (co-PI)**	**Or & Sc**
VA Greater Los Angeles Healthcare System	**Jeremy Shelton, MD**	**Or**
VA New York Harbor Healthcare System	**Dan Makarov, MD**	**Or**

PILOT SITE IMPLEMENTATION OVERVIEW

- Drs. Shelton, Makarov, and Leppert are all consultants who have agreed to serve as Site Champions for the pilot work.
  - Study consultants do not have access to identifiable data or the study folder and are not "engaged" in study activities.

- Pilot sites will not be randomized.

- The ADT Order Check Attestation Intervention (**Or**) will be implemented at all sites, as this intervention requires engagement with other services, such as CAC, pharmacy, etc., and its procedures are most in need of refinement.

- The ADT Provider Script Intervention (**Sc**) will be implemented at Ann Arbor.

- The official start date for the pilot begins when we have started adding HF's and/or assigning progress notes. Pilot sites will be followed for up to 6 months.

- Facility Notifications & Approvals
  - Site Champions will be asked to seek approval from the Medical Center Director and notify chiefs of Urology, Oncology, Radiation Oncology, and Pharmacy (as needed) at their respective sites.
  - Study staff will provide Site Champions with email templates (Appendix II).
    - Email templates will be tailored to each facility, as needed, and revised based on provider feedback
  - The Site Champions will be asked to direct any replies to the study group email VHAANNLivingWell@va.gov. Unless otherwise specified, the site champions will be included on all correspondence with staff at their site

- CHIO/CAC's Notifications & Approvals
  - Once the Site Champion has notified the Chiefs of Urology, Medical Oncology, Radiation Oncology, and Pharmacy, study staff will reach out to CHIO/CACs at each facility (Appendix II) to begin discussions on implementing the Order Check (**Or**). Study staff will also ask CACs at Ann Arbor to create a new Provider Script (**Sc**) progress note.
  - Our experience with the CACs at pilot sites will inform development of a CAC instruction guide to program the CPRS order check and progress note to be used in the cRCT.

- Baseline ADT Prescribing Meetings
  - Information will be collected regarding the process of ADT ordering at each site, including who is involved, through conversations with the Site Champion or their designee.

- Site Champions and Section Chiefs will be asked about the ADT ordering process for their department, if they are in the **Sc** Arm this will include planning on how to best make the patient handout available to providers who prescribe ADT.
- This information is needed to ensure the intervention is tailored to fit the sites' existing workflow, to know who at the site should be informed of the intervention, and to learn baseline workflow so we are aware of changes outside of our intervention that may impact ADT ordering.
- Site Champions and Section Chiefs will also be asked for a list of providers who prescribe ADT at their site (including fellows and residents).
    - If names of the fellows/residents are unknown, we will leave it up to the Site Champions and Section Chiefs to notify them about the study.
    - If departments outside of the Site Champion's department also prescribe ADT, we will request this information from their department chief (or designee) as well (e.g., Medical Oncology, Radiation Oncology)
- Site Champions will be asked for names of the site CHIO/CACs (if unknown).

- Implementation Education Session (IES)
    - Study staff will work with Site Champions to schedule a virtual IES.
    - The purpose of the IES will be to explain the importance of the study, describe the light touch interventions, and encourage use of the tools provided with the interventions. We will also field questions and address any concerns from providers.
    - The IES will ideally be scheduled during Grand Rounds, tumor boards, or another regularly scheduled clinical department meeting.
    - The IES will be around 10-15 minutes and will include a PowerPoint presentation (see attached).
        - The IES presentation will be tailored to each facility, as needed, and revised based on provider feedback.
        - The Study Co-PI plans to facilitate the IES, but it may also be conducted by study staff or designee chosen by site leadership at their request.

- Confirm List of ADT Providers
    - Once the Site Champions have obtained/provided all necessary approvals/notifications and the IES has been scheduled, study staff will contact the Site Champion and/or department chiefs to confirm the final list of providers in each department who prescribe ADT.

- Intervention Kick-Off
    - Study staff will send providers an email with an attached information sheet and information about the upcoming IES (if IES has not already occurred) (Appendix II).
        - Site Champions will also email providers to encourage participation in the IES (Appendix II).
        - Site Champions will be careful to promote the study at their sites without being coercive.
        - Providers will have a week from the email being sent to opt out. Providers may opt out by emailing the study team at: VHAANNLivingWell@va.gov.
        - Site Champions will not be informed of any providers opting out.

- Ongoing Communications
    - Once the intervention is successfully implemented at the site, study staff will communicate with Site Champions/site staff as needed. These communications may include:
        - Monthly automated email inquiring about any site changes (including changes in providers and procedures), feedback from other staff, or site needs.

- Other communications as needed.

- This pilot work will help us refine our protocol, troubleshoot unforeseen issues in the project, and determine whether our interventions are feasible as designed.

- We will also pilot the preliminary organizational assessment survey by inviting the Site Champions to complete the survey in VA Qualtrics.

IDENTIFYING LOW-VALUE ADT IN PILOT

CDW/CENTRAL CANCER REGISTRY/VITAL STATUS/CMS

- We will collect data using CDW/Cancer Registry/Vital Status/CMS data from October 1, 1999 to June 30, 2024

- Study Data Manager will identify the low-value ADT cohort using 2020 - 2022 VA CDW/Central Cancer Registry/Vital Status/CMS data.
    - Real SSNs will be necessary in order to link data across databases and to conduct chart reviews.

- Target clinic visits appropriate for low-value ADT de-implementation will be identified using CDW/Cancer Registry/Vital Status/CMS data based on patient diagnosis, PC treatment, and treatment dates.

- We developed real-time 'smart' criteria to support streamlined implementation including:
    1. Injectable ADT order within 14 months of the current date (e.g., leuprolide J9217)
    2. Prostate cancer diagnosis (ICD-9 185, ICD-10 C61)
    3. Low and non-rising PSA levels consistent with localized disease or treated non-metastatic biochemically-recurrent prostate cancer (<2 ng/mL)

- Clinic visits identified as appropriate for ADT de-implementation will include all those with patients undergoing ADT monotherapy as well as those with non-metastatic prostate cancer after definitive treatment, and those receiving continuous ADT for biochemical recurrence.

    - **ADT monotherapy/primary ADT is defined by:**
        1. Never had evidence of metastatic disease (including bones and lymph nodes)
        2. No treatment with castration-resistant prostate cancer (CRPC) medications (e.g., abiraterone, enzalutamide)
        3. No definitive treatment with radiation (+/- adjuvant ADT), RP, or cryotherapy, and has no immediate plan for definitive treatment
        4. Receiving ongoing ADT at the VA
        5. Current PSA ≤2 and not rapidly rising (no PSADT <10 months)

    - **Biochemical recurrence is defined by:**
        1. Never had evidence of metastatic disease (including bones and lymph nodes)
        2. No treatment with CRPC medications (e.g., abiraterone, enzalutamide) in the last two years
        3. Has completed definitive treatment with radiation (+/- adjuvant ADT), RP, or cryotherapy
            - The course of adjuvant ADT not within 3 years of definitive treatment
        4. Rise in PSA level after definitive treatment
            - 2 ng/mL over nadir for those with history of radiation treatment

        - nadir = lowest PSA after treatment
        - >0.2 ng/mL for those with radical prostatectomy (RP)
    5. Receiving ongoing ADT at the VA for biochemically recurrent prostate cancer
    6. Not on adjuvant ADT with salvage radiation

- **nmPCa after local/definitive treatment defined by:**
    1. Never had evidence of metastatic disease (including bones and lymph nodes)
    2. No treatment with CRPC medications (e.g., abiraterone, enzalutamide) in the last two years
    3. Has completed definitive treatment with radiation (+/- adjuvant ADT), RP, or cryotherapy
    4. Receiving ongoing ADT at the VA
    5. No rise in PSA level after definitive treatment
        - Current PSA ≤2 and not rapidly rising (no PSADT <10 months)

- Throughout the pilot, the data manager will complete data pulls at different time intervals (e.g., weekly, bi-weekly, monthly, etc.) to determine how often the data may need to be refreshed during the RCT. Data such as patient appointment cancellations, changes in PSA scores, new drug names, variations of appointments/treatments, etc. are important to keep updated as they can impact patient eligibility.

mPCA NATURAL LANGUAGE PROCESSING (NLP) TOOL USE IN VINCI

- We will use a validated NLP tool developed by the VA Salt Lake City Healthcare System Prostate Core to identify Veterans with metastatic prostate cancer (mPCa) in real time. This will enable us to further refine our cohort by excluding all mPCa patients.
    - The Prostate Core has provided a data dictionary for definitions of the variables.
    - We will inform the Prostate Core if any of our definitions are different (e.g., prostate cancer, mPCa, etc.).
    - In the event we find mPCa patients after we complete chart reviews, we will inform the Prostate Core team.
    - Study staff will view the NLP data output in a VINCI worksheet.

- The PCa Data Core table/list is updated monthly by VINCI (we should receive email notifications from VINCI when the list has been updated).

CHART REVIEWS

- Study staff will also **conduct chart reviews using CPRS/Capri/JLV/WebVRAM to confirm target ADT orders and clinic visits**.
    - Study staff will apply for local CPRS access at participating sites through WebVRAM, though Capri/JLV may also be used to conduct chart reviews

- As the ADT injections occur serially at 1, 3, or 6 month intervals, an individual provider could have multiple opportunities to be exposed to the intervention during the 6-month study period.

- Low-value ADT injections must have occurred within 14 months prior to data pull.

- In consultation with Co-PI Dr. Skolarus, a fellowship-trained urologic oncologist, and Co-I Dr. Caram, an expert prostate cancer medical oncologist, and Co-I Dr. Elliott, Chief of Radiation Oncology at AAVA, we will provide multi-disciplinary review for questionable low-value ADT use.

- Clinic visits identified during chart reviews or multi-disciplinary review as involving proper justification for ADT use will not be considered appropriate for ADT de-implementation.

- When identifying clinic visits as appropriate for the ADT de-implementation interventions, no interventions will be triggered on any clinic visits for providers who opted out of the study.

- We will track numbers of identified low-value ADT injections each week per site.

- Paper records created for chart review purposes will be labeled with a study ID only and stored in locked filing cabinets in the locked 3rd floor CCMR suite in VA-rented space at NCRC. Once data is digitized, the paper copies will be placed in the VA's secure shredder bin.

PATIENT DASHBOARD IN CPRS

- See Appendix IV for screenshots of an example dashboard.

- We will work with Yehuda Bechar, MBA, our consultant technology developer and study team member, to create a patient dashboard accessible through AAVA CPRS.

- The dashboard will enable the study team to:
    - View upcoming clinic visits identified as appropriate for ADT de-implementation.
    - Know when we can assign the progress note template to providers who have an upcoming clinic visit identified as appropriate for ADT de-implementation.
    - Determine when a patient has an order for ADT in CPRS.
    - Complete quality checks (e.g., to know which patient records to look at to confirm the order check was generated).

- Once a site is randomized, the Data Manager will run a new data pull for that site. She will create a file with the list of potentially eligible patients from CDW to upload to the dashboard. A separate Excel spreadsheet will be created for each site. The data files will be saved here: I:\Skolarus 2017\DeADT\5. Identifiable Data\RCT Data\Files for Upload. Data files will be uploaded to the dashboard.

- Dashboard administrators will download export data files from the dashboard and save here: I:\Skolarus 2017\DeADT\5. Identifiable Data\RCT Data\Dashboard Export Files. These data will then be imported into the database. This will also need to be done when changes to the dashboard data fields are made, as the export fields need to match the database import fields.

- Prior to chart review screening, the study team will ask Yehuda to run the program that looks for the most recent clinic visits – these will be added to the "next screen date" column.

- Study team will ask site CHIO and/or CAC's to add the dashboard link to their CPRS tools menu. **The FID in the URL will need to be updated for each site. Quotation marks are required at the beginning and end of the link when being programmed.** The link should not include any additional spaces or characters – this can cause a user access error. Dashboard link:

  "https://vhav10appmedrc1.v11.med.va.gov/AviOutpatient/AdHoc/AdHocList.aspx?U=%DUZ%20M=%DFN%20FID=XXX%20R=%MREF"

- A server error may occur when CAC's try to open the link from an active Outlook email ("active" meaning the CAC copied the link from a new reply email). When the CAC copies the link from an active email, the system adds https://gcc02.safelinks.protection.outlook.com/?url= to the dashboard link. The CAC will need to copy the link as

regular text (paste as "text only") and then highlight the text but select copy hyperlink to get it to take that part out.

- The dashboard may be accessed via the Tools menu in CPRS (all on VA servers behind the firewall)
    - Locations for Pilot Sites
        - AAVA CPRS: Tools >> Specialty Clinics Apps… >> Oncology/Hemoc >> AviTracks (light)
        - GLA CPRS: Tools >>Additional References/Resources >> Living Well ADT Dashboard
        - NYH CPRS: Tools>>More Surgery >> Living Well with Prostate Cancer Dashboard
    - Locations for RCT Sites may be found in the chart review guide.

- If space in the Tools menu is limited, we will work with sites to determine an alternative location to place the dashboard link in CPRS.

- Study team will notify Yehuda each time a site adds the dashboard to their CPRS tools menu.

- Administrators (Jenny and Jordan) will oversee the list of dashboard users and export data files.

PILOT TARGET ADT ORDER IDENTIFICATION (OR)

- Prior to launch, we will pull a cohort from each facility to identify target ADT orders for the **Or** intervention.

- Due to the delay in Cancer Registry data availability, we will need to pull data for an 18-month period to build our sample (e.g., for January 2022 launch, we will pull from January 2020 to July 2021).

- Study staff will conduct chart reviews using CPRS/Capri/JLV/WebVRAM to confirm all ADT orders qualifying as low-value ADT within the study cohort at each facility.

- Questionable cases will be subject to multi-disciplinary review during the weekly study team meeting:
    - Questionable bone metastases
    - Intermittent ADT
    - Other questionable cases

- All target ADT orders confirmed will be subject to the **Or** Intervention (see below).

PILOT TARGET CLINIC VISIT IDENTIFICATION (SC)

- Every week, the study team will review the list of potentially eligible clinic visits for providers' clinic schedules the following Monday-Friday.

- Study staff will screen the list of clinic visits throughout the implementation period to identify target clinic visits for the **Sc** intervention.

- Questionable cases will be subject to multi-disciplinary review during the weekly study team meeting:
    - Questionable bone metastases
    - Intermittent ADT
    - Other questionable cases

- All target clinic visits confirmed will be subject to the **Sc** Intervention (see below).

IMPLEMENTATION EDUCATION SESSION (IES)

- Study staff will work with Site Champions to schedule a virtual IES.
- The IES will ideally be scheduled during Grand Rounds or another regularly scheduled meeting.
- The IES will be ~10 - 15 minutes and include a PowerPoint presentation (see attached).
  - The IES presentation will be tailored to each facility, as needed, and revised based on provider feedback
  - The Study PI plans to facilitate the IES, but it may also be conducted by study staff or designee chosen by site leadership at their request
- The purpose of the IES will be to explain the importance of the study, describe the light touch interventions, and encourage use of the tools provided with the interventions. We will also field questions and address any concerns from providers.

INSTRUCTIONS FOR SCHEDULING IES MEETINGS

NOTE: Be mindful of the different time zones when scheduling

- Request the meeting organizers send calendar invitations to the following email addresses:
  - Site Champion's email
  - Dr. Skolarus' VA and UM emails
  - Living Well group email
- We will provide the meeting organizers a copy of the PPT upon request.
- Update site status in database with date and time of scheduled IES.
- Add IES meetings to the shared Living Well calendar.
- When IES's are scheduled by the study team, include the information below in the meeting invite:

  Purpose

  Dr. Ted Skolarus, Research Investigator at the VA Ann Arbor Healthcare System, will be presenting an overview of his project, "Living Well with Prostate Cancer" which will be piloted at the **<<insert site>>.** This study is focused on limiting low-value Androgen Deprivation Therapy (ADT). The purpose of this presentation is to explain the importance of the study, describe the light touch interventions, and address any questions or concerns from providers.

  Meeting Information

  https://www.zoomgov.com/j/16142416824?pwd=TWx2UTN6OVh6OC90WmZrcVpNSUZhQT09

  Meeting ID: 161 4241 6824

  Passcode: 669953

INSTRUCTIONS FOR SCHEDULING AD-HOC MEETINGS

- Make sure site champion has CAC programming instruction guide for Or and screenshots of progress notes.
- Update site status in database with date and time of scheduled ad-hoc meetings.
- Add ad-hoc meetings to the shared Living Well calendar.

ADT ORDER CHECK ATTESTATION (OR) INTERVENTION

- The pilot work will be used to refine the Order Check Attestation Intervention for use in the cRCT, as needed.

- The Or intervention will not be implemented in departments using Vista Chemotherapy Manager (VCM) or another separate ordering system where the order check will not be seen by providers.

- The screenshot below shows the latest version of the clinical reminder order check (CROC) developed in coordination with Dr. Gabe Solomon, ACOS Informatics, and Joye Allen, Clinical Pharmacy Specialist, CAC, VA Ann Arbor Healthcare System.

- Study staff and/or the AAVA CAC will email site CAC's a coding guide to implement the CROC in CPRS. The coding guide is written to start in test mode so the Study Team can use test patients to ensure the CROC is triggering correctly.

- When the local CAC is ready, study staff will put them in contact with Joye (joye.allen@va.gov), who will send them a VISTA file with the CROC to install and update according to the coding guide. In the event Joye isn't available, Erica Montressor (erica.montressor@va.gov) or Cindy Shepler (mary.shepler@va.gov) can send the VISTA file if we provide them with the local CACs VISTA email.

- Study staff will request CAC to change the CROC to live mode when the intervention is set to start.

- Once the CROC has been switched to live mode, study staff will place a "Living Well ADT" health factor in the EMR of patients whose clinic visits study staff have confirmed to be targets for ADT de-implementation. We will enter health factors as we identify eligible patients. This health factor combined with a low PSA level (most recent PSA < 2ng/mL) will trigger the ADT Order Check Attestation Intervention (**Or**) when the provider places an order for ADT (Lupron, Eligard, Viadur, Goserilin, and Zolodex).

- Providers may override the CROC by entering a number from the order check text that corresponds to the reason they are overriding the order check. Providers are also able to enter text if a numbered reason is not listed.

- If providers opt-out after the health factor was placed for one of their patients, study staff will remove the health factor in CPRS. For a provider who opts-out, the Study Data Manager will run a query in our Access tracking database to pull a list of his/her patients. The Study Team will not place a health factor in the EMR of patients whose provider has opted out.

- Study staff will do periodic quality control checks to ensure the intervention is working as expected and work with the site CAC's to make adjustments as necessary.

- Appropriate use of the indication will be tracked for fidelity. We will track comments entered by providers to override order checks. The Study Data Manager will periodically pull comments from order checks (there are data tables for order checks that contain text for open field that are stored in CDW).
    - Using a combination of progress notes and other CPRS data, study staff will check to determine whether the patient received the injection.
- Deimplementing Or – study staff will remove HFs for intervention patients. We'll ask site to remove study HF from their CPRS.

CPRS INSTRUCTIONS FOR OR INTERVENTION

OPENING CPRS

- Go to "VA Shortcuts" (star icon on desktop)
- Select "CPRS _Launcher" (rocket icon)
- Select: VISN 03 or VISN 22
- Select site: Ex - Manhattan, NY
- Launch CPRS button

PLACING A HEALTH FACTOR

While in a patient record in CPRS:

- Click on the "Notes" tab (bottom of screen)
- Select (highlight) the note that makes most sense to you to add the health factor. **Ideally this will be the last progress note by the provider who prescribes this patient ADT**. Note: it shouldn't hurt anything to add this to another encounter if the last progress note by the provider who prescribes ADT isn't an option – the only consequence of this health factor is triggering our order check while the order check is live at the site.
- Click on the "Encounter" button (far right over tabs).
- Click "Edit Note Encounter" button in the "Select and Encounter to Edit" pop-up menu.
- Select "Health Factors" tab at the top of the Encounter Form pop-up menu.
- Select "Other Health Factor…" button in the middle left side of the pop-up menu.
- Enter "Living Well ADT" (or some portion of this) into the category box in the "Other Health Factors" pop-up menu.
- Select "Living Well ADT" by clicking on it in the "Category:" menu so that it is highlighted.
- Click "OK." The "Living Well ADT" health factor should show up under "Selected Health Factors."
- Click "OK" again until pop-ups close and the progress note screen is again fully visible.
- You can see in the bottom box under the progress note text "Health Factors: LIVING WELL ADT" to verify the health factor was added to the encounter.

DOCUMENTING PLACEMENT OF HEALTH FACTOR – EXCEL SPREADSHEET

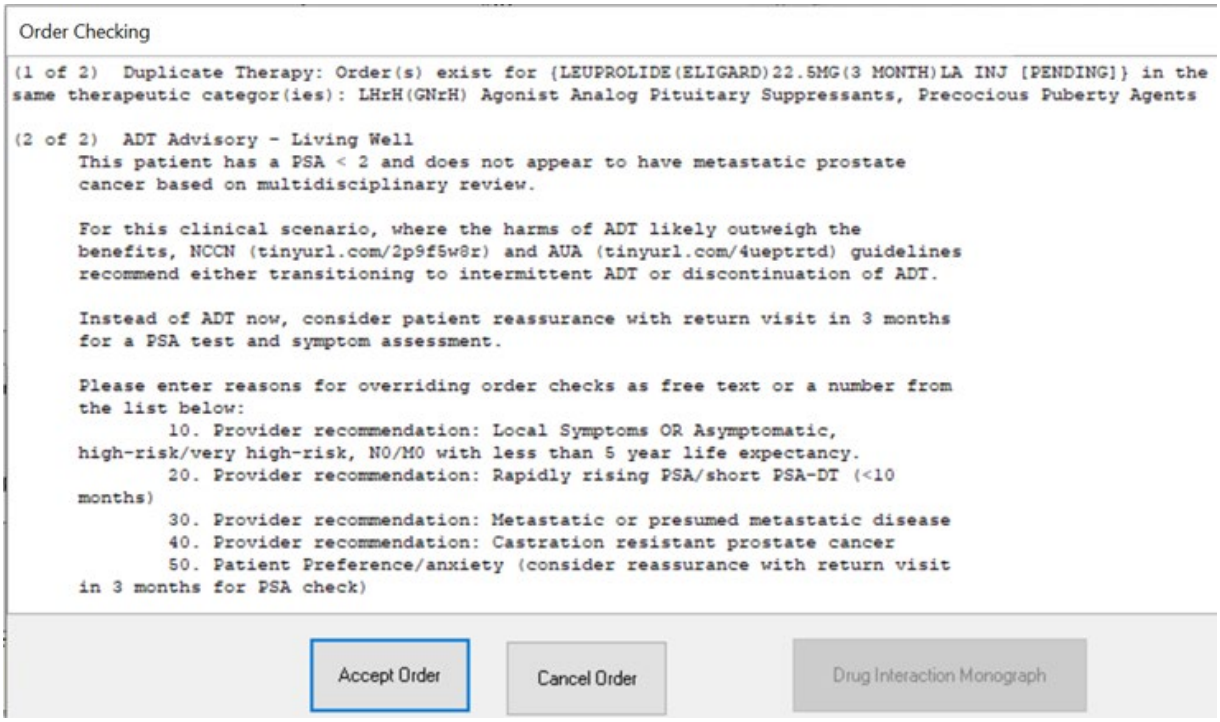
- Update column "X" with date and full name of the encounter you added health factor.
    - Ex: "Yes – Oct, 13, 2022 UROLOGY CLINIC NOTE, GI/UROLOGY…"
- Update column "Y" with date health factor was added.
- Update column "AA" to indicate whether the dashboard was updated.

REMOVING HEALTH FACTORS IN CPRS

- Click on the "Notes" tab (bottom of screen)
- Select (highlight) the note where you added the health factor.
- Click on the "Encounter" button (far right over tabs).
- Click "Edit Note Encounter" button in the "Select and Encounter to Edit" pop-up menu.
- Select "Health Factors" tab at the top of the Encounter Form pop-up menu.
- Find and select the "Living Well ADT" health factor in "Selected Health Factors."
- Click "Remove."
- You should no longer see in the bottom box under the progress note text "Health Factors: LIVING WELL ADT" to verify the health factor was removed from the encounter.

DOCUMENTING PLACEMENT OF HEALTH FACTOR – DASHBOARD - TBD

SCREENSHOT OF CPRS ORDER CHECK



PROVIDER SCRIPT (Sc) INTERVENTION

- The pilot work will be used to refine the Provider Script Intervention for use in the cRCT, as needed.

- The purpose of the script is to enable providers to:
  - Improve interpersonal skills
  - Increase confidence in the evidence base and communication surrounding low-value care

- It is up to the discretion of the provider whether/how to incorporate the script into the clinic visit discussion.

PROGRESS NOTE

- We will work with Erica Monstressor (Erica.Montressor@va.gov), or another, AAVA CAC, to develop the progress note template. We will also create an instruction guide for CACs at other sites to upload the note template file in CPRS.

- Erica, or another AAVA CAC will send the note template via VISTA email to local CACs with directions to install. In the event Erica is not available, Joye Allen (joye.allen@va.gov), or Cindy Shepler (mary.shepler@va.gov) can send the VISTA file if we provide them with the local CAC's VISTA email.

- This is the exact entry for the reminder dialog they would need unless we make any updates to it between now and then.

+Item	Entry	Source	Date Packed
181	LIVING WELL ADT FILES - DEC 2022	ALLEN@ANN ARBOR VA	12/13/2022@10:12

- Study staff will enter a CPRS progress note approximately one business day prior to a target low-value ADT clinic visit. Notes will not be assigned for ADT injection-only visits. The note includes talking points for the provider to help with a discussion with the Veteran.
    - The note can be edited and signed by the provider, giving a quick and simple way to document the discussion. The progress note will prompt providers to indicate whether patient prefers to continue or discontinue ADT.

- The progress note will include links to the clinic handout which will be posted on CCMR's external website (outside VA firewall).

- Providers may modify, ignore, or delete the progress note.

- Appropriate use of the indication will be tracked for fidelity. We will track how many notes are placed. We will also be able to run a report of all signed and unsigned progress notes.

- At the end of the intervention period, Ann Arbor CAC's will delete/remove all unsigned progress notes. Unsigned notes will need to be reassigned at the end of the study. Erica, or another AAVA CAC will run a report of unsigned notes by our note title for Ann Arbor. The CAC will change the note author back to a member of the study team, which we can then remove from CPRS. We will ask the Data Manager to reassign the note in CDW for other sites or ask the site CAC if necessary.
    - If providers delete an unsigned note, it's unlikely to appear in a TIU progress note report.

Clinic Handout

- The clinic handout will be tailored to each individual facility, e.g., with site name (Appendix V).

- Prior to each site's scheduled IES, study staff will provide clinic handouts to the clinic point person identified by the Site Champion (the clinic point person may also be the Site Champion). We may use one or more of the following approaches:
    - By mail: hardcopies of the handout will be mailed to the clinic point person (as requested). Each clinic will receive 50 copies of the handout.
    - By email: copies of the handout will be emailed to clinic point person (this may happen when we send Site Champions the email templates or in a separate email). Each clinic will be instructed to print 50 copies of the handout.
    - By website: a copy of the handout will be accessible on CCMR's website (outside the VA firewall). A link to the website will be included in the progress note.

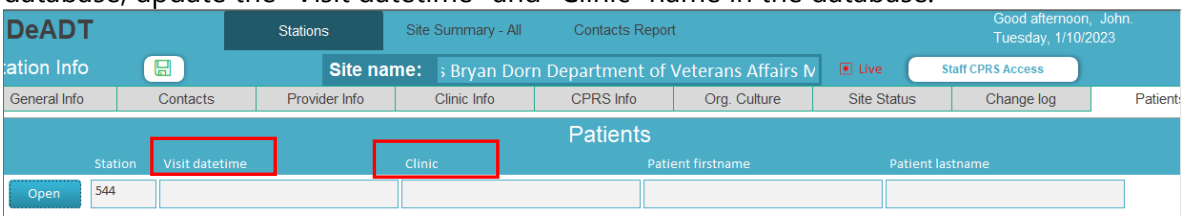
- If requested by sites, the study will provide supplies to sites to display the clinic handouts. Study staff will check in to ensure handouts were received and are being displayed and/or made accessible to providers and to address any issues that come up.

- It is up to the discretion of the provider whether/how to incorporate the handout into the clinic visit discussion.

CPRS INSTRUCTIONS FOR Sc INTERVENTION

ASSIGNING A PROGRESS NOTE

1. Open TWO files:
   a. CPRS
   b. *Database
      i. Note: Starting 8/10, Kathy will assign progress notes for Columbia and Phoenix patients.
      ii. Note: Starting 8/14, Kathy will update the appointment list for eligible patients each week (on Mondays). The database will list dates of upcoming appointments in chronological order.
2. While in a patient record in CPRS:
   a. Confirm patient name and SSN match what's in the database (you're just confirming that you're looking at the correct person in CPRS).
   b. In CPRS, go to "Appointments" in the "Cover Sheet" to confirm that the appointment listed in the database matches what's listed in CPRS.
      i. If the date and/or name of an upcoming appointment in CPRS is different than what is in the database, update the "Visit datetime" and "Clinic" name in the database.



   c. In CPRS, confirm the MOST RECENT PSA has not increased beyond 2ng/ml.
      i. **IF** the patient has a PSA **<**2ng/ml, skip to Step 2d.
      ii. **IF** the patient has a PSA **>**2ng/ml, go back to the database, open the form for the patient, click "View/Edit Chart Reviews" and edit the Patient Chart Review page:
         1) HF/Note Comments – add reason for not assigning progress note (i.e., why patient is ineligible) – comment should read as: "Prior to assigning note, it was confirmed the patient's most recent PSA on [DATE] was [PSA value].
         2) Not Elig. At Visit box – check this box
         3) Exclusions – select "Yes" next to "Current PSA >2 or rapidly rising
         4) Inclusions – mark all three inclusions "No"
         5) Notes – add reason for not assigning progress note (yes, you will repeat step 2.c.i.1) – comment should read as: "Prior to assigning note, it was confirmed the patient's most recent PSA on [DATE] was [PSA value].
         6) Outcomes – mark "Not Eligible"
         7) Click "Save"
      iii. Note: If the patient is ineligible for another reason (i.e., patient is deceased, provider opted out, etc.) follow steps 1)-7) to update this page. The details should be relevant to the specific situation.
   d. In CPRS, confirm all other eligibility criteria. The patient must NOT meet any of the exclusion criteria prior to assigning a note.
   e. In CPRS, click on the "Notes" tab (bottom of screen).
   f. In CPRS, click on the "New Note" tab. *Location for Current Activities* dialog box will open.
   g. In CPRS, click on the "New Visit" tab (far right over tabs).
      i. [PILOT] For Ann Arbor, enter "AA GM-LETTER-X" to attach the note
      ii. [RCT] Enter the following to attach the note:
         1) Columbia – **WJB RESEARCH NOTES**
         2) Phoenix – **ADMINISTRATIVE CONTACT**

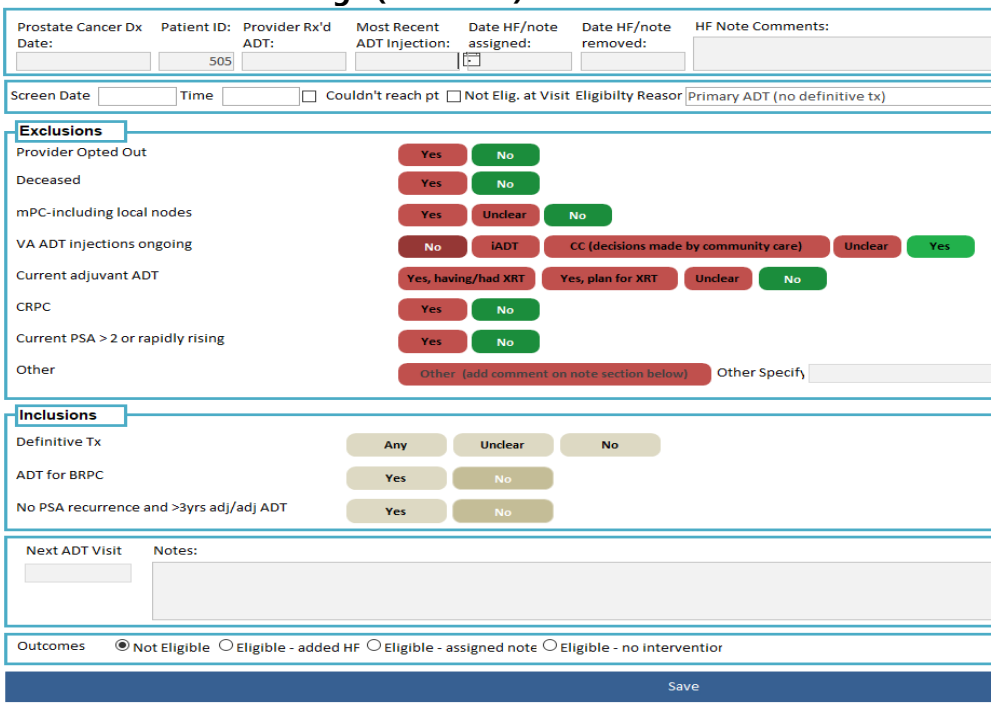
h. Time of visit should be set to "Now" (do **NOT** check the "Historical Visit" button).
i. Click "OK."
j. **In *Progress Note Properties* box, enter **"ADVISORY-ADT FOR LOCALIZED/NON-METASTATIC PROSTATE CANCER"**. Once you see the note title in the menu, click to highlight it, and then click "OK."
k. *Reminder Dialog Template: Advisory - ADT for Localized/Non-Metastatic Prostate Cancer* box will open. Click "Finish."
l. *Primary Encounter Provider* box may open. Enter the name of the provider. Once you see the provider's name in the menu, click to highlight it, and then click "OK."
m. Tailor the note for each patient:
    i. Delete one of the options in the first sentence "based on multidisciplinary review…" prior to assigning the note (primary ADT or BCR). Refer to the database to see the patient's eligibility.
n. In the event you need to manually enter PSA lab values and ADT injection information, please include data for the **three most recent PSA labs and ADT injections within the last year**.
    i. The best place to find this information is in the progress notes for an ADT injection appointment (they *may* include "Uro" or "Onc" in the title – do not assume information about an ADT injection is not available just because a note doesn't include "Uro" or "Onc" in the title). You can also find information about ADT injections in the progress notes and in the Meds tab.

UROLOGY CLINIC NOTE, WJB SURG GU PROV 2 CL MD, ← ADT discussion
UROLOGY INJECTIONS NOTE, WJB SURG GU NURSING, ← ADT injection only appointment

    ii. If the patient doesn't have three ADT injections in the last year, just add the two most recent injections.
    iii. Refer to the progress note template to see what information should be included and how the section should be formatted.
        1) At a minimum, the name of the medication, dosage, location of injection and date of administration should be included. If you can include additional information about the medication (expiration date and Lot #), include that in the note as well. If that information is not available, delete the Exp. Date/Lot# titles.
        2) Remove excess space between paragraphs. Make sure asterisks (***) line up at the bottom of the note.
o. Click "Change…" box at top right of screen.
p. Click on arrow at right of "Author:" drop down menu in *Progress Note Properties* note and select the provider who makes decisions about ADT for this patient.
q. Click "OK"

3. After assigning the note, update the Chart Review form in the database for the patient. To do this, open the form for the patient, click "View/Edit Chart Reviews" and edit the Patient Chart Review page.
    a. Add date you assigned progress note to "Date HF/Note Assigned."
    b. Add comment in the "HF Note Comments" AND "Notes" fields. The "Notes" field is at the bottom of the page.
        i. The comment for COLUMBIA should read: "Progress note assigned to Dr. [name] on [date] by [your initials] to WJB Research Notes encounter."
        ii. The comment for PHOENIX should read: "Progress note assigned to Dr. [name] on [date] by [your initials] to [name of Phoenix encounter TBD] encounter."
    c. Select "Eligible – Note Assigned" under "Outcomes."
    d. Click "Save" then close out of the screen.

Patient Chart Review Page (Database)



Important Notes:

1. *Check the database every morning to determine if a progress note needs to be assigned for an appointment the following day.

2. If a note is mistakenly assigned to the wrong provider, or for a patient who is ineligible, notify Jordan and Ted immediately.

3. Provider transitions – If you need to assign notes for eligible patients whose ADT prescriber is no longer in CPRS (and there's no other indication of who patients will be meeting with for their upcoming appointment), ask Site Champion if they wish to have those notes assigned to them or transfer them to another provider on our list.

4. **When selecting note from CPRS "Progress Note Properties" box, you will see two notes with the same title in the list. It's not a duplicate note, it's a quirk of CPRS that displays the note twice. It has to do with how more titles are created and that note titles can have a print name that is different. Whenever we create a note title, it creates 2 lines in CPRS that make it look that there are two titles but there's only the one. You may select either note with our title.

5. Do not assign notes for ADT injection-only visits.

6. Once you have assigned this unsigned progress note to an author that isn't yourself, only that person will see this unsigned progress note in CPRS. Notes signed by the author will be visible to everyone in CPRS.

7. If you try to select a new patient or exit CPRS with an unsigned note, it will prompt you to see if you want to sign it or proceed and delete it.

8. If you accidentally select "Add Chart Review" in the patient form in the database, thereby creating a new duplicate record, just go into the table and find the row that's the duplicate and delete it.

CPRS PROVIDER PROGRESS NOTE TEMPLATE

Available in AAVA CPRS: Shared template>> ZZ considered>>ericas test>>prostate study note

Mock data (dates, results, etc.) shown in note

Original Template Version

```
Advisory: ADT for Localized/Non-Metastatic Prostate Cancer

Based on multidisciplinary review, this patient appears to be on ADT [as
primary therapy for] or [as treatment for biochemically recurrent] prostate
cancer.

Most recent PSA values:
Collection DT     Specimen   Test Name          Result    Units       Ref Range
01/18/2022 09:20  BLOOD      PSA                 0.600    ng/mL        0 - 4
03/03/2022 08:00  BLOOD      PSA                 0.200    ng/mL        0 - 4
06/25/2022 10:15  BLOOD      PSA                <0.100    ng/mL        0 - 4

ADT injections in the last 12 months:
   Rx #       Stat          Qty   Issued       Last Filled     Rem
LEUPROLIDE (ELIGARD) 22.5MG(3 MONTH) LA INJ
   12824236  ACTIVE/SUSP   1     06/25/2022   06/25/2022      (1)


For this clinical scenario, where the harms of ADT likely outweigh the
benefits, NCCN (tinyurl.com/2p9f5w8r) and AUA guidelines (tinyurl.com/4ueptrtd)
recommend either transitioning to intermittent ADT or discontinuation of ADT.

Talking points:

  -We are learning more about prostate cancer all the time, and continue to
  update recommendations based on new information. Since hormone therapy comes
  with long-term effects on your health, I'm worried the harms are greater than
  the benefit.

  -Hormone treatment can have long-term effects that you don't notice right
  away, like thinning bones, diabetes, and heart disease. Most patients don't
  notice these conditions until they have a complication like a broken hip.

  -If we get any indication that your prostate cancer is behaving more
  aggressively or causing you problems, we may decide the benefits of hormone
  therapy are greater than the harms.  We can restart the hormone therapy at
  any point.

Patient information sheet - "Living Well with Prostate Cancer: Is Hormone
Therapy Still Right for You?"

 tinyurl.com/bdh45bnn

*****************************************************************
Patient prefers to:
  Continue ADT

  OR

  Discontinue ADT and follow up in 3-6 months with a PSA test
 *****************************************************************
```

Updated 7/27/2023 – changes made to information displayed in the ADT injections section.

```
Advisory: ADT for Localized/Non-Metastatic Prostate Cancer

Based on multidisciplinary review, this patient appears to be on ADT as treatment for
biochemically recurrent prostate cancer.

Most recent PSA values:
Collection DT     Specimen   Test Name      Result    Units       Ref Range
06/20/2023 09:54  SERUM      PSA            0.19      ng/mL        0 - 4
11/05/2022 09:22  SERUM      PSA            0.57      ng/mL        0 - 4
08/16/2021 09:15  SERUM      PSA            1.06      ng/mL        0 - 4

ADT injections in the last 12 months:
                                                                    Administered
LEUPROLIDE (ELIGARD) 45mg given SQ in Right side of abdomen         06/20/2023
Expiration date / Lot#:[mm]/[yyyy] Lot [xxxxx]A1

LEUPROLIDE (ELIGARD) 45mg given SQ in Left side of abdomen          11/05/2022
Expiration date / Lot#:[mm]/[yyyy] Lot [xxxxx]A1

LEUPROLIDE (ELIGARD) 45mg given SQ in Right side of abdomen         08/16/2021
Expiration date / Lot#:[mm]/[yyyy] Lot [xxxxx]A1


For this clinical scenario, where the harms of ADT likely outweigh the benefits, NCCN
(tinyurl.com/2p9f5w8r) and AUA guidelines (tinyurl.com/4ueptrtd) recommend either transitioning
to intermittent ADT or discontinuation of ADT.

Talking Points:

  -We are learning more about prostate cancer all the time, and continue to
  update recommendations based on new information. Since hormone therapy comes
  with long-term effects on your health, I'm worried the harms are greater than
  the benefit.

  -Hormone treatment can have long-term effects that you don't notice right
  away, like thinning bones, diabetes, and heart disease. Most patients don't
  notice these conditions until they have a complication like a broken hip.

  -If we get any indication that your prostate cancer is behaving more
  aggressively or causing you problems, we may decide the benefits of hormone
  therapy are greater than the harms.  We can restart the hormone therapy at
  any point.

Patient information sheet - "Living Well with Prostate Cancer: Is Hormone
Therapy Still Right for You?"

 tinyurl.com/bdh45bnn
************************************************************
Patient prefers to:
  Continue ADT

  OR

  Discontinue ADT and follow up in 3-6 months with a PSA test
************************************************************
```

PILOT CLINIC AND ADT PROVIDER ASSESSMENTS

- For the pilot, we will ask the Site Champions/Study Consultants to test the assessment surveys and provide feedback to help refine the survey and implementation procedures for the cRCT.

PILOT DATA COLLECTION

- Feedback from Site Champions/Study Consultants regarding pilot site implementation will be collected informally during study meetings.

- The organizational assessment survey will be fielded to Site Champions/Study Consultants and refined throughout the pilot.
    - Outcome measures in Table 4 will be assessed and approaches to ascertainment, tracking, and analyses refined during the pilots.

- Outcomes will be collected from VA CDW/Cancer Registry/Vital Status/CMS records and CPRS/Capri/JLV/WebVRAM for all clinic visits documented as providing low-value ADT at baseline, 3 and 6 months.

INSTRUCTIONS FOR PHONE FORWARDING AND VOICEMAIL

Study Contact Information is the designated study phone in Kathy Swalwell's office: 734-845-3667.

Phone Forwarding

The instructions for forwarding will depend on the phone, but for the ones currently in the office:

1) Select a line and press FORWARD ALL
2) Dial the number that you want to forward to

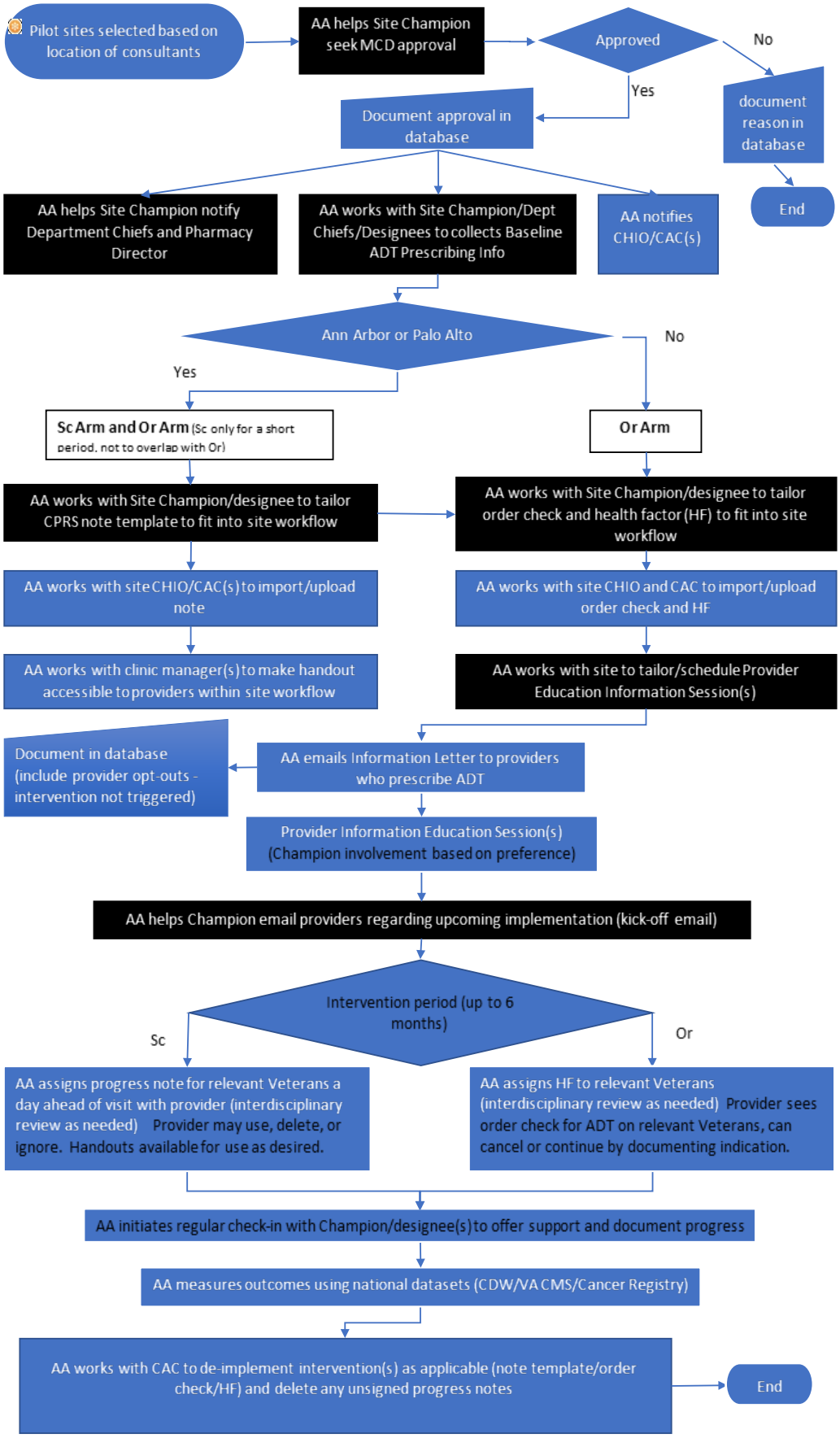
To deactivate, press FORWARD OFF

Checking Study Voicemail

1) Dial study phone number (from jabber or any phone)
2) Once voicemail starts, select *
3) Instruction's state: "Enter your ID followed by pound" enter phone number: xxxxx#
4) Instruction's state: "Enter your pin followed by pound" enter pin: xxxxx#

(Note: PIN #'s are required to be changed often, study staff will add a 1 to pin each time it needs to be updated.

PILOT STUDY FLOW CHART



PILOT RANDOMIZED IMPLEMENTATION TRIAL

TRIAL SITE SELECTION

- We will update national VA and Medicare data to identify eligible sites for the cRCT.
- All VA sites with high rates of low-value ADT from 2020 – 2022 will be considered eligible to participate in the study.
- We will start with the 40 facilities with the highest rates of low-value ADT and continue down the list as necessary.
- We will exclude sites requiring translated materials (e.g., Puerto Rico).
- If feasible, we will exclude sites scheduled to transition to Cerner prior to the end of the cRCT.
- We will randomize 4 VA facilities with high rates of low-value ADT use.

TRIAL SITE RECRUITMENT & RANDOMIZATION

- The top 4 sites with high rates of low-value ADT use and meeting above criteria will be invited to participate in the study.
- All invited sites that agree to participate will be included.
- We expect 80% participation by eligible sites.
- If sites are unwilling or unable to participate, we will continue down the list of sites until we reach a maximum of 4 participating sites.
- Study staff will send an email from the study Co-PI to Urology Chiefs to recruit as Site Champions.
    - If we are unable to contact Urology Chiefs, or if we do not receive a response from the Urology Chief after two formal email contacts, we may reach out to the Chief of Surgery, Chief of Med/Onc, or Chief of Rad/Onc (and copy the ACOS/R) about serving as Site Champion.
    - If the Urology Chief declines to serve as Site Champion, we may ask if they have any suggestions for an alternate designee.
    - In the event we are unable to recruit a Site Champion, all Site Champion communications will come from the study team.
- Once Site Champions have obtained approval from the MCD, each site will be randomized to the **Or** or **Sc** arm. The Data Manager will work with our Consultant, Dr. Shawna Smith on randomizing sites.
    - Our current plan will be to stratify sites by availability of Radiation Oncology to ensure there is an even distribution of Radiation Oncology in both intervention arms. We intend to randomize sites in blocks of 2-4.
- Once site Clinical Health Information Officer has agreed to implementation the intervention at their site, study staff will apply for site CPRS access.
    - Note: Once you have CPRS access for a site, set an Outlook reminder to log in to each site every 30 days.

TRIAL OR/SC IMPLEMENTATION

- Implementation procedures will be similar to those of the pilot but refined as needed based on pilot outcomes and needs specific to trial site implementation.
- Interventions will be implemented for up to 12 months at each site.
- Study staff will apply for CPRS access at each site once we receive approval from either the Medical Center Director or Site Champion.
- Baseline ADT Prescribing Meetings – these meetings with Site Champions or their designees will not be mandatory for the RCT. We will move forward with our trial implementation even if we haven't collected information regarding the ADT ordering process.

- Implementation Education Session (IES) – to make scheduling easier on the study team, we may implement one IES per site instead of each department. We will move forward with implementing the interventions after scheduled IES's, even if they have been cancelled.
- There is a possibility that patients will receive ADT injections more than once during the intervention period. If this is the case, then the intervention will be triggered more than once for the same patient.

TRIAL DATA COLLECTION

- Data sources for our primary, implementation and secondary fidelity outcomes will be refined during the pilot. Data collection and outcomes analyses plan will also be further developed during the pilot.
- We will likely assess **Or** fidelity using informatics data generated through the ordering process.
- We will use chart review to identify **Sc** documentation in the EMR, in addition to other informatics approaches.
- We will match our 4 intervention sites with up to 8 control sites with comparable departments and numbers of patients. We will complete chart reviews for control sites twice. The first review will look at ADT injections at the start of the intervention for the matching intervention site(s) to confirm whether patients would have been eligible at the intervention launch site we are not looking after the date the intervention started. The second review will occur again at the end of the 6-month intervention period for the matching intervention site.
- Providers and Site Champions at participating facilities will be asked to complete anonymous assessments in Qualtrics at baseline and 1-month post-intervention.
- We will examine relationships between survey and trial outcomes in exploratory analyses to assist with understanding the generalizability of our findings.

TRIAL CLINIC AND ADT PROVIDER ASSESSMENTS

- We will obtain national Union review for conducting assessments. For the cRCT, Site Champions and providers will be invited to complete the surveys (Appendix VI). The Ann Arbor Study Team will revise the survey as needed based on piloting feedback and outcomes.

  The Site Champion Clinic Assessment
  We will administer surveys to our Site Champions upon MCD approval. Survey data will be collected anonymously via VA Qualtrics. The survey includes questions about ADT ordering and clinic practices; the survey should take about 5 minutes to complete.
    - We will ask Site Champions to complete a survey at baseline. The exact timing of the survey will be decided during the pilot testing period.

  The ADT Provider Assessment
  We will administer surveys at baseline and 1-month post-intervention period to ADT prescribers. Survey data will be collected anonymously via VA Qualtrics. The survey includes questions about ADT ordering and clinic practices; the survey should take about 5 minutes to complete.
    - Baseline survey - we will ask providers to complete the baseline survey during the IES's. Providers will be able to access the survey by scanning a QR code on their phone (code will be available in the IES PPT), or via a link the study team will enter in the Zoom meeting chat.
    - 1-Month post-intervention survey – at the end of the intervention period, we will email providers with a link to the follow up Qualtrics survey.

RECORDS CONTROL AND DISPOSITION

- At the study's conclusion, all personally identifying information (PII) will be moved to an access restricted folder on the Ann Arbor VA OI&T network, accessible only to the HSR&D data manager.
- Members of the study team will no longer have access to these data.
- Data will be destroyed by the data manager according to RCS 10-1, 6 years following the end of the fiscal year after completion of the research project.
- All research data will be presented in aggregate form only.
- Publications from this research will be made available to the public through the National Library of Medicine PubMed Central website within one year after the date of publication.
- Prior to final data disposition according to RCS 10-1, deidentified final data sets underlying all publications resulting from the proposed research will be shared outside VA. Members of the scientific community who would like a copy of the final data sets (i.e., data sets underlying any publication) from this study can request a copy by e-mailing Jennifer Burns at jennifer.burns@va.gov. They should state their reason for requesting the data and their plans for analyzing the data. Final data sets will be copied onto a CD. The CD will be sent to the requestor via FedEx. Each data set will be accompanied by documentation that lists all variables described in the publication and links them with variable names in the data set. De-identified data will be provided after requesters sign a Letter of Agreement detailing the mechanisms by which the data will be kept secure and access restricted to their study team. The agreements will also state the recipient will not attempt to identify any individual whose data are included and will not share the data with anyone outside of their research team. The dataset will not include PII and all dates will be changed to integers to allow for calculation of time periods.

APPENDICES

I. Letters of Support from Site Champions/Consultants
II. Pilot Email Templates
    - Template Email to MCD
    - Template Email to Pharmacy Chief
    - Template Email to Clinical Department Chiefs
    - Template Emails to CHIO/CACs
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III. RCT Email Templates
    - Template Email to Recruit Site Champion
    - Template Emails to MCD
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    - Template Email to Clinical Department Chiefs
    - Template Email to Providers
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IV. Patient Dashboard Example
V. Clinic Handout
VI. cRCT Organizational Assessment(s)

APPENDIX I: LETTERS OF SUPPORT FROM SITE CHAMPIONS

Stanford MEDICINE | Department of Urology

Center for Academic Medicine
Urology-5656
453 Quarry Road
Palo Alto, CA 94304
T 650.725.5746 | F 650.498.5346
http://urology.stanford.edu

Eila C. Skinner, MD
Chair

James D. Brooks, MD
Vice Chair

Joseph C. Liao, MD
Vice Chair for Academic Affairs

Urologic Oncology
James D. Brooks, MD
Benjamin I. Chung, MD
Harcharan S. Gill, MD
John T. Leppert, MD, MS
Kris Prado, MD
Jay B. Shah, MD
Eila C. Skinner, MD
Geoffrey Sonn, MD
Alan Thong, MD, MPH

Female Pelvic Medicine and Reconstructive Surgery
Craig V. Comiter, MD
Amy D. Dobberfuhl, MD, MS
Ekene Enemchukwu, MD, MPH
Philip Hanno, MD, MPH

Endourology and Stone Disease
Simon Conti, MD
Timothy C. Chang, MD
Joseph C. Liao, MD

Pediatric Urology
William Kennedy II, MD
Daniel Han, MD
Kathleen Kan, MD
Kunj Sheth, MD
Linda Shortliffe, MD (emerita)

Male Reproductive Medicine and Surgery
Michael L. Eisenberg, MD
Tony Chen, MD

General Urology
Vanessa Gulla, MD
Rustin Massoudi, MD

Research
Philip Beachy, PhD
Richard Fan, PhD
Wendy J. Fantl, PhD
Seung-min, Park, PhD
Donna Peehl, PhD (emerita)

Courtesy Faculty
Bertha Chen, MD (Urogynecology)
Alice Fan, MD, PhD (Med/Oncology)
Pejman Ghanouni, MD, PhD (Radiology)
Brooke Gurland, MD (Surgery)
Lisa Rogo-Gupta, MD (Urogynecology)
Alan Pao, MD (Med/Nephrology)
Eric Sokol, MD (Urogynecology)
Sandy Srinivas, MD (Med/Oncology)
Leslee Subak, MD (Urogynecology)

Shahla Haider, MPH
Director of Finance and Administration

8/23/2021

Dear Dr. Skolarus,

I am writing to express my enthusiastic support for your research study, "De-implementation of low value castration for men with prostate cancer."

As Chief of the Division of Urology at the VA Palo Alto Healthcare System and a health services researcher, I look forward to working with your team as a consultant in efforts to reduce low value prostate cancer care with androgen deprivation therapy (ADT). This project will continue our collaborations to minimize over-detection and over-treatment of men with prostate cancer.

For the pilot and proposed comparative effectiveness trial, I am committed to monthly and ad hoc meetings with the research team during the study to lend expertise in clinical oncology practice as well as considerations of life expectancy when starting ADT. In addition, I am committed to serving as site champion for the pilot to help refine the interventions for acceptability and feasibility in a busy clinic environment like ours in preparation for a comparative effectiveness trial. This is truly an exciting proposal in an important area for improving the lives of men with prostate cancer.

Sincerely,

John Leppert, MD, MS

January 18, 2017

Dear Dr. Skolarus,

It is my pleasure to write this letter of support for your research study entitled: "De- implementation of low value castration for men with prostate cancer."

I am excited to continue our collaboration and work as a consultant and site champion on this high-impact project. As a urologist who treats prostate cancer patients, I believe the findings from this work would be transformative with respect to treatment decision making and patient-centered prostate cancer care. As a board certified Clinical Informaticist with an informatics appointment at the Greater Los Angeles VAMC and health services researcher, I will plan to support this project and its interventions through regular meetings with your research team. My informatics team at the Greater Los Angeles VAMC has experience creating highly specific computerized clinical decision support (CCDS) to support providers[1] and I will use this expertise to support your efforts.

As a consultant and site champion on this project, I will continue to work closely with you and your exceptional team. I will participate in monthly and ad hoc meetings to help interpret the research findings in preparation for the comparative effectiveness trial. I am excited to refine the pilot interventions. I look forward to our continued collaborations and to the continued development of high-impact prostate cancer interventions to decrease overtreatment.

Sincerely,

Jeremy Shelton, MD, MSHS
Assistant Professor, Department of Urology, UCLA
Attending Urologist and Physician Informatics Specialist
Core Investigator, Health Services Research and Development Center of Innovation
VA Greater Los Angeles Healthcare System

1. Shelton JB, Ochotorena L, Bennett C, et al: Reducing PSA-Based Prostate Cancer Screening in Men Aged 75 Years and Older with the Use of Highly Specific Computerized Clinical Decision Support. J Gen Intern Med, 2015

U.S. Department of Veterans Affairs

NY/NJ VA Health Care Network
VA NY Harbor Healthcare System
800 Poly Place | Brooklyn, NY 11209
718-836-6600

423 East 23rd Street | New York, NY 10010
212-686-7500

179-00 Linden Boulevard | Jamaica, NY 11425
718-526-1000

www.nyharbor.va.gov

August 23, 2021

Dear Dr. Skolarus,

I am writing to express my full and enthusiastic support for your research study, "De-implementation of low value castration for men with prostate cancer."

As a current collaborator, urologist and health services researcher interested in medical overuse in prostate cancer, I believe your proposal and team are poised to make a tremendous impact in how we approach chemical castration with ADT. Stopping overuse in prostate cancer, whether in cancer-related imaging which is the substrate for my research agenda, or aggressive, low value treatment with ADT, is critical if we want the best value and least harm for men facing this disease. I fully support this effort.

I am committed to supporting this proposal throughout its duration as a consultant and site champion. First, I will attend monthly research meetings as well as ad hoc weekly research meetings as needed. Second, as Chair of the American Urological Association's 2015 White Paper on Implementation of Shared Decision Making into Urological Practice, I will collaborate with the team to help ensure the decision making intervention and strategies are aligned with best practices. Third, I will lend my growing implementation research expertise and clinical insights to help with interpreting the research findings, refining the interventions in preparation for the comparative effectiveness trial,and disseminating the findings. I am excited to participate in this research program.

Sincerely,

Danil V. Makarov, MD, MHS
Attending Urological Surgeon, VA New York Harbor Healthcare System (111)
Director, Surgical Research, Department of Population Health
Assistant Professor of Urology, Population Health and Health Policy, NYU School of Medicine
423 East 23rd Street,
New York, NY 10010
212-686-7500 / 212-263-4961
danil.makarov@nyumc.org / danil.makarov@va.gov

APPENDIX II: PILOT EMAIL TEMPLATES

Pilot Email Templates for Site Champions

- To MCD
- To Pharmacy Chief
- To Clinical Department Chiefs
- To Providers

Pilot Study Team Email Communications

- To CHIO/CACs
- To Clinical Department Chiefs
- To Providers

Template Email to MCD from Site Champion
Attachments: AA IRB Exemption Approval Letter
Subject: <<Insert site name>> Participation in study, "Living Well with Prostate Cancer"

Dear <<Insert Medical Center Director name>>,

The purpose of this email is to request your support for participation in a research project funded by the NIH National Cancer Institute and coordinated by the VA Ann Arbor Healthcare System. The overall objective of this project, entitled "Living Well with Prostate Cancer", is to encourage de-implementation of low-value Androgen Deprivation Therapy (ADT) in a way that is acceptable to the clinicians treating these patients. Low-value ADT (not supported by guidelines) includes primary treatment for localized prostate cancer and non-metastatic biochemically recurrent prostate cancer with low PSA levels. I will be acting as site champion, helping to support the Ann Arbor VA study team by getting them in touch with the appropriate clinic staff at our site.

The goal of this project is to pilot <<insert for NY Harbor and WLA: one of>> two tools to support providers in potential de-implementation of low-value care. Our participation will last for 6 months. At the <<insert site name>> VA we will be piloting an ADT order-check (only triggered when orders meet criteria for low-value care.) <<insert for Ann Arbor: Additionally, we will pilot a CPRS note template for clinic visits meeting criteria for low-value care. The note includes talking points for the provider to help with a de-implementation discussion with the Veteran. It can be edited and acknowledged by the provider, giving a quick and simple way to document a discussion. Handouts for patients about ADT use will be supplied for providers to use at their discretion.>>

Piloting these tailored de-implementation strategies will allow the study team to test acceptability, feasibility, and scalability for a subsequent randomized controlled trial to determine which de-implementation strategy is most effective in reducing low-value ADT use.

Providers are not required to change their prescribing habits and will still be able to order ADT. We will simply be providing a light-touch intervention to encourage providers to follow standard of care and provide a quick and easy mechanism for documenting treatment decisions. <<insert for Ann Arbor: Providers are not required to use the CPRS note template, it can be edited/signed, deleted, or ignored. The Ann Arbor study team will delete any unsigned versions of the template at the end of the study period.>>

The VA Ann Arbor IRB has determined that our project meets federal criteria for exempt minimal risk research under categories 2 (survey procedures), 3 (benign behavioral interventions), and 4 (secondary research). I do not believe our VA to be engaged in research for the following reasons:

- The [site] VA will not be intervening or interacting with research subjects for research purposes, including obtaining informed consent.
- The [site] VA will not have access to study data.
- Please note that The Office for Human Research Protections (OHRP) stipulates that permitting investigators from another institution to use your facility to conduct research does not constitute engagement. (https://www.hhs.gov/ohrp/regulations-and-policy/guidance/guidance-on-engagement-of-institutions/index.html).

Therefore, we do not believe there is a need for local RDC/IRB approval. However, I think this study will be of value to our site and I hope you will support this effort.

Please reply to this email to confirm your support, or to let me know if you have any concerns. If you would like additional information on the project, the intervention, or the informed consent procedures that the Ann Arbor team will follow when contacting our staff, please do not hesitate to ask me. You can also reach the Ann Arbor study team at VHAANNLivingWell@va.gov

Best regards,
<<Insert site champion signature line, including contact information>>

Template Email to Site Pharmacy Chief from Site Champion
Attachments: Example order check and AA IRB Exemption Approval Letter
Subject: Notification: "Living Well with Prostate Cancer" Pilot Study

Dear <<Insert Pharmacy Chief name>>,

This is for notification only.

Please see below and attached, we will be piloting a study here focused on limiting low-value ADT using a CPRS order check in one of the study arms. Our plan is to begin the pilot this Spring.

Please let me know if you have any questions.

Thank you,
<<Insert site champion signature line, including contact information>>

This email is to let you know that our VA will be participating in a project funded by the NIH National Cancer Institute and coordinated by the VA Ann Arbor Healthcare System. The overall objective of this project, entitled, "Living Well with Prostate Cancer," is to encourage de-implementation of low-value Androgen Deprivation Therapy (ADT) in a way that is acceptable to the clinicians that treat these patients. Low-value ADT (not supported by guidelines) includes primary treatment for localized prostate cancer and non-metastatic biochemical recurrence with low PSA levels. I will be acting as site champion, helping to support the Ann Arbor VA study team by getting them in touch with the appropriate clinic staff at our site.

Goals of this project include:

1. Provide education to providers on the benefits vs. harms of ADT as primary treatment for prostate cancer and non-metastatic biochemical recurrence.
2. Provide a tool in CPRS to support providers in potential de-implementation of low-value care. The tools have been informed by qualitative interviews of VA providers who prescribe ADT and discrete choice experiments with VA urologists. Our site will receive:
    - An ADT order-check (only triggered for Veterans meeting criteria for low-value care).
3. To pilot tailored de-implementation strategies (including an order check) for acceptability, feasibility, and scalability.
4. To determine which of two de-implementation strategies (an order check or a CPRS note template) is most effective in reducing low-value ADT use.

An example of the proposed de-implementation tool (order check) is attached. Providers are not required to change their prescribing habits and will still be able to order ADT. We are simply providing a tool to encourage evidence-based care, and to provide a quick and easy mechanism to document if there is a reason 1) they are deviating from guidelines (example – patient preference/anxiety), or 2) that they are following guidelines (that this is not in fact low-value care).

If you have any concerns or would like additional information, please do not hesitate to ask. You can also reach the Ann Arbor study team at VHAANNLivingWell@va.gov.

Template Email to Clinical Department Chiefs from Site Champion

Attachments: <<Insert for all Sites: Example order check and AA IRB Exemption Approval Letter>>
<<Insert for Ann Arbor: Example progress note, patient handout, example order check, and AA IRB Exemption Approval Letter>>

Subject: Notification: "Living Well with Prostate Cancer" Pilot Study

Dear <<Insert name of site Chief of Urology/Chief of Medical Oncology/Chief of Radiation Oncology>>,

This is for notification only.

Please see below and attached, we will be piloting a study here focused on limiting low-value ADT use. I am a Site Champion for the study and excited to launch it here.

With your cooperation, our team would like to coordinate a brief, 10-minute introduction to the pilot study this Spring with your providers. We will reach out in the coming weeks to schedule.

Thank you,
<<Insert site champion signature line, including contact information>>

This email is to let you know that our VA will be participating in a project funded by the NIH National Cancer Institute and coordinated by the VA Ann Arbor Healthcare System. The overall objective of this project, entitled "Living Well with Prostate Cancer", is to encourage de-implementation of low-value Androgen Deprivation Therapy (ADT) in a way that is acceptable to the clinicians treating these patients. Low-value ADT (not supported by guidelines) includes primary treatment for localized prostate cancer and non-metastatic biochemically recurrent prostate cancer with low PSA levels. I will be acting as site champion, helping to support the Ann Arbor VA study team by getting them in touch with the appropriate clinic staff at our site.

The goal of this project is to pilot one or two tools to support providers who prescribe ADT (e.g., urologists, medical oncologists, and radiation oncologists) in potential de-implementation of low-value care. Our participation will last up to 6 months. We will be piloting an ADT order-check (only triggered when orders meet criteria for low-value care.) Additionally, the Ann Arbor VA will be piloting a CPRS note template for clinic visits meeting criteria for low-value care. The note includes talking points for the provider to help with a de-implementation discussion with the Veteran. It can be edited and acknowledged by the provider, giving a quick and simple way to document a discussion. Handouts for patients about ADT use will be supplied for providers to use at their discretion.

Providers are not required to change their prescribing habits and will still be able to order ADT. We will simply be providing a light-touch intervention to encourage providers to follow standard of care and provide a quick and easy mechanism for documenting treatment decisions. Providers are not required to use the CPRS note template, it can be edited/signed, deleted, or ignored. The Ann Arbor study team will delete any unsigned versions of the template at the end of the study period.

A Research Information Sheet about the study will be emailed to providers; this email will include the option to opt-out of the study. An implementation education session will also be offered to providers to inform them of the study and give them an opportunity to ask questions.

I think this study will be of value to our site and I hope you will support this effort.

An example of the proposed order check is attached and will only be triggered for low-value ADT orders. <<Insert for Ann Arbor: An example of the handout is attached.>> If you have any concerns or would like additional information, please do not hesitate to ask. You can also reach the Ann Arbor study team at VHAANNLivingWell@va.gov

Best regards,
<<Insert site champion signature line, including contact information>>

Template Email to Providers from Site Champion (Kick-off email)

Attachments: Example order check <<insert for Ann Arbor: Example note template, patient handout>>

Subject: New order check for ADT <<insert for Ann Arbor: and new note "<<insert note title as tailored for site>>">> will take effect on <<insert implementation date>>

Dear <<insert provider name>>,

I would like to remind you that the study "Living Well with Prostate Cancer" will be starting at the <<insert site name>> VA on <<insert implementation date>>. If you have responded to the email about this study from the Ann Arbor VA study team to opt-out, please disregard this message.

[IF APPLICABLE:] A brief optional implementation education session will be held at <<insert site location or videoconference link>> on <<insert date>> at <<insert time>>. Information about the study and implementation of the study tools will be presented, and there will be an opportunity to ask questions.

As a reminder, the overall goal of this project is to assist providers in de-implementing low-value ADT by:

1. piloting tailored de-implementation strategies for acceptability, feasibility, and scalability, and
2. determining which de-implementation strategy is most effective

Between <<insert implementation date>>and <<insert de-implementation date>>, you may see an order check when ordering ADT for a Veteran getting primary ADT for localized prostate cancer or getting ADT for non-metastatic biochemically recurrent prostate cancer. You can still order ADT, but you will be asked to add the indication in a text field before proceeding. <<insert for Ann Arbor: You also may see a note template titled "<<insert note title as tailored for site>>" has been assigned to you in CPRS for your patient approximately one working day before a scheduled visit with you. This note will be generated by a study team member at the Ann Arbor VA for patients who may be getting primary ADT for localized prostate cancer or ADT for non-metastatic biochemically recurrent prostate cancer with low PSA levels. The note includes talking points to help facilitate an ADT de-implementation discussion with the Veteran. It can be edited and signed, providing a quick way to document a discussion and decisions made. It can also be deleted or ignored. If it is ignored, it will be deleted by the Ann Arbor study team at the end of the study. There are also patient handouts "Living well with prostate cancer: is hormone therapy still right for you?" that are available to you at <<insert location as tailored for site>> – you may use these at your discretion.

A screen shot of the order check as it will appear in CPRS is attached. <<Insert for Ann Arbor: Additionally, a screen shot of the note template and a copy of the patient handout are attached.>>

Providers are not required to change their prescribing habits and will still be able to order ADT. We will simply be providing a tool to encourage evidence-based care, and to provide a quick and easy mechanism for documentation.

If you have any questions or concerns, please contact me using the contact information in my signature line below. You may also contact the Ann Arbor study at VHAANNLivingWell@va.gov with questions or if you would like to opt-out of the study**.**

Thank you for your help.

<<Insert site champion signature line, including contact information>>

Template Email to Clinical Department Chiefs from Study Team to Schedule Baseline ADT Prescribing Meeting

Attachments: None

Cc: VHAANNLivingWell@va.gov

Subject Line: Meeting Request “Living Well with Prostate Cancer” Pilot Study

Dear Dr. <<insert name of provider>>,

Thank you for your interest in our study. We are excited to move forward.

We are hoping you can take about 30 minutes to describe to us the process of prescribing ADT in your department and who is involved. This will help us tailor the intervention(s) to be a good fit with your existing workflow, let us know who on your team to keep informed, and answer any questions about the project.

Can you please send us some potential times that you are available to meet virtually via Zoom or Microsoft Teams?

Best regards,

The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Template Email to Clinical Department Chiefs to Request List of Providers
Attachment: Information Sheet
Subject: Confirmation requested: Provider List for <<insert department name>> for the Living Well with Prostate Cancer Study

Dear Dr. <<insert name of department chief>>,

We are about ready to send the attached information letter to providers who prescribe ADT in <<site>>. Will you please confirm that our list below for <<clinical department>> is accurate and complete? Additionally, please let us know if you would like fellows and/or residents to receive these information letters. If yes, please either add their names to the list below, or let us know who we can contact to get this information.

<<insert site name and clinical department name>> who may prescribe ADT:

Thank you,

Best regards,
The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Email to Providers from Study Team (Information Sheet)
Attachment: Research Information Sheet
Subject: Request for your participation in study "Living Well with Prostate Cancer"

Dear <<Insert provider name>>,

The <<Insert site name>> is one of 3 VA sites participating in a research project funded by the NIH National Cancer Institute and coordinated by the VA Ann Arbor Healthcare System. The overall objective of this project, entitled "Living Well with Prostate Cancer", is to encourage de-implementation of low-value Androgen Deprivation Therapy (ADT) in a way that is acceptable to the clinicians treating these patients. Low-value ADT (not supported by guidelines) includes primary treatment for localized prostate cancer and non-metastatic biochemically recurrent prostate cancer.

This project involves piloting light-touch interventions supporting evidence-based care that have been tailored to work within your site's existing workflow. The following will be implemented at your site on <<insert implementation date>>. The intervention will be in effect for six months.

- An ADT order-check which is only triggered when orders meet criteria for low-value care. You can still order ADT, but you will be asked to add the indication in a text field before proceeding.
- <<Insert for Ann Arbor and Palo Alto: A CPRS note template for clinic visits meeting criteria for low-value care. The note includes talking points to help with a de-implementation discussion with the Veteran. You can edit and acknowledge the note, giving a quick way to document the discussion. It can also be deleted or ignored. If it is ignored, it will be deleted by the Ann Arbor study team at the end of the study.>>

You are not required to change your prescribing habits and will still be able to order ADT. We will simply be providing a tool to encourage evidence-based care.

Please find attached a Research Information Sheet with additional details about this study. If you have any questions or concerns you can contact the Ann Arbor study team at VHAANNLivingWell@va.gov. **If you would like to opt-out of this study, please contact the Ann Arbor study team** at VHAANNLivingWell@va.gov, or call (XXX) XXX-XXXX.

A brief optional implementation education session will be held at <<insert site location or videoconference link>> on <<insert date>> at <<insert time>>. Information about the study and implementation of the study tools will be presented, and there will be an opportunity to ask questions.

Best regards,
The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Email to Site Champions/Clinical Department Chiefs from Study Team to Schedule IES Session
Attachments: None
Subject: Request to Schedule "Living Well with Prostate Cancer" Study Education Session

Dear <<Insert site champion name>>,

Thank you for meeting with our team on <<insert baseline ADT meeting date>> and providing information on how we can move forward with the Living Well with Prostate Cancer Study. We are excited to move forward.

As a next step, we would like to schedule a 15-minute virtual meeting with other cancer care providers to explain the importance of the study, describe the light touch interventions, and encourage the use of the tools provided with the interventions. We will also field questions and address any concerns.

You previously suggested <<insert number>> of possible meetings to schedule our presentation:

1. <<insert example>>
2. <<insert example>>

Can you please let us know the best way to proceed with setting up a meeting with Urologists? Alternatively, would it be possible to request to present at a tumor board meeting to catch providers from Urology, Medical Oncology and Radiation Oncology?

If you have any questions or concerns, please let us know.

The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Initial Email to CHIO and CAC(s) from Study Team

Attachments: Screen shots of Ann Arbor order check and "low-value ADT" health factor, instructions from Joye Allen, AAVA CAC

Subject: Request for information regarding potential order check on ADT: Please reply by <<date 1 week away>>

Good morning <<insert name of site CHIO and site CAC(s)>>,

We are working on a project with Dr(s). <<insert name(s) of site champion and other team members/leadership who have committed to project>> to try to reduce low-value use of Androgen Deprivation Therapy (ADT) such as leuprolide and goserelin (Lupron/Zolodex/Eligard/Viadur). Low-value use includes prescribing for localized prostate cancer and non-metastatic biochemical recurrence, where it is not supported by guidelines in most instances. ADT does, however, have significant side effects.

We hope to decrease use of low-value ADT (or learn why it is still being prescribed in these cases) by implementing an order check. The goal is to notify the provider that they may want to consider stopping ADT, and to provide a quick/convenient mechanism to document why ADT is being prescribed. Attached is an example of how we have implemented this in Ann Arbor with instructions from our pharmacy CAC. This can be completed within 15 minutes. To minimize the burden to providers, we only want the order check to be triggered for Veterans who are getting low-value ADT. So we are also hoping you will set up a health factor for "LIVING WELL ADT". A member of the Ann Arbor project team with access to CPRS at your site will complete this health factor for Veterans meeting the criteria.

We would like to talk with you to see if the Ann Arbor example is a good way to accomplish our goals at your site, or if there is a different way that may better fit the current workflow at your site. We are also hoping to learn the following information about the <<insert name of site>> VA:

- **Are there currently any order checks/cover sheets/etc. for ordering ADT?**
- **Is it reasonable for you to implement this at the <<insert name of site>> VA?**
    - **If yes, how much notice do you need prior to the date we would like the new note template to go live?**

If we can provide any additional information please let us know. If it is easier to talk by telephone please let us know a good time to contact you, or you can reach us at <<(XXX) XXX-XXXX>>.

Thank you, and we look forward to hearing back from you by <<date – ~1 week>> via telephone or email.

The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Additional Email to CHIO and CAC(s) from Study Team
Ann Arbor Only

Attachments: Screen shots of Ann Arbor note template "ADT discussion and acknowledgement" and instructions from Erika

Subject: Request to add note template

Good morning <<insert name of site CHIO and site CAC(s)>>,

We are working on a project with Dr(s). <<insert name(s) of site champion and other team members/leadership who have committed to project>> to try to reduce low-value use of Androgen Deprivation Therapy (ADT) such as leuprolide and goserelin (Lupron/Zolodex/Eligard/Viadur). Low-value ADT use includes prescribing for localized prostate cancer and non-metastatic biochemical recurrence, where it is not supported by guidelines in most instances. ADT does, however, have significant side effects.

At the <<insert name of site>> VA we hope to decrease use of low-value ADT (or learn why it is still being prescribed in these cases) by providing a note template for clinicians. The goal of this template is to provide talking points that providers can use to facilitate a discussion with Veterans about ADT, to provide a quick mechanism for providers to document what was discussed and the outcome of the discussion. Attached is an example of how we have implemented this in Ann Arbor. Our CAC can export this template for you.

We would like to talk with you to see if the Ann Arbor example is a good way to accomplish our goals at your site, or if there is a different way that may better fit the current workflow at your site.

If we can provide any additional information please let us know. If it is easier to talk by telephone please let us know a good time to contact you, or you can reach us at <<(XXX) XXX-XXXX>>.

Thank you, and we look forward to hearing back from you by <<date – ~1 week>> via telephone or email.

The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Follow-up Email to CAC(s) from Study Team
Attachments: none
Subject: Request to add order check on ADT

Hello <<insert name of local CAC(s)>>,

Thank you for <<your reply *or* talking with us>> about the order check for ADT for Veterans with localized prostate cancer and non-metastatic biochemical recurrence.

As a summary, <<insert summary of what was discussed>>.

<<Insert next steps based on correspondence – for example – "I will be in touch closer to our planned implementation date of / / >>. <<Please contact us with any questions or concerns in the meantime *or* Thank you for connecting us with the chair of the committee responsible for decisions regarding order restrictions; we have requested a time to present our proposal at their next meeting.>>

Best,

The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Additional Follow-up Email to CAC(s) from Study Team
Ann Arbor Only
Attachments: none
Subject: Request to note template and health factor

Hello <insert name of local CAC(s)>>,

Thank you for <<your reply *or* talking with us>> about the addition of a note template and health factor for Veterans with localized prostate cancer and non-metastatic biochemical recurrence.

As a summary, <<insert summary of what was discussed.>>

<<Insert next steps based on correspondence – for example –we will be in touch closer to our planned implementation date of / / >>. <<Insert: Please contact us with any questions or concerns in the meantime *or* Thank you for connecting us with the chair of the committee responsible for decisions regarding the addition of a note template; we have requested a time to present our proposal at their next meeting.>>

Best,

The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

APPENDIX III: cRCT EMAIL TEMPLATES

cRCT Email Templates for Site Champions

- To MCD
- To Pharmacy Chief
- To Clinical Department Chiefs
- To Providers

cRCT Study Team Email Communications

- To Recruit Site Champion
- To Clinical Department Chiefs
    a. Baseline ADT prescribing meeting
    b. Confirm list of providers
- To CHIO/CACs
- To Site Champion/Department Chiefs to Schedule IES
- To Providers

Template Email to MCD from Site Champion
Cc: Site ACOS of Research
Attachments: AA IRB Exemption Approval Letter
Subject: <<Insert site name>> Participation in study, "Living Well with Prostate Cancer"

Dear <<Insert Medical Center Director name>>,

The purpose of this email is to request your support for participation in a research project funded by the NIH National Cancer Institute and coordinated by the VA Ann Arbor Healthcare System. The overall objective of this project, entitled "Living Well with Prostate Cancer", is to support decreased use of low-value Androgen Deprivation Therapy (ADT) in a way that is acceptable to the clinicians treating these patients. Low-value ADT (not supported by guidelines) includes primary treatment for localized prostate cancer and non-metastatic biochemically recurrent prostate cancer with low PSA levels. I will be acting as site champion, helping to support the Ann Arbor VA study team by getting them in touch with the appropriate clinic staff at our site.

The goal of this project is to test one of two tools to support providers in decreasing low-value care. Our participation will last for up to 12 months. At our site we will be testing <<insert for Or site: an ADT order-check (only triggered when orders meet criteria for low-value care.)>> or <<*insert for SC site:* a CPRS note template for clinic visits meeting criteria for low-value care. The note includes talking points for the provider to help with a de-implementation discussion with the Veteran. It can be edited and signed by the provider, giving a quick and simple way to document a discussion. Handouts for patients about ADT use will be supplied for providers to use at their discretion.>>

Testing these strategies will allow the study team to determine which strategy is most effective in reducing low-value ADT use.

Providers are not required to change their prescribing habits and will still be able to order ADT. We will simply be providing a light-touch intervention to encourage providers to follow standard of care and provide a quick and easy mechanism for documenting treatment decisions. <<insert for Sc sites: Providers are not required to use the CPRS note template, it can be edited/signed, deleted, or ignored. The Ann Arbor study team will delete any unsigned versions of the template at the end of the study period.>>

The VA Ann Arbor IRB has determined that our project meets federal criteria for exempt minimal risk research under categories 2 (survey procedures), 3 (benign behavioral interventions), and 4 (secondary research). I do not believe our VA to be engaged in research for the following reasons:

- Our VA will not be intervening or interacting with research subjects for research purposes, including obtaining informed consent.
- Our VA will not have access to study data
- Please note that The Office for Human Research Protections (OHRP) stipulates that permitting investigators from another institution to use your facility to conduct research does not constitute engagement (https://www.hhs.gov/ohrp/regulations-and-policy/guidance/guidance-on-engagement-of-institutions/index.html).

Therefore, we do not believe there is a need for local RDC/IRB approval. However, I think this study will be of value to our site and I hope you will support this effort.

Please reply to this email to confirm your support, or to let me know if you have any concerns. If you would like additional information on the project, the intervention, or the informed consent procedures that the Ann Arbor team will follow when contacting our staff, please do not hesitate to ask me. You can also reach the Ann Arbor study team at VHAANNLivingWell@va.gov

Best regards,
<<Insert site champion signature line, including contact information>>

Template Follow-up Email to MCD from Study Team (non-responders)
Attachments: AA IRB Exemption Approval Letter
Subject: <<Insert site name>> Participation in "Living Well with Prostate Cancer" – Reply Requested

Dear <<Insert Medical Center Director name and or designee(s)>>,

We are following up to see if you have any questions or need any additional information about the Living Well with Prostate Cancer study that Dr. <<site champion>> emailed you about.

Please reply to this email to confirm your support of the <<site>> VA participating in this project.

Thank you,

The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

<<include email to MCD from Site Champion below>>

Template Email to Site Pharmacy Chief at Or sites from Site Champion

Attachments: Example order check and AA IRB Exemption Approval Letter
Subject: Notification: "Living Well with Prostate Cancer" Study

Dear <<Insert Pharmacy Chief name>>,

This is for notification only.

Please see below and attached, we will be testing an order check here focused on limiting low-value ADT use.

Please let me know if you have any questions.

Thank you,
<<Insert site champion signature line, including contact information>>

This email is to let you know that our VA will be participating in a project funded by the NIH National Cancer Institute and coordinated by the VA Ann Arbor Healthcare System. The overall objective of this project, entitled, "Living Well with Prostate Cancer," is to support decreased use of low-value Androgen Deprivation Therapy (ADT) in a way that is acceptable to the clinicians that treat these patients. Low-value ADT (not supported by guidelines) includes primary treatment for localized prostate cancer and non-metastatic biochemical recurrence with low PSA levels. I will be acting as site champion, helping to support the Ann Arbor VA study team by getting them in touch with the appropriate clinic staff at our site.

Goals of this project include:

1. Provide education to providers on the benefits vs. harms of ADT as primary treatment for prostate cancer and non-metastatic biochemical recurrence.
2. Provide a tool in CPRS to support providers in potential de-implementation of low-value care. The tools have been informed by qualitative interviews of VA providers who prescribe ADT and discrete choice experiments with VA urologists. Our site will receive:
    - An ADT order-check (only triggered for Veterans meeting criteria for low-value care).
3. To determine which of two de-implementation strategies (an order check or a CPRS note template) is most effective in reducing low-value ADT use.

An example of the proposed de-implementation tool (order check) is attached. Providers are not required to change their prescribing habits and will still be able to order ADT. We are simply providing a tool to encourage evidence-based care, and to provide a quick and easy mechanism to document if there is a reason 1) they are deviating from guidelines (example – patient preference/anxiety), or 2) that they are following guidelines (that this is not in fact low-value care).

If you have any concerns or would like additional information, please do not hesitate to ask. You can also reach the Ann Arbor study team at VHAANNLivingWell@va.gov.

Template Email to Clinical Department Chiefs from Site Champion

Attachments: <<Insert for all Or sites: Example order check and AA IRB Exemption Approval Letter>>
<<Insert for Sc sites: Example progress note, patient handout, and AA IRB Exemption Approval Letter>>
Subject: Notification: "Living Well with Prostate Cancer" Study

Dear <<Insert name of site Chief of Urology/Chief of Medical Oncology/Chief of Radiation Oncology>>,

This is for notification only.

Please see below and attached, we will be leading a study here focused on limiting low-value ADT use. I am a Site Champion for the study and excited to launch it here.

With your cooperation, our team would like to coordinate a brief, 10-minute introduction to the study with your providers. We will reach out in the coming weeks to schedule.

Thank you,
<<Insert site champion signature line, including contact information>>

This email is to let you know that our VA will be participating in a project funded by the NIH National Cancer Institute and coordinated by the VA Ann Arbor Healthcare System. The overall objective of this project, entitled "Living Well with Prostate Cancer," is to support decreased use of low-value Androgen Deprivation Therapy (ADT) in a way that is acceptable to the clinicians treating these patients. Low-value ADT (not supported by guidelines) includes primary treatment for localized prostate cancer and non-metastatic biochemically recurrent prostate cancer with low PSA levels. I will be acting as site champion, helping to support the Ann Arbor VA study team by getting them in touch with the appropriate clinic staff at our site.

The goal of this project is to test one of two tools to support providers who prescribe ADT (e.g., urologists, medical oncologists, and radiation oncologists) in potential de-implementation of low-value care. Our participation will last 9-12 months. We will be testing <<insert for Or site: an ADT order-check (only triggered when orders meet criteria for low-value care.)>> or <<*insert for SC site:* a CPRS note template for clinic visits meeting criteria for low-value care. The note includes talking points for the provider to help with a de-implementation discussion with the Veteran. It can be edited and signed by the provider, giving a quick and simple way to document a discussion. Handouts for patients about ADT use will be supplied for providers to use at their discretion.>>

Providers are not required to change their prescribing habits and will still be able to order ADT. We will simply be providing a light-touch intervention to encourage providers to follow standard of care and provide a quick and easy mechanism for documenting treatment decisions. <<insert for Sc site: Providers are not required to use the CPRS note template, it can be edited/signed, deleted, or ignored. The Ann Arbor study team will delete any unsigned versions of the template at the end of the study period.>>

A Research Information Sheet about the study will be emailed to providers; this email will include the option to opt-out of the study. An implementation education session will also be offered to providers to inform them of the study and give them an opportunity to ask questions.

I think this study will be of value to our site and I hope you will support this effort.

<<insert for Or site: An example of the proposed order check is attached and will only be triggered for low-value ADT orders. <<Insert for Sc site: An example of the CPRS note template and the patient handout are attached.>> If you have any concerns or would like additional information, please do not hesitate to ask. You can also reach the Ann Arbor study team at VHAANNLivingWell@va.gov.

Best regards,
<<Insert site champion signature line, including contact information>>

Template Email to Providers from Site Champion (Kick-off email)

Attachments: <<insert for Or site: Example order check>> or <<insert for Sc site: Example note template, patient handout>>

Subject: <<insert for Or site: Reminder: New order check for ADT <<insert for Sc site: New note "<<insert note title as tailored for site>>">> will take effect on <<insert implementation date>>

Dear <<insert provider name>>,

I would like to remind you that the study "Living Well with Prostate Cancer" will be starting at your site on <<insert implementation date>>. If you have responded to the email about this study from the Ann Arbor VA study team to opt-out, please disregard this message.

A brief optional implementation education session will be held at <<insert site location or videoconference link>> on <<insert date>> at <<insert time>>. Information about the study and implementation of the study tools will be presented, and there will be an opportunity to ask questions.

As a reminder, the overall goal of this project is to assist providers in decreasing low-value ADT by determining which of two de-implementation strategies is most effective

Over the next 12 months, you may see <<insert for Or site: an order check when ordering ADT for a Veteran getting primary ADT for localized prostate cancer or getting ADT for non-metastatic biochemically recurrent prostate cancer. You can still order ADT, but you will be asked to add the indication in a text field before proceeding. <<insert for Sc site: a note template titled "<<insert note title as tailored for site>>" has been assigned to you in CPRS for your patient approximately one working day before a scheduled visit with you. This note will be generated by a study team member at the Ann Arbor VA for patients who may be getting primary ADT for localized prostate cancer or ADT for non-metastatic biochemically recurrent prostate cancer with low PSA levels. The note includes talking points to help facilitate an ADT de-implementation discussion with the Veteran. It can be edited and signed, providing a quick way to document a discussion and decisions made. It can also be deleted or ignored. If it is ignored, it will be deleted by the Ann Arbor study team at the end of the study. There are also patient handouts "Living well with prostate cancer: is hormone therapy still right for you?" that are available to you at <<insert location as tailored for site, if available>> – you may use these at your discretion.>>

<<insert for Or site: A screen shot of the order check as it will appear in CPRS is attached.>> <<Insert for Sc site: Add screen shot of the note template and a copy of the patient handout are attached.>>

Providers are not required to change their prescribing habits and will still be able to order ADT. We will simply be providing a tool to encourage evidence-based care, and to provide a quick and easy mechanism for documentation.

If you have any questions or concerns, please contact me using the contact information in my signature line below. You may also contact the Ann Arbor study at VHAANNLivingWell@va.gov with questions or if you would like to opt-out of the study**.**

Thank you for your help.
<<Insert site champion signature line, including contact information>>

Initial Email to Urology Chiefs/ADT Providers from Study Team to Recruit as Site Champions
Subject: Help us stop low-value ADT by serving as Site Champion for the "Living Well with Prostate Cancer" study
Attachments: AA IRB Exemption Approval Letter

Dear Dr. <<Insert name>>,

I'm writing to request your participation as Site Champion for a study that aims to decrease the use of low-value androgen deprivation therapy (ADT). Our targets of low-value ADT include primary treatment for prostate cancer and non-metastatic biochemically recurrent prostate cancer. I believe that stopping or scaling back low-value ADT use is an integral step in improving prostate cancer care quality. Therefore, I am leading a NIH National Cancer Institute funded trial to test two interventions to decrease low-value ADT for prostate cancer in a way that supports clinicians.

Given its significant long-term effects on cardiovascular, sexual, and bone health, ADT should only be used when there is evidence its benefits outweigh its side effects. As you know, the use of ADT for localized prostate cancer and non-metastatic biochemically recurrent disease goes against the standard of care guidelines published by the American Urological Association and National Comprehensive Cancer Network. Our goal is to help the medical profession focus on increasing the use of standard of care and decrease harms to patients. Your service as Site Champion will help your site reduce low-value ADT and continue to support the mission of the VHA.

We understand that with competing demands, time is precious. This study will be conducted from Ann Arbor, which means we will implement the study intervention and manage regulatory approvals**. I'm asking you to act as Site Champion to help support the Ann Arbor VA study team by getting them in touch with the appropriate clinic staff at your site, and to help assure the intervention is tailored to fit well with your site's existing workflow.**

Participating sites will be randomized to one of two interventions:

1) **ADT Order Check Arm**: Providers will see an order check when placing an order for ADT as notification that the Veteran may not be getting guideline-concordant care. Providers may continue with the order by selecting a reason for continuing. The order check will be triggered only for Veterans identified by the Ann Arbor study team as potentially getting low-value ADT. Cases that are not clear will be decided upon by a multidisciplinary team including a urologist, a medical oncologist, and a radiation oncologist.

2) **Provider Script Arm**: Providers will be assigned a progress note in CPRS just ahead of a Veteran's visit only when Veteran has been identified by the Ann Arbor study team as potentially getting low-value ADT. This note can be used by the provider as a quick way to document either the indication for prescribing ADT or the decision to stop ADT. The note can also be ignored or deleted. A patient handout "Living well with prostate cancer – is hormone therapy still right for you?" to support providers in these discussions will be linked in the note template.

If you are interested in serving as a Site Champion, I will ask that you work with the Ann Arbor project team to:

1) Notify your facility's Leadership team about the study (email templates will be provided)
2) Promote the study among your department's clinicians (email templates will be provided)
3) Assist in the scheduling of an education session with providers and staff involved with prescribing of ADT
4) Provide a list of clinicians and staff involved with prescribing of ADT so that the project team may reach out to them as needed
5) Consider taking a brief survey regarding ADT practices at your site

This study is operationalized in such a way to avoid research "engagement" by VA personnel at your site. All study activities will be performed by Ann Arbor VA study staff under AAVA RDC oversight. No local VA personnel will have access to identifiable data. As such, we feel that no local oversight is necessary. Please see the attached memo from the AAVA RDC and let us know if you would like to discuss further.

Please reply to this email if you have any questions about the research project, or to let us know your interest in acting as Site Champion. If you agree to participate, we will send you a site engagement packet with additional information about the study. If we do not hear from you, we will try to reach out to you by phone or Microsoft Teams. Thank you for your consideration!

Best,
Ted A. Skolarus, MD, MPH, FACS
VA Ann Arbor Healthcare System

Research Investigator
VA HSR&D Center for Clinical Management Research
Adjunct Professor of Urology
University of Michigan Health System

Template Email to Clinical Department Chiefs from Study Team to Schedule Baseline ADT Prescribing Meeting

Attachments: None

Cc: VHAANNLivingWell@va.gov

Subject Line: Meeting Request “Living Well with Prostate Cancer” Study

Dear Dr. <<insert name of provider>>,

Thank you for your interest in our study. We are excited to move forward.

We are hoping you can take about 15 minutes to describe to us the process of prescribing ADT in your department and who is involved. This will help us tailor the intervention(s) to be a good fit with your existing workflow, let us know who on your team to keep informed, and answer any questions about the project.

Could you please send us some potential times you are available to meet virtually via Zoom or Microsoft Teams? If you are not available, is there someone else on your team we can schedule this discussion with?

Best regards,

The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Template Email to Clinical Department Chiefs from Study Team to Request List of Providers
Attachment: Information Sheet
Subject: Confirmation requested: Provider List for <<insert department name>> for the Living Well with Prostate Cancer Study

Dear Dr. <<insert name of department chief>>,

We are about ready to send the attached information letter to providers who prescribe ADT in <<site>>. Will you please confirm that our list below for <<clinical department>> is accurate and complete? Additionally, please let us know if you would like fellows and/or residents to receive these information letters. If yes, please either add their names to the list below, or let us know who we can contact to get this information.

<<insert site name and clinical department name>> who may prescribe ADT:

Thank you,

Best regards,
The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Initial Email to CHIO and CAC(s) from Study Team

Attachments: <<insert for Or site: Install instructions from Joye Allen, AAVA CAC>> or <<insert for Sc site: screen shots of progress note template>>

Or Subject: Request for information regarding potential order check on ADT: Please reply by <<date 1 week away>>

Sc Subject: Request for information regarding potential ADT advisory progress note: Please reply by <<date 1 week away>>

Good morning <<insert name of site CHIO and site CAC(s)>>,

We are working on a project with Dr(s). <<insert name(s) of site champion>> to try to reduce low-value use of Androgen Deprivation Therapy (ADT) such as leuprolide and goserelin (Lupron/Zolodex/Eligard/Viadur). Low-value use includes prescribing for localized prostate cancer and non-metastatic biochemical recurrence, where it is not supported by guidelines in most instances. ADT does, however, have significant side effects.

We hope to decrease use of low-value ADT (or learn why it is still being prescribed in these cases) by implementing one of two interventions. Your site will test <<insert for Or site: an ADT order check.>> or <<insert for Sc site: a progress note for the provider to document a discussion with a patient about discontinuing ADT.>> The goal is to notify the provider that they may want to consider stopping ADT, and to provide a quick/convenient mechanism to document why ADT is being prescribed.

<< **Insert for Or site**: Attached is an example of how we have implemented this in Ann Arbor with an installation guide from our CAC. This can be completed within 15 minutes. To minimize the burden to providers, we only want the order check to be triggered for Veterans who are getting low-value ADT. We are also hoping you will set up a health factor for "LIVING WELL ADT".A member of the Ann Arbor project team with access to CPRS at your site will assign this health factor to Veterans meeting the criteria.>>

<< **Insert for Sc site**: Attached is an example of the progress note. >>

In addition to the staff mentioned above, we will also be working with <<insert name(s) of relevant department chiefs to make sure providers are educated about the study and the intervention.>> **We would like to talk with you to see if the Ann Arbor example is a good way to accomplish our goals at your site, or if there is a different way that may better fit the current workflow at your site. We are also hoping to learn the following information:**

- Are there currently any order checks/cover sheets/etc. for ordering ADT active at your site?
- <<insert for Sc site: Should we use current, past, or non-billable encounters to attach the progress note? Or should we create a current encounter?>>
- <<insert for Sc site: Is there a link to a progress note status report you can share?>>
- Is it reasonable for you to implement our intervention at your site?
    - If yes, how much notice do you need prior to the date we would like the new order check or note template to go live?
    - << **Insert for Or site**: The study team will need access to your site's CPRS to enter health factors. Can you let us know how to request CPRS access?
    - <<**insert for Sc site**: The study team will need access to your site's CPRS to assign progress notes to providers. Can you let us know how to request CPRS access?

If we can provide any additional information please let us know. If it is easier to talk by telephone please let us know a good time to contact you, or you can reach us at <<(XXX) XXX-XXXX>>.

Thank you, and we look forward to hearing back from you by <<date – ~1 week>> via telephone or email.

The Living Well with Prostate Cancer Study Team

XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Follow-up Email to CAC(s) from Study Team

Attachments: none

Subject: Request to add order check on ADT

Hello <<insert name of local CAC(s)>>,

Thank you for <<your reply *or* talking with us>> about the <<insert for Or site: order check>> or <<insert for Sc site: progress note for ADT for Veterans with localized prostate cancer and non-metastatic biochemical recurrence.

As a summary, <<insert summary of what was discussed>>.

<<Insert next steps based on correspondence – for example – "I will be in touch closer to our planned implementation date of / / >>. <<Please contact us with any questions or concerns in the meantime *or* Thank you for connecting us with the chair of the committee responsible for decisions regarding order restrictions; we have requested a time to present our proposal at their next meeting.>>

Best,

The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Email to Site Champions/Clinical Department Chiefs from Study Team to Schedule IES Session

Attachments: None

Subject: Request to Schedule “Living Well with Prostate Cancer” Study Education Session

Dear <<Insert site champion name>>,

Thank you for meeting with our team on <<insert baseline ADT meeting date>> and providing information on how we can move forward with the Living Well with Prostate Cancer Study. We are excited to move forward.

As a next step, we would like to schedule a 15-minute virtual meeting with other cancer care providers to explain the importance of the study, describe the light touch interventions, and encourage the use of the tools provided with the interventions. We will also field questions and address any concerns.

You previously suggested <<insert number>> of possible meetings to schedule our presentation:

1. <<insert example>>
2. <<insert example>>

Can you please let us know the best way to proceed with setting up a meeting with Urologists? Alternatively, would it be possible to request to present at a tumor board meeting to catch providers from Urology, Medical Oncology and Radiation Oncology?

If you have any questions or concerns, please let us know.

The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)
VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

Email to Providers from Study Team (Information Sheet)
Attachment: Research Information Sheet
Subject: Request for your participation in study "Living Well with Prostate Cancer"

Dear <<Insert provider name>>,

Your site is one of~20 VA sites participating in a research project funded by the NIH National Cancer Institute and coordinated by the VA Ann Arbor Healthcare System. The overall objective of this project, entitled "Living Well with Prostate Cancer", is to support decreased use of low-value Androgen Deprivation Therapy (ADT) in a way that is acceptable to the clinicians treating these patients. Low-value ADT (not supported by guidelines) includes primary treatment for localized prostate cancer and non-metastatic biochemically recurrent prostate cancer.

This project involves light-touch interventions supporting evidence-based care that have been tailored to work within your site's existing workflow. The following will be implemented at your site on <<insert implementation date>>. The intervention will be in effect for up to 12 months.

- <<insert for Or site: An ADT order-check which is only triggered when orders meet criteria for low-value care. You can still order ADT, but you will be asked to add the indication in a text field before proceeding.>>
- <<Insert for Sc site: A CPRS note template for clinic visits meeting criteria for low-value care. The note includes talking points to help with a de-implementation discussion with the Veteran. You can edit and acknowledge the note, giving a quick way to document the discussion. It can also be deleted or ignored. If it is ignored, it will be deleted by the Ann Arbor study team at the end of the study.>>

You are not required to change your prescribing habits and will still be able to order ADT. We will simply be providing a tool to encourage evidence-based care. Patients are not being enrolled into this study, so there is no need for a consent form. As a provider, you do not need to do anything to participate. However, you can opt-out of this study if you do not wish to participate.

Please find attached a Research Information Sheet with additional details about this study. If you have any questions or concerns you can contact the Ann Arbor study team at VHAANNLivingWell@va.gov. If you would like to opt-out of this study, please contact the Ann Arbor study team at VHAANNLivingWell@va.gov, or call (XXX) XXX-XXXX

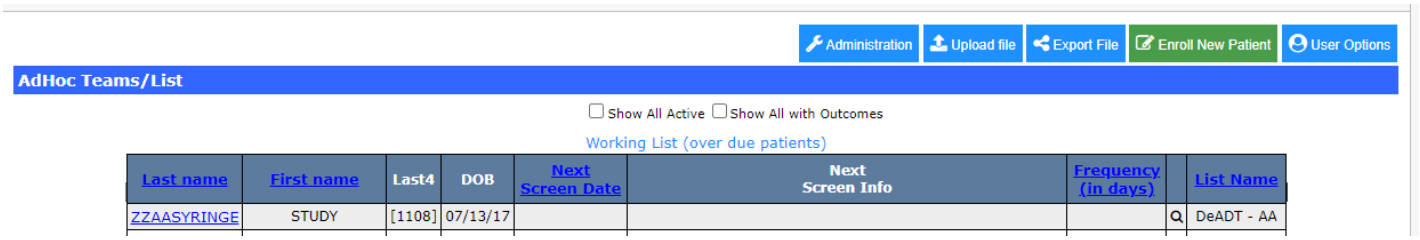
A brief optional implementation education session will be held at <<insert site location or videoconference link>> on <<insert date>> at <<insert time>>. Information about the study and implementation of the study tools will be presented, and there will be an opportunity to ask questions.

Best regards,

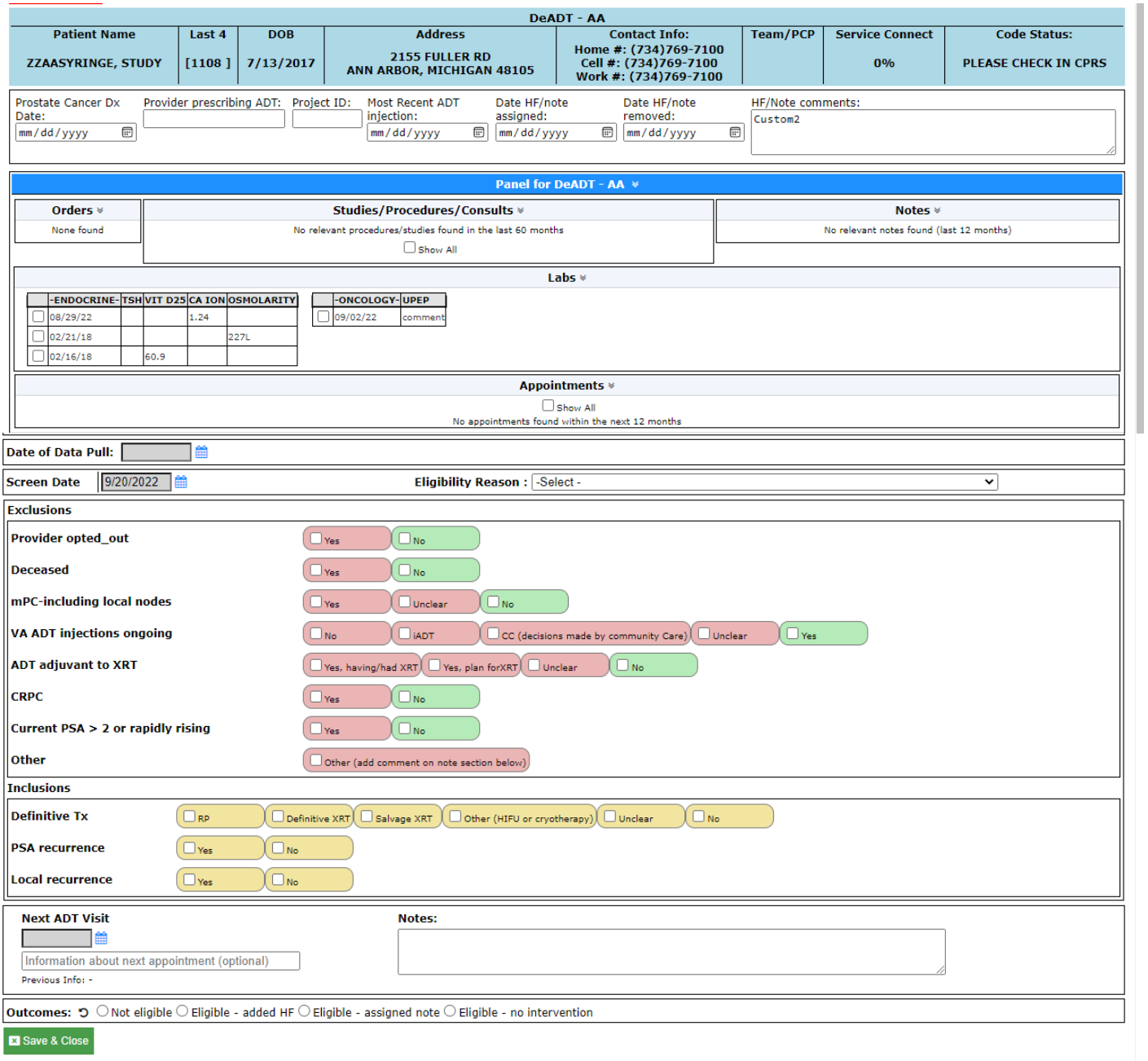
The Living Well with Prostate Cancer Study Team
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
XXXXXXXX <<Insert team member name>>
Center for Clinical Management Research
VA Ann Arbor Healthcare System (152)

VHAANNLivingWell@va.gov
(XXX) XXX-XXXX

APPENDIX IV: PATIENT DASHBOARD FOR ELIGIBILITY SCREENING EXAMPLE



Dashboard: Main display for a selected patient (data displayed is for a test patient)



Prostate Health

Living *well* with prostate cancer

Is hormone therapy still right for you?

Taking a break from hormone therapy for prostate cancer

If you were diagnosed with prostate cancer, you and your doctor may have started hormone therapy. Sometimes, taking a break from hormone therapy injections (shots) can be safe and helpful. Use this guide to learn more about hormone therapy and other ways to follow your prostate cancer.

What is hormone therapy?

Hormone therapy blocks the male hormone testosterone. Testosterone can cause prostate cancer cells to grow.

You may get hormone therapy injections every few months to keep your prostate specific antigen (PSA) level low. Sometimes, it is safe to only give injections when your PSA gets to a certain level - intermittently.

Why consider stopping or switching to intermittent hormone therapy?

Side effects. Men have side effects from low testosterone, some you notice and some you don't.

Hormone therapy can cause:

- Lower drive for sex and erectile dysfunction
- Shrinking penis and testicles
- Breast tenderness and growth, hot flashes
- Loss of muscle, brittle bones, and weight gain
- Heart disease, stroke, and diabetes
- Depression and less energy

Health recommendations change. We are learning more about how to treat prostate cancer all the time. Talk to your doctor to see if taking a break from hormone therapy is right for you.

The goal of stopping hormone therapy is to **maintain or improve your quality of life** and keep you safe from prostate cancer.

Did you know?

The good news about hormone therapy is that side effects can go away when it is stopped. Once the treatment is stopped, testosterone production may start again and side effects can improve.

How do doctors follow your prostate cancer when taking a break from hormone therapy?

Instead of hormone therapy, your doctor may follow your prostate cancer with a few simple tests every 3 to 6 months:

- PSA blood test
- Prostate exam (digital rectal examination)
- Check how well you empty your bladder
- Check for blood in your urine
- Imaging or scans, if needed

Talk to your doctor.

What's important to you is important to your doctor when it comes to prostate cancer. It is ok to ask if taking a break from hormone treatment is right for you.

Let your doctor know ahead of time that you want to talk about your hormone injections so they have enough time to answer questions in the visit.

Together, you and your doctor will be able to decide how to best treat you and the prostate cancer.

VA

Urology Service at the VA Ann Arbor Healthcare System
First Floor, Station 9, Ann Arbor, MI 48105
Phone: 734-845-5965 or 800-361-8387 Ext. 55965

NCCN National Comprehensive Cancer Network®

Living Well Prostate Cancer Survey – Site Champion Clinic Assessment

Thank you for your willingness to participate in this survey supported by the NIH National Cancer Institute (PI: Skolarus/Saini; R37CA2228).

We are interested in learning more about the role of androgen deprivation therapy (ADT) in the management of prostate cancer patients in your clinic.

Your participation in this survey is purely voluntary and you may choose not to answer any questions. This is an anonymous survey, meaning we will not collect any personally identifiable information from or about you. Results will be reported in aggregate in any reports.

This 4-question survey should take about **5 minutes** to complete.

Click the **Next** button to continue.

Q1. Please indicate your clinical specialty from the list below:

- ○ Urologist
- ○ Medical Oncologist
- ○ Radiation Oncologist
- ○ If other, please specify: [ ]

Q2. For patients with prostate cancer in your practice who are **currently on** ADT, please complete the following table:

How often do the following types of providers order ADT in the electronic medical record for these patients?

	Not Applicable	Never	Sometimes	Most of the time	Always
I order ADT for my patients	○	○	○	○	○
Urology	○	○	○	○	○
Medical Oncology	○	○	○	○	○
Radiation Oncology	○	○	○	○	○
Nurse Practitioner/Physician's Assistant	○	○	○	○	○
Resident/Fellow	○	○	○	○	○
If other, please specify: [ ]	○	○	○	○	○

Q3. For patients with prostate cancer in your practice who are **currently on** ADT injections, **when is the order for ADT written**?

Day of injection	○
1 day before injection	○
2-7 days before injection	○
More than 7 days before injection	○

No consistent pattern or unknown	○

Q4. For patients in your clinic **currently on** ADT injections for prostate cancer, **how often do they typically receive** the following?

	Unsure	1 month	3 months	6 months	12 months	Other time interval
ADT injection	○	○	○	○	○	○
PSA level blood test	○	○	○	○	○	○
Clinic visit for prostate cancer	○	○	○	○	○	○

Living Well Prostate Cancer Survey –
ADT Provider Assessment Tool
(Baseline, 1 month post-intervention completion)

Thank you for your willingness to participate in this survey supported by the NIH National Cancer Institute (PI: Skolarus/Saini; R37CA2228).

We are interested in learning more about the role of androgen deprivation therapy (ADT) in the management of prostate cancer patients in your clinic.

Your participation in this survey is purely voluntary and you may choose not to answer any questions. This is an anonymous survey, meaning we will not collect any personally identifiable information from or about you. Results will be reported in aggregate in any reports.

This 3-question survey should take about **5 minutes** to complete.

Click the **Next** button to continue.

Q1. Please **indicate your agreement** with the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I find that patients are worried about the effect that stopping ADT will have on their cancer	○	○	○	○	○
I find talking about stopping ADT challenging	○	○	○	○	○
I do not have adequate time for discussion about ADT	○	○	○	○	○
I want to give ADT recommendations consistent with those of my peers	○	○	○	○	○
I put a lot of weight on guideline recommendations regarding use of ADT (e.g., AUA or NCCN)	○	○	○	○	○
I have concerns about side effects and castration resistance in patients with long-term use of ADT	○	○	○	○	○
I like to consider options other than ADT to manage patients with localized and biochemically recurrent, non-metastatic prostate cancer (e.g., definitive treatment, watchful waiting)	○	○	○	○	○

Q2. For patients presenting to your practice already on ADT monotherapy for localized prostate cancer with a low PSA, would you recommend stopping ADT?

- ○ Yes
- ○ Probably Yes
- ○ Probably No
- ○ No

Q3. For patients presenting to your practice on ADT for biochemically-recurrent, non-metastatic prostate cancer with a low PSA would you recommend stopping or intermittent ADT?

- Yes
- Probably Yes
- Probably No
- No

This concludes the survey. Thank you for your participation!

APPENDIX VII: STUDY INFORMATION SHEET

Department of Veterans Affairs Research Information Sheet		
Title of Study:	Living Well with Prostate Cancer	
Principal Investigators:	Ted Skolarus, MD and Sameer Saini, MD	**VAMC:** VA Ann Arbor Healthcare System

You are being asked to participate in a research study conducted by Drs. Ted Skolarus and Sameer Saini at the VA Ann Arbor Healthcare System. We are conducting a study that aims to decrease the use of low-value Androgen Deprivation Therapy (ADT) in a way that is supportive of clinicians treating these patients. Your participation in this research study is voluntary. You may choose not to participate or leave the study at any time without penalty or loss of benefits to which you are otherwise entitled.

WHY IS THIS STUDY BEING DONE?

We are conducting a research study to test two tailored strategies to decrease low-value ADT use for acceptability, feasibility, and scalability. The overall goal of this study is to learn how to best reduce ordering of low-value ADT. Low-value ADT includes primary ADT for localized prostate cancer and ADT for non-metastatic biochemically recurrent prostate cancer.

WHAT WILL HAPPEN IF I PARTICIPATE IN THIS STUDY?

If you agree to participate, you will receive at least one of the two interventions listed below:

- An ADT order check only triggered when orders meet criteria for low-value care. You can order ADT, but you will be asked to enter the indication before proceeding.

- A CPRS note template will be assigned to you in CPRS when you have an upcoming appointment with a Veteran getting primary ADT for localized prostate cancer or non-metastatic biochemically recurrent prostate cancer with low PSA levels. The note includes talking points to support a de-implementation discussion with the Veteran. It can be edited and signed, providing a quick and simple way to document the discussion and decision made. Additionally, handouts for Veterans about ADT use will be supplied for you to use at your discretion.

You will also be asked to complete a brief anonymous survey at the start of the study and again 1-month post-intervention about the role of ADT in the management of prostate cancer patients in your clinic. The survey should take about 5 minutes to complete. Your participation in this survey is purely voluntary and you may choose not to answer any questions.

Your participation in the study will last up to 12 months. You can withdraw your participation at any time. Data already collected will remain as clinical CPRS documentation.

WHAT ARE KEY REASONS YOU MIGHT CHOOSE TO VOLUNTEER FOR THIS STUDY (BENEFITS)?

You will not benefit directly from being in this study. Your participation may benefit future providers and patients by improving the quality of prostate cancer care in the VA. Additionally, your participation will help us to refine these interventions to make them as useful as possible while reducing provider burden in the future.

WHAT ARE KEY REASONS YOU MIGHT CHOOSE NOT TO VOLUNTEER FOR THIS STUDY (RISKS)?

Risks may include disruption of clinical workflow and a low likelihood of psychological distress.

DO YOU HAVE TO TAKE PART IN THE STUDY?

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any services, benefits or rights you would normally have if you choose not to volunteer.

WHO WILL SEE MY INFORMATION AND HOW WILL IT BE PROTECTED?

The information collected for this study will be kept confidential. All identifiable study data will be stored on a secure VA computer drive that only study team members can access. Survey data will be collected anonymously through VA Qualtrics. The study team has considerable experience in maintaining the confidentiality of data and has established procedures in place to ensure data confidentiality. All investigators and research staff have met training requirements for handling protected health information, data security, and privacy.

There is a remote possibility that a break in security would allow someone outside the study team to access the data we collect for this study, which could invade your privacy and allow others to see personal information that you might not wish to share. The research team will make every effort to protect your private information, according to VA rules and well-established procedures for maintaining data security.

There are times when we might have to show our study records to other people. For example, someone from the Office of Human Research Protections, the Government Accountability Office, the Office of the Inspector General, the VA Office of Research Oversight, our local Research and Development Committee, and other study monitors may look at or copy portions of records that identify you.

WILL I RECEIVE ANY PAYMENT IF I PARTICIPATE IN THIS STUDY?

No, you will not receive any payment for participating in the study.

WHO CAN I TALK TO ABOUT THE STUDY?

If you have any other questions, comments, or concerns about the research, please contact the study team at VHAANNLivingWell@va.gov or by phone at (734) 845-3667.

If you have questions about your rights as a study participant, or you want to make sure this is a valid VA study, you may contact the VA IRB Coordinator at (734) 845-3440.