Transitioning from active duty to military retirement: Challenges impacting diabetes self-management

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Abstract

Objectives: Military retirement happens early in the lifespan presenting a unique transition that challenges chronic illness. The purpose of this study was to explore the factors that military retirees experience as they transition from active duty to military retirement that they perceive as inhibiting their ability to manage type 2 diabetes (T2DM) or pre-diabetes (preDM) and/or which increase their disease risk.

Methods: Twenty veterans diagnosed with T2DM or preDM participated in semi-structured, face-to-face interviews in a private setting at their primary care clinic. Transcripts were analysed using constant comparative method. Participants were aged 44 to 63 (\(M=56\)), with 15 diagnosed with T2DM and 5 as preDM. They had been retired from the military 6 to 22 years (\(M=14\) years).

Results: Participants linked five inter-related challenging factors to their T2DM/preDM diagnosis (when diagnosed post-retirement) and/or to their inability to manage their disease: (1) diet/eating habits, (2) physical activity, (3) weight fluctuation, (4) health care interactions and (5) systematic barriers. Military retirees’ experiences were embedded within a ‘cultural shift’. They struggled to maintain self-management behaviours once they were no longer on active duty and had more independence as civilians.

Discussion: Results provide support for diabetes education during military retirement. Military retirees need help maintaining healthy lifestyle behaviours beyond the structured, health-focused military culture. They could also benefit from patient–provider communication skills training in navigating systematic barriers and attaining the support needed to manage their disease.

Keywords
Diabetes education, health behaviour, military retirement, type 2 diabetes, veterans

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Normative adult developmental transitions such as retirement can be stressful, making it challenging to maintain a healthy lifestyle critical to diabetes self-management or disease risk reduction (Kim and Moen, 2002). In the USA, military retirement is especially complex and stressful for service members for a number of reasons. Unlike a normative transition to retirement, military retirement typically occurs during midlife early in the lifespan (Hachey et al., 2016; MacLean et al., 2016). Leaving active duty also means transitioning back into civilian life, which typically coincides with transitioning into a second career (Hachey et al., 2016; MacLean et al., 2016). As is true with any major life transition, retirement requires one to adapt and learn new skills to promote healthy outcomes (Wilson and Palha, 2007).

Healthy lifestyle behaviours central to diabetes self-management can promote a healthy retirement transition in terms of better long-term cognitive and physical health (Rozanova et al., 2015). While in the military, retirees learn to adhere to a structured regimen which includes certain healthy lifestyle behaviours like regular exercise, medical examinations, adherence to vaccination schedules and weight assessments. Military retirees learn and adopt these practices as soon as they enter the military (typically in young adulthood) and then maintain that practice for two decades and into middle age (Congressional Research Service, 2019). Research has indicated that some healthy lifestyle behaviours practised early in adulthood are ‘locked in’ and, thus, maintained later in adulthood (Jones et al., 2011). However, studies suggest that the transition to military retirement may compromise service members’ previously required healthy lifestyle routines of exercise, thereby heightening type 2 diabetes (T2DM) or pre-diabetes (preDM) risk (Almond et al., 2008; Hoerster et al., 2012; Teachman and Tedrow, 2013).

For instance, in the USA, male military retirees demonstrate poorer health behaviours in comparison to civilians and National Guard/Reserve Members (Hoerster et al., 2012). Longitudinal data also show that being a veteran of active-duty service is linked to greater body weight, and veterans are three times more likely to be obese than nonveterans (Teachman and Tedrow, 2013). Similar findings have emerged with female veterans, who are significantly more overweight or obese (Almond et al., 2008) and less likely to engage in regular exercise than non-veteran women (Levahot et al., 2012). Life-course trends suggest a possible increase in weight following military departure (Koepsell et al., 2012). A full 20-year (active-service) military career does not appear to provide long-term protection against being overweight, obese or associated co-morbidities (Kress et al., 2005). Rather, service members can experience negative health changes (e.g. weight gain) once they transition from activity duty to retirement (Cranston et al., 2017; Littman et al., 2013).

These negative health behaviour changes may be especially detrimental when retirees are at risk for or already coping with T2DM or preDM. To date, no research has explored how military retirement plays a role in military retirees’ ability to manage T2DM/preDM or how retirement from active duty may contribute to service members’ risk for diabetes. This is especially concerning given the prevalence of diabetes with non-active duty service members in the US Department of Defense Military Health System (MHS) has steadily increased in the last decade. Through its TRICARE programme, the MHS is one of the largest providers of health care in the USA, providing care to approximately 9.5 million beneficiaries, which include active-duty military service members and their dependents as well as military retirees and their dependents (Evaluation of the TRICARE Program: Fiscal Year 2019 Report to Congress, MHS, 2019). Similar to the US population more generally, diabetes is a growing problem (Kuo et al., 2011) with a prevalence of 5% among MHS beneficiaries and an average additional medical cost of $2,150 annually for each patient diagnosed with diabetes (Dall et al., 2007). In 2010, the prevalence of T2DM with non-active service members was 13% for women and 15% for men aged 45 to 64; rates were even higher for those aged 65 to 74 (Chao et al., 2013). In 2014, the majority of diabetes-related admissions and readmissions among TRICARE patients were aged 45 to 64 years old, of White race, and retired from the military or dependents of retirees (Frankel et al.,
Service members’ diabetes risk increases once they are aged 45 or older and not in active duty (Congressional Research Service, 2019). This is particularly troubling given the average age of military retirement for non-disability enlisted retirees is 43 years and, for officers, is 47 years (Chao et al., 2013; Congressional Research Service, 2019).

Military retirees are in need of education-focused supportive resources central to T2DM/preDM self-management or risk reduction to promote a healthier retirement transition and reduce diabetes rates. Currently, military retirees have limited resources to support them as they return to civilian life. Within the military, the Transition Assistance Program provides support to separating or retiring service members for financial, work-related issues, or health care system information (e.g. applying for benefits). Outside the military, a community-based non-profit organisation called Team Red, White & Blue offers a network of community support to service members returning to civilian life (Angel et al., 2018). The goal is to provide retirees a new sense of community by offering activities focused on promoting physical health and relational well-being, and cultivating a sense of purpose outside of the military.

No education resources currently exist that focus on the needs of military retirees at risk for or currently managing T2DM/preDM. In addition, no studies have explored how military retirement may challenge service members’ self-management or future diabetes risk. Thus, to inform the development of educational resources for the military retirement transition, we posed the following research question: what challenging factors do military retirees encounter as they transition from active duty that they connect with increasing T2DM/preDM risk or inhibiting their disease self-management?

**Methods**

**Recruitment and participants**

A secondary analysis was conducted on interview data from a larger federally funded mixed-methods study aiming to develop an intervention to enhance diabetes care and patient–provider communication (Ledford et al., 2019a, 2019b, 2019c). Following Institutional Board Review approval from the Uniformed Services University of the Health Sciences, research coordinators disseminated and recruited 1,025 survey respondents with a diagnosis of T2DM or preDM. Of the survey participants, 33 agreed to participate in an interview for the larger study. Of the 33 interview participants, 20 were identified for this sub-study as representing military retirees (i.e. they had served at least 20 years of active-duty service, earning full retirement from the military service). At the time of the interview, military retirees were aged 44 to 63 ($M = 56$) years, with the majority of participants aged 55 to 63 ($n = 14$). Of the participants, 15 had been diagnosed with T2DM and 5 as preDM. They were retired from the military between 6 and 22 years ($M = 14$ years). At least 15 participants had been retired at least 10 years. Most were men ($n = 15$) and identified as either Black ($n = 8$) or White ($n = 8$). All participants but one were married. Most ($n = 18$) had at least one child.

**Procedures**

Research coordinators obtained written consent and demographics. As part of the larger study, patients participated in an audio-recorded, semi-structured, in-depth interview that lasted an hour. Interviews were conducted at patients’ primary care clinic to maintain privacy and reduce burden. Participants were asked to describe their perceptions of and experiences of T2DM/preDM. Professional transcriptions resulted in 1,041 pages of data. Across the research process, multiple verification strategies were employed to maintain rigour, including memo-keeping, interviewer
reflexivity/responsivity, maintaining methodological coherence/congruence and using multiple coders during analysis (Morse, 2015).

**Analysis**

A secondary analysis was conducted on a subsample ($n=20$) of the original interview data set to explore the unique experiences of military retirees. Two authors (C.L.F. and E.W.) conducted a thematic analysis using constant comparative method (CCM) (Corbin and Strauss, 2015; Glaser and Strauss, 1967) to identify challenges participants described as negatively impacting their ability to manage the disease or which they believed increased their risk for developing T2DM/preDM. Data were analysed in smaller groups of five to constantly compare, meet, collapse analyses and continuously refine the codebook. This also allowed comparisons and disagreements to be addressed to ensure congruence across analysis. Authors employed CCM by becoming immersed in the data, assigning conceptual codes to transcript excerpts, grouping codes into categories, and keeping memos of emergent themes for saturation and rich description (Corbin and Strauss, 2015; Glaser and Strauss, 1967). Thematic saturation was met when at least 30% of the participants in the sample reported the experience. Findings are presented using firsthand accounts with limited demographic information (gender, diagnosis, age) to maintain confidentiality.

**Results**

Military retirees’ experiences were contextually located within a complex cultural shift unique to the military retirement transition. Participants reported embracing their new independence as civilians and simultaneously struggling to develop or maintain healthy behaviours once they had left active duty. Military retirees described five challenging factors they perceived inhibited their ability to manage T2DM/preDM or contributed to their risk of developing T2DM/preDM: (1) diet/eating habits, (2) physical activity, (3) weight fluctuation, (4) health care interactions (or lack thereof), and (5) systematic barriers.

**Diet/eating habits**

Participants reported unhealthy changes in their diet and eating habits as they transitioned from active duty that they linked to their T2DM/preDM diagnoses (when they were diagnosed post-retirement) or viewed as experiences that inhibited self-management. Unhealthy eating habits during retirement included eating more or larger portions, not monitoring what they ate, eating out at restaurants more often, and/or increasing their intake of unhealthy food and drink (e.g. desserts, soft drinks, alcohol, fried food). Struggles with diet were discussed in the context of other challenging factors, namely, struggling with weight fluctuation and lack of physical activity. Participants acknowledged that they needed to adopt healthier eating habits for T2DM/preDM self-management and attributed their maladjustment to their post-retirement lifestyle. As one retiree explained,

> I just went into that, that rut of ‘Hey! I’m retired! I can drink. I can eat. I can eat. I can do this’. And I forgot about physical fitness. . . . It’s easy to get in a rut. You think, ‘Oh, I’m retired. I can just go out and eat!’ Go out and eat out there in the civilian world, we call it, with no ramifications. (Man, T2DM, age 51)

Participants provided explanations for developing unhealthy eating habits during retirement. Reasons were associated with ageing (‘let me eat and die happy!’) as well as the challenges of independence, such as having to cook for oneself, lacking self-discipline and not having to be accountable to anyone for health outcomes (‘no ramifications’). The following retiree explained,
I’m retired Army. In the Army, we run every day. Well, I was skinny-winny, mean and lean, slim and trim when I was, by force of necessity, because that’s part of physical training, every day . . . Now I’m fat and ugly [Laughing]. After retirement I started like, ‘Let me eat and die happy!’ You know? Which is wrong. . . . I guess I don’t have as much discipline as compared when I was in the service. (Woman, T2DM, age 64)

**Physical activity**

Participants recalled that their physical activity was negatively impacted upon once they transitioned to military retirement. Negative changes included not working out or exercising anymore, reducing one’s exercise regimen (e.g. not jogging so frequently or as far), no longer engaging in the same physical activities (e.g. organised sports teams or going to the gym), or becoming less active and more sedentary.

Changes in physical activity were further complicated when disability was associated with military retirement or if second careers in the civilian world were more sedentary (e.g. becoming a truck driver). Physical activity changes were typically discussed in the context of other challenging factors, namely, weight fluctuation and diet. At times, retirees thought they were still engaging in a decent level of activity but after some time realised it was not enough, as the following retiree remarked:

In the Army, PT was not a problem for me, other than it was just too early . . . When I retired and I wasn’t having to do it four to five times a week I thought I was [still] doing well. I was a big runner until you get to a certain age your body starts breaking down . . . The A1C forced me to go, ‘Whoah! Maybe I’m not working out as much as I thought’. (Man, preDM, age 63)

Participants advanced a number of explanations for the negative changes in physical activity, including lack of time (due to their second career), ageing, getting injured or having more injuries due to ageing. Retirees’ explanations were similar to their reasons for dietary struggles: they struggled with freedom, self-discipline and accountability. They described welcoming their newfound autonomy but also being aware that their independence inhibited their ability to engage in T2DM/preDM self-management behaviours.

When you’re on active duty, you’re like a Ferrari. But when you come off of active duty, your body becomes like a big dump truck. . . . I hate to say it like that because when you’re on active duty, you might have to exercise twice a day, five days a week, and that’s the routine for 20 years. Then all of a sudden when you stop, I think your body said, ‘What is going on here?’ . . . I think that has something to do with [diagnosis]. I didn’t stay as active as I was when I was on active duty. . . . When I retire, I said, ‘I’m not getting up and running no five miles. I’m not doing that anymore!’ [Laughs] . . . But I should’ve kept doing it. . . . I think things would’ve been a little different. (Man, T2DM, age 58)

[When active duty] you did your PT Monday, Wednesday, and Fridays. And you stayed active. You know, you was playing baseball, basketball. . . . [Now during retirement] I have an elliptical at the house. . . . But I be tired because I get up at 4:30 a.m. to go to work. . . . When I get off [work] I be tired, but I know that here that if I exercise I will generate some energy. But it’s still – I can’t get the body to conform and do it. (Man, T2DM, age 57)

**Weight fluctuation**

Participants described challenges with their weight post-retirement. This included recognising they needed to lose weight or had gained weight once they were no longer on active duty. They also struggled with managing their weight or experienced more weight fluctuation. Participants talked
about weight challenges in tandem with physical inactivity or poor diet. They linked these factors collectively to their diabetes risk or inability to self-manage T2DM/preDM, as the following retiree shared about her husband (also a military retiree).

My husband is in a similar situation. When he retired and got out of the military, he wasn’t – first thing everybody does, you always put on weight because you do quit the PT. Once he got that weight started, he has never been able to – he’s never dropped that weight back down. I really think he was diabetic three or four years before he was really diagnosed. (Woman, T2DM, age 59)

Retirees described the weight gain happening quickly in their retirement transition. For instance, one military retiree stated, ‘I stayed [at] 185-190 like the whole time I was in the Army. And as soon as I retired and quit doing PT every day [I] went right back to 240’ (Man, T2DM, age 51). Retirees explained their weight gain in a number of ways, one of which was linked to mental health problems such as depression or anxiety that they encountered as they transitioned out of the military. This same retiree shared,

What do you do when you are retired? You sit around the house and watch [TV] . . . I do yard work . . . I had the nicest looking yard in the neighborhood for several years but there was no structure to the day. You get like really depressed and you sleep in. You sit on the couch and watch TV and all that kind of stuff. (Man, T2DM, age 51)

Retirees expressed similar explanations for weight challenges as those given for diet or physical activity including ageing or injuries that inhibited their ability to exercise and, thus, contributed to weight gain. Retirees also explained weight issues in relation to other concurrent life transitions that occurred during retirement (e.g. going through the menopause, getting injured, becoming disabled, having more commitments later in life, having a second career). As the following participant reported,

After I retired, I wasn’t as active. I didn’t participate in physical activities every day. I started to pick up a little more weight. I’m like, okay, this can’t be good but right now, I don’t really know how to reverse it without a lot of, not pain, but a lot of time commitments that I’m just to the point apparently, wasn’t willing to do. Just, eh, I got other things to do. (Man, T2DM, age 54)

Health care interaction

Participants described specific health care interactions (mostly with physicians) during retirement that they perceived impacted their self-management or risk of T2DM/preDM. At times, retirees noted it was what the physician did not say that impacted risk or self-management, particularly with regard to not addressing the seriousness of being diagnosed with preDM.

I took it on myself and was much more proactive in that regard. I certainly would have appreciated – and maybe it’s because [doctors] don’t know. . . . Maybe [my doctor] wasn’t as versed in what it all meant, other than, ‘Hey, this is a pre-diabetic flag here. I got to get this guy into the program’. . . . If he was well-versed in it and he did know, I would have appreciated him taking the time just saying [then] ‘Yeah, you got to go through this [educational programme]. You’re a good candidate to beat it. Just pay attention and really focus on things you can control, like your diet, like your exercise and your conditioning. Those are two things you can control’. (Man, preDM, age 63)

Retirees indicated that they did not receive explicit care plan directions from their providers thereby potentially inhibiting their self-management of T2DM/preDM or prevention of developing
T2DM after a preDM diagnosis. For instance, one retiree talked about not receiving any direction regarding diet or exercise at her annual appointments, just being told each year soon after retirement that she had preDM: ‘Each year I would be told the same thing, but no one ever said, you need to do this or that’ (Woman, preDM, age 56). The following retiree also described a lack of direction regarding ongoing management of T2DM:

Every six months or so I call in and say, ‘I think I’m supposed to get some bloodwork done to check A1C and all that’. It’s never like the doctor says, ‘Hey it’s time for your follow-up’ or whatever. (Man, T2DM, age 51)

Patients also described getting mixed messages from providers or never being told they were diagnosed with T2DM/preDM, which inhibited their understanding of diabetes as well as trust in their care. This same retiree described this:

[At diagnosis] very little information about it from the doctor. It didn’t seem like, coming from him, it didn’t seem like a real big deal . . . It was just like a cold. ‘Here’s a prescription’. You know ‘Take this. You’ll be fine’ kind of thing. . . . The next doctor I talked to, he asked if I was diabetic, I guess looking at my medications. I told him ‘Well, the last doctor I talked to said I was pre-diabetic’. And he said, ‘There is no such thing as pre-diabetes. You’re either diabetic or you’re not’. So then I got a little concerned! (Man, T2DM, age 51)

Systematic barriers

Participants indicated that systematic barriers posed challenges to their ability to prevent or manage T2DM/preDM. These factors, at times, were linked with health care interaction but were also perceived to be fixed issues (not changeable) due to processes within the health care system functioning and/or conditions of military retirement/civilian life. For instance, some military retirees described barriers related to accessing resources critical to self-management. These included not being able to get medication refills (unless they scheduled an appointment) or not receiving information about diabetes. They also included financial barriers such as losing access to free resources central to self-management that were available during active duty. One retiree said,

Being civilian and not being in the military, you don’t go to the gym. It’s different, okay? Because the gym on the base here is free. Out there, you got to pay for it. So, yeah. I guess my exercise regimen had changed once I retired. (Man, T2DM, age 60)

Retirees also encountered barriers related to physician constraints during medical appointments. These included patients perceiving they only had limited time with a provider given normative health care system constraints.

The only thing that I run into with the doctors is and I know this now is with the medical records. They’re having to try to, you know, notate everything I say to them. So you have a doctor that they’re either talking to you as they’re trying to put stuff in to the computer at the same time, or they have such a limited time to spend with you. It’s difficult to figure out what might be happening with you . . . You get a chance to really sit down and talk with a nurse a lot more sometimes than you do with the doctors. My biggest problem is I mean as far as my personal health is I never see the same doctor all the time. (Woman, T2DM, age 59)

Retirees also described how a health care process that contributed to a lack of care continuity could compromise self-management. This included never seeing the same provider for more than one
or two appointments due to providers’ deployment or moves. As one retiree stated, ‘You never really build a rapport with them’ (Man, T2DM, age 58). Patients also mentioned that when they met with a different physician, the care plan changed or, as one patient explained, it was like constantly ‘starting over’. When patients sought care at different clinical sites, their care was based on different criteria for self-management, further complicating their ability to self-manage T2DM. A retiree shared,

I go to [MHS site] but I don’t go to the VA. . . . I’ve had some bad experiences and they are not as proficient as [MHS site]. [The VA’s] determination of high levels is not as – it’s higher than [MHS site]. If I go to the VA and do my bloodwork and they see a 5.8, you know, hypothetically they’re going to say I have a high A1C. But when I come to [MHS site] and they look at that, he says it’s okay. You know so that’s why in a case like that it is, I guess, a luxury to have two [clinics] but it can be confusing also. (Man, T2DM, age 57)

Discussion

Study findings show that military retirees face interrelated factors that challenge their diabetes self-management and risk as they transition to civilian life. Military retirees need education to maintain healthy lifestyle behaviours. Although research shows that once service members are no longer on active duty, they tend to gain weight (Almond et al., 2008; Koepsell et al., 2012; Kress et al., 2005; Levahot et al., 2012; Littman et al., 2013), the current study suggests that increased weight is not an isolated challenge but related to diet and exercise. All three factors must be considered. Moreover, complex processes within the health care system could impede self-management. Military retirees demonstrate a need for education on patient–provider communication and navigating health care system barriers.

Retirees in this study demonstrated that their self-management and risk challenges are culturally informed. The US military has a complex, organisationally centred culture with distinct traditions, socialisation, values, vocabulary and norms (Hall, 2011; Meyer, 2015). Results reinforce previous research that suggests that when service members retire, they can encounter a ‘reverse culture shock’ and may feel ‘disoriented by the lack of structure in civilian organisation’ (Congressional Research Service, 2019). Transitioning to military retirement brought more freedom, which was welcomed, but that freedom also meant independence in decision making – something they struggled with in relation to these three lifestyle factors critical to diabetes prevention and management.

Such cultural challenges must be considered in future education development for military retirees to help them continue to engage in health-promoting behaviour as they move from one culture to another. To unpack these findings further, a culture-sensitive and culture-centred approach is necessary (Dutta, 2008). This approach engages with the complexity of how cultural factors impact retirees’ self-management once they leave active duty.

Military retirement: a cultural shift marked by independence

As Dutta (2007, 2008) and other cultural theorists of health behaviour have argued, health behaviours must always be understood within the context (i.e. culture) in which they are situated.

Culture is conceptualised as a complex and dynamic web of meanings that is continuously in flux, as it interacts with the structural processes that surround the culture . . . Culture is articulated in the meanings co-constructed by the cultural participants, and these meanings are located within the local context of the culture. . . . the local setting within which life is lived. (Dutta, 2007: 320)
Dutta’s culture-centred approach has identified several key constructs (social structures and agency) in making sense of people’s health experiences within a cultural context like the military (Dutta, 2007, 2008). Social structures inform the organisation of the larger cultural system, including the allocation of resources and power (Hall, 2011; Meyer, 2015). Agency (i.e. autonomy) is integral to understanding individuals’ capacity to self-govern behaviour within a culture (Dutta, 2007, 2008). This includes retirees’ ability to advocate for themselves and take control of their own health (O’Hair et al., 2003).

To understand retirees’ struggles with diabetes self-management and risk management once they leave the military, it is important to consider structure and agency within military culture. Upon retirement, service members have, on average, spent 24 years in the military (Congressional Research Service, 2019). Although they may have cultivated and maintained healthy habits related to diet, exercise and weight, engagement in those habits was not autonomous. The military structure dictates physical activity expectations and cultivates a shared experience among service members who are surrounded by peers bound by the same structural requirements. Thus, when a service member retires, they not only leave behind those health behaviour expectations but also the coworkers who provided in-group support.

Having a support system was a significant, evidence-based factor in diabetes risk and self-management noted in a joint position statement by the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics (Powers et al., 2017). During their time in the military, service members develop healthy habits early in adulthood alongside peers (i.e. not as individuals). Upon retirement, they must individually hold themselves accountable (or seek out support themselves). Research indicates that when service members retire, they can be challenged by their freedom or lack of support system to make healthy decisions (Villagran et al., 2015).

Independence in decision making has emerged in other diabetes research as a challenging factor in patients’ self-management during times of transition (Ramchandani et al., 2019; Ritholz et al., 2014). For instance, emerging adults with type 1 diabetes (T1DM) describe similar struggles when they transition from paediatric to adult care. Like military retirees, these patients struggle with the lack of structure, adapting to a new structure (e.g. job, college) and a lack of health decision support (e.g. no one telling them what to do) (Ramchandani et al., 2019; Ritholz et al., 2014). Retirees in our sample encountered similar challenges. After (at least) 20 years of military service, they must learn to navigate a fragmented structure of care and communicate their health care needs (Villagran et al., 2015).

Interestingly, emerging adult T1DM patients identified the patient–provider relationship as a critical part of their ability to adapt independently. Emerging adults wanted to have a connection with their health provider based on trust, availability and two-way communication (Ritholz et al., 2014). They wanted more patient-centred care support when moving from paediatric to adult care, valuing follow-up communication (Ramchandani et al., 2019). Similarly retirees identified health care interactions (or lack thereof) as inhibiting T2DM/preDM risk or self-management. They describe lack of direction or follow-up care as well as health care system barriers (e.g. seeing different providers or providers at different sites and receiving inconsistent care).

Collectively, these studies reveal that when life transitions require individuals to become autonomous (even in adulthood), their ability to engage in a healthy lifestyle is challenged, regardless of whether they maintained a healthy lifestyle earlier in the lifespan. This research also stresses the need for a support system. One aspect of this support can come from health care providers who can motivate them to be accountable; help them facilitate healthy decision making; and provide consistent, ongoing care with directions. At the same time, military retirees may benefit from community-centred education that not only provides a supportive network but also helps them build the
skill-sets and self-efficacy needed to maintain healthy self-management behaviours in their new independent environment.

**Intervention and education development for transition support**

It is imperative to recognise that military retirees leave active duty during midlife, at a time when their diabetes risk significantly increases. Given that previously established lifestyle practices are not necessarily ‘locked in’ once they leave active duty (Jones et al., 2011), military retirement can be a difficult time in which to intervene. Moreover, educational resources to help military retirees maintain or develop healthy lifestyle skills are largely lacking.

Based on our findings, military retirees need education about diet/nutrition, physical activity, weight management, talking with health care providers and navigating systematic barriers. Such training can enhance their ability to manage or reduce their diabetes risk and may promote successful ageing. Their need is further complicated by the cultural shift they must adapt to as they move into civilian life. This transition requires them to develop the self-efficacy and competence needed to engage in healthy habits and behaviours on their own – something many retirees struggle with. The health behaviour skill needs identified in this analysis could be incorporated into community-centred interventions that, ideally, should be situated within a network of community support similar to that which Team Red, White & Blue has created. Both the education and support network can help retirees be accountable to another entity – a factor that helped them maintain healthy behaviours while active duty. This may help them maintain skill development over time.

A recent qualitative study on chronic illness management among later life adults (aged 57–81) indicated that developing skills for self-management earlier in adulthood (e.g. during midlife) is important. Later life adults in this study drew upon those earlier learned skills and then applied them to their present self-management needs (Perry et al., 2015). Using Erikson’s epigenetic theory of mastery, the authors argue that in the ‘ninth phase’ of life, older adults may recall skills learned in previous life stages to self-manage new chronic illness, demonstrating ‘mastery’ in health management late in the lifespan.

Thus, skills development for managing diabetes is still critical in midlife and could promote better long-term health outcomes for military retirees in later adulthood. Results also provide a foundation to explore these influential factors on retiring service members’ health outcomes. As other studies of ageing have done (Schaie, 2005; Schaie et al., 2004), a longitudinal, cohort design could capture inter- and intra-individual differences (as well as generational differences). Although lifestyle behaviours are fluid, factors such as educational attainment and human capital play a role in people’s ability to change behaviour (Cockerham et al., 2020). A longitudinal study of retiring service members’ experiences would provide an opportunity to look at how multiple influential factors impact T2DM/preDM.

**Limitations**

Although this sample was somewhat racially diverse, the majority of participants were men who identified primarily as either White or Black. A different sample would be needed to parse out experiences that are distinct based on ethnic, racial and gender differences. In addition, our sample did not allow for an exploration of how time, job demands and finances may impact the ability to be active or eat healthy. Future studies using a survey design could potentially identify differences in retirees’ experiences with these factors in mind.
Acknowledgements

We thank Heather Rider and Angela Seehusen for assistance with recruitment and data collection.

Authors’ note

The views expressed within this publication represent those of the authors and do not reflect the official position of the US Air Force, US Army, the Uniformed Services University of the Health Sciences, or the US Government and the Department of Defense at large.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship and/or publication of this article. This study was funded by the Office of the Assistant Secretary of Defense for Health Affairs through the US Defense Medical Research and Development Program under Award No. FMBB100383695 and 59thMDW/ST 6.3 Research and Development Award.

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