



Enhancing access and impact of the Medicare Diabetes Prevention Program using telehealth: a narrative review

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Background and Objective: Over 26 million older adults in the United States (US) have prediabetes, which is often a precursor to type 2 diabetes. The Medicare Diabetes Prevention Program (MDPP) is an evidence-based, lifestyle program for older-adult Medicare beneficiaries to prevent progression to diabetes. However, the MDPP has been drastically underutilized. Telehealth delivery may be a promising strategy to increase the reach and impact of the MDPP, including for underserved populations. The objective of this narrative review is to explore the role of telehealth on the accessibility and effectiveness of diabetes prevention programs (DPPs) for older adults.

Methods: We searched the online databases of MEDLINE, APA PsycInfo, CINAHL, and Academic Search Elite for studies that used telehealth to deliver DPPs to older adults through distance learning, i.e., live program delivery where participants join via phone- or video-conferencing. Relevant information from policy documents and related publications was also included.

Key Content and Findings: Three themes emerged from the literature on telehealth delivery of DPPs for older adults (I) clinical effectiveness for weight loss, (II) feasibility and acceptability of this format; and (III) policy considerations to support greater public health impact. There is a growing body of recent evidence to suggest that older adults achieve a clinically meaningful amount of weight loss from participation in telehealth DPPs. The literature suggests that telehealth program delivery is feasible, and older adults find it acceptable, with some specific accommodations. Effectiveness and acceptability of telehealth interventions were also noted for older adults from rural, ethnically-diverse, and low-income groups. Policy considerations include adjustments in rulemaking by the Centers for Medicare and Medicaid Services (CMS) to allow MDPP delivery via telehealth using distance learning, along with sufficient reimbursement rates.

Conclusions: The evidence indicates that delivery of the MDPP via telehealth is beneficial for increasing program reach and impact, including among underserved groups, as well as providing social support for older participants. Scalable delivery of the MDPP via telehealth is essential to make a national, population-level impact for older adults with prediabetes who receive Medicare benefits.

Keywords: Telemedicine; prediabetic state; aged; health services accessibility; Medicare

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Introduction

Background

Diabetes affects 29% of adults aged 65 and older in the United States (US) (1). Another 49% of older adults, amounting to 26.4 million individuals, have prediabetes and are at heightened risk of progressing to type 2 diabetes without intervention (1,2). Both prediabetes and diabetes can damage blood vessels, which results in co-morbidities such as cardiovascular disease, cerebrovascular disease, and even cognitive decline (3,4). The high prevalence of prediabetes and diabetes among older adults demands population-level prevention strategies, including to reduce the high costs associated with diabetes care. For every older adult with diabetes, approximately \$13,240 (in 2017 US dollars) is spent annually on diabetes-related medical care (5). This amount is nearly twice the cost of diabetes care for adults aged 45–64 years (\$6,870 per person per year) (5). Moreover, the costs of medical care are 16 times higher for older adults with diabetes compared to older adults with prediabetes (\$820 per person per year) (5). Thus, there is potential cost savings of \$12,420 per person per year for every case of prediabetes that is halted from progressing to diabetes among older adults.

The National Diabetes Prevention Program (NDPP) is a yearlong, evidence-based lifestyle intervention that was launched by the Centers for Disease Control and Prevention (CDC) in 2010. The NDPP promotes modest weight loss through healthy eating and physical activity. Benefits include a 46% reduction in diabetes incidence (compared to no intervention) among adults of all ages (6). Older adults may fare even better—in the clinical trial that preceded the NDPP, there was an impressive 71% reduction in risk of developing diabetes among participants ≥ 60 years old (7). There were also significant reductions in medical spending among Medicare beneficiaries who participated in the NDPP (8). On average, \$1,456 was saved per Medicare beneficiary within just 1 year of participating in the NDPP (8). In turn, the Centers for Medicare and Medicaid Services (CMS) began provisional coverage for the Medicare Diabetes Prevention Program (MDPP) in 2018 (9). The MDPP is an unprecedented opportunity for older adults to receive a diabetes prevention program (DPP) that is fully covered by Medicare (9).

The MDPP is an extension of the NDPP and uses the same curriculum, quality assurance recognition program, and lifestyle coach trainings (10). In addition to the CDC's policy that governs the NDPP, the MDPP also requires adherence

to CMS's policy that is more restrictive. The CDC allows various modalities, including in-person group classes, online platforms (e.g., mobile applications), and distance learning (e.g., video-conferencing) (11). Yet, initially CMS only allowed in-person delivery of the MDPP after finding more limited evidence for other modalities at the time (9). CMS also targets $\geq 5\%$ weight loss, whereas the CDC offers more potential benchmarks to demonstrate success (e.g., $\geq 0.2\%$ A1C reduction). CMS predicted that over 65,000 Medicare beneficiaries would participate in the MDPP each year (9). However, only 4,848 total beneficiaries have participated after 4 years of coverage (12). Another concern is that most MDPP participants are white (77%) (12), yet racial and ethnic minority groups are in greater need of services to address diabetes disparities (1). The coronavirus disease 2019 (COVID-19) pandemic prompted a temporary shift to allow MDPP delivery through distance learning (13). Distance learning has the potential to increase reach, especially as 39% of all beneficiaries must travel more than 50 miles to attend a single session at their nearest MDPP location (12). However, while CMS initially mandated a return to in-person delivery by the end of 2023 (14), distance learning delivery will now be permitted through December 31, 2027 (15).

Rationale and knowledge gap

Inadequate uptake of the MDPP is concerning because the MDPP is not yet a permanent benefit and still falls within the CMS Innovation Center (16,17). Continued coverage likely depends upon demonstrating robust results in the near future, including to effectively address gaps in access and ensure high potential impact. The MDPP is the first Medicare-covered disease prevention program, and its success would likely prompt other payers to cover the NDPP and similar services. Expanding telehealth delivery may offer a promising solution to increase the reach and impact of the MDPP for older adults. However, there is a critical knowledge gap regarding the effectiveness, feasibility, and acceptability of telehealth delivery for older adults in the MDPP.

Objective

We aim to explore the role of telehealth on the accessibility and effectiveness of DPPs for older adults. The objective is to identify the factors that are likely to affect utilization of the MDPP when delivered through telehealth, as well as explore the potential benefits and challenges that are

Table 1 The search strategy summary

Items	Specification
Date of search	May 15, 2023–September 30, 2023
Databases and other sources searched	MEDLINE, APA PsycInfo, CINAHL, and Academic Search Elite; policy documents
Search terms used	((diabet* OR prediabet* OR “pre diabet*” OR “pre-diabet*” OR “metabolic syndrome”) N3 prevent*) AND ((telemedicine OR telehealth or telecare OR telenursing OR telerehab* OR “remote consult*” OR “distance learn*” OR “video conferenc*” OR videoconferenc* OR Zoom OR teleconferenc* OR Webex)) AND (Elderly OR MH “Aged+” OR “older adult*” OR “seniors” OR “senior citizen*”)
Timeframe	January 1, 2016 to September 30, 2023
Inclusion and exclusion criteria	Articles were included if they described DPPs among adults aged 55 years and older using distance learning delivery and described the clinical effectiveness, feasibility, and/or acceptability of the intervention Exclusion criteria included interventions that were delivered asynchronously online or through mobile applications
Selection process	Both authors reviewed the full text of the articles for inclusion. Any disagreement between authors was resolved by re-reviewing and discussing eligibility criteria together
Any additional considerations	Using a lower age limit than 65 years allowed for a more comprehensive search

DPP, diabetes prevention program.

associated with this mode of delivery. We present this article in accordance with the Narrative Review reporting checklist (available at <https://mhealth.amegroups.com/article/view/10.21037/mhealth-23-37/rc>).

Methods

This narrative review focuses on telehealth to deliver DPPs to older adults, specifically through distance learning. Distance learning is defined by the CDC, and endorsed by CMS, as live delivery of session content in which participants join through phone- or video-conferencing (11). We focused on distance learning delivery because it is the only virtual delivery method permitted by CMS (and only since the COVID-19 public health emergency). With the assistance of a health sciences librarian, we based our review on relevant literature from the online databases of MEDLINE, APA PsycInfo, CINAHL, and Academic Search Elite, in the EBSCOhost system. For efficiency of searching, we used Medline in the EBSCOhost system, which includes all the content of PubMed and also searches the full text of articles. We searched for the terms ((diabet* OR prediabet* OR “pre diabet*” OR “pre-diabet*” OR “metabolic syndrome”) N3 prevent*) AND ((telemedicine OR telehealth or telecare OR telenursing OR telerehab* OR “remote consult*” OR “distance learn*”

OR “video conferenc*” OR videoconferenc* OR Zoom OR teleconferenc* OR Webex)) AND (Elderly OR MH “Aged+” OR “older adult*” OR “seniors” OR “senior citizen*”). We also conducted hand searches of reference lists.

Articles were included if they described DPPs among adults aged 55 years and older using distance learning delivery and described the clinical effectiveness, feasibility, and/or acceptability of the intervention. Using a lower age limit than 65 allowed for a more comprehensive search. Exclusion criteria included interventions that were delivered asynchronously online or through mobile applications, as these delivery modes are not permitted for the MDPP. To provide a synopsis of recent evidence, the literature was searched from January 2016 through September 2023. The online tool Covidence (Melbourne, Australia) was used to facilitate organization and screening of references. Two hundred and ninety-two articles were initially retrieved, and six duplicates were removed. After abstract review, 224 articles were not aligned with the topic and excluded. After full-text review of 62 articles and application of the eligibility criteria, eight articles were included to specifically describe outcomes associated with distance delivery of DPPs for older adults. Both authors reviewed the full text of the articles for inclusion; any disagreement between authors was resolved by re-reviewing and discussing eligibility criteria together. See *Table 1* for the search strategy

summary. We also incorporated information from relevant policy documents and online publications.

Results

Three key themes emerged from the literature on telehealth as it relates to DPPs for older adults: (I) clinical effectiveness of DPPs that are delivered via telehealth for older adults; (II) feasibility and acceptability of implementing DPPs for older adults via telehealth; and (III) future policy considerations to support greater public health impact of the MDPP through telehealth.

Clinical effectiveness

There is a growing body of evidence to suggest that older adults can do well in the MDPP when delivered via telehealth. The evidence comes largely from studies showing that (I) outcomes for in-person DPPs are favorable for older adults; and (II) outcomes for telehealth delivery are also favorable, albeit with calls for further research.

Favorable outcomes for in-person delivery of the MDPP with older adults

CMS initially piloted the MDPP from 2013–2015 with 6,874 mostly older adults who attended in-person classes at their local Young Men's Christian Associations (YMCAs) (18). The average weight loss was 5.8% for older adults who attended for 4+ months (number not reported). After CMS began offering the in-person MDPP as a covered benefit in 2018, the first annual report stated that the average weight loss was 5.1% for the 1,359 Medicare beneficiaries who had attended at least two sessions (19). The second annual report was consistent in showing that average weight loss was also 5.1% for the 3,618 beneficiaries who attended at least two sessions (12). Each kilogram of weight loss with lifestyle intervention has been associated with a 16% reduction in diabetes incidence (20). Thus, it is encouraging to have consistent evidence that older adults achieve a clinically meaningful amount of weight loss in the MDPP. This suggests that the MDPP's content is beneficial and could potentially lead to successful outcomes when translated from in-person to telehealth delivery.

Favorable outcomes for telehealth delivery with older adults

Recent reports have also described telehealth delivery of DPPs for older adults using distance learning. The

BRIDGE study piloted a 6-week version of the DPP that was delivered through live webinars at a senior center with a small sample of 16 older adults (21). Average weight loss was 2.9% after the intervention and was expected to exceed 5% weight loss if the intervention was longer (i.e., average weight loss was 0.4% each week), as in the yearlong MDPP. CMS also reported on MDPP outcomes for beneficiaries who received most sessions through telehealth due to the public health emergency. Remarkably, the average weight loss was 6.1% for 221 beneficiaries who participated in at least two sessions in 2021 (12). This was the highest level of mean weight loss of any cohort since the MDPP began in 2018, offering strong preliminary evidence of clinical effectiveness through distance learning. Another study found no significant difference in weight loss between in-person (6.2%; n=278) and remote delivery (5.8%; n=191) of a 16-week DPP, although participants included adults of all ages (22). However, the authors found no significant effect of age on weight loss, such that the intervention may benefit older and younger adults alike.

Two other recent studies have also shown that distance learning DPPs implemented during the pandemic achieved better outcomes compared to in-person programs before the pandemic (23,24). In Minnesota, completing remote delivery of the NDPP resulted in greater weight loss (7.7%; n=31) compared to participants who completed the standard in-person NDPP (4.7%; n=47); the average participant age was 58 years (23). Moreover, in a population-based study from the United Kingdom, older adults appeared to have the most weight loss after 9 months of distance learning delivery of the National Health Service Diabetes Prevention Programme. For example, participants who were 60–69 years of age (n=11,987) had 2.7 kg of weight loss compared to 1.8 kg of weight loss for participants who were 18–39 years of age (n=2,636) (24). Delivery features, content, and evaluation standards of the National Health Service Diabetes Prevention Programme aligned with the CDC's NDPP. Recommendations to further bolster weight loss with distance learning delivery include providing additional real-time behavioral support and extra personal communications (such as emails, texts, or phone calls). Interventions that incorporate such support have been shown to achieve 1% greater weight loss compared to remote interventions without added support (25).

Calls for additional evidence of clinical effectiveness

Further study of telehealth delivery has been called for to address several remaining knowledge gaps (26).

Evidence is lacking on telehealth delivery of DPPs among diverse, underserved populations (27), but some recent evidence suggests effectiveness among economically-disadvantaged and ethnically-diverse adults (23). Diabetes disparately impacts racial and ethnic minority and low-income individuals (1), and ensuring equitable outcomes is important. Prior reports have focused on describing weight loss outcomes, yet more data is needed to understand glycemic outcomes and reductions in diabetes incidence from telehealth delivery in older adults. New research from the Longitudinal Epidemiological Assessment of Diabetes Risk (LEADR) study shows that DPPs that were delivered in-person to diverse adults of all ages (n=1,336) can prevent diabetes even without weight loss (6). Findings from the LEADR study (6) and other emerging research (28) suggest that the relationship between weight loss and diabetes prevention is not as strong as previously thought. Promisingly, the BRIDGE pilot study of telehealth delivery for older adults has been expanded to a large clinical trial, including both weight loss and A1C change as primary outcomes (clinicaltrials.gov #NCT05166785) (29). Results are expected in 2026. In a pilot of two distance-delivered sessions before the trial's implementation, 87% and 94% agreed or strongly agreed that the video format was a good fit, and attending was easy, respectively (30). We also recommend that future studies clearly report outcomes for subgroups to ensure clinical effectiveness for priority populations (e.g., racial and ethnic minority groups, low-income individuals, and rural participants), as well as outcomes for all participants who attended at least one session, which is a commonly used attendance metric for the NDPP and MDPP.

Feasibility and acceptability of implementing the MDPP via telehealth

In addition to clinical effectiveness, successful large-scale implementation of the MDPP through telehealth requires high levels of feasibility and acceptability for both participants and MDPP suppliers.

Feasibility for participants

Both barriers and facilitators to telehealth adoption among older adults have been well-documented. Barriers include vision and hearing impairments, limited dexterity, and memory issues (31-34). In turn, recommended strategies to address vision impairments include increasing screen brightness and text and icon sizes, and avoiding ornate

fonts that are more difficult to read (32,34). Issues with dexterity may be managed by simplifying tasks and allowing extra time (34). Hearing deficiencies may be addressed with adequate sound volume and closed-captioning (34). Strategies to address cognitive challenges include using simple instructions and logos; intuitive, pictorial information displays; fewer required "clicks"; and adequate time for processing material (32,34).

Other barriers can include limited computer use and digital literacy, low self-efficacy or disinterest in using technology, frustration with technological complexity, and privacy concerns (32,33,35,36). However, a recent report revealed substantial gains in technology use among older adults over the past decade (37). As of 2021, 75% of older adults are internet users, 64% have broadband internet at home, and 61% own a smartphone, up from only 13% of older adults owning a smartphone in 2012 (37). Nonetheless, strategies to address technology concerns include providing extra training on technical features, easy access to troubleshooting, positive reinforcement for acquiring digital skills, and explicit details on the precautions taken to protect information (32-34).

Acceptability for participants

The literature suggests that older adults are likely to accept (31,38) and be satisfied with telehealth (39-41). The BRIDGE pilot study held focus groups to assess intervention acceptability and found satisfaction with "most program components, especially the webinar group interaction and using physical activity trackers" (21). Participants had only minor recommendations for improved telehealth delivery, including to ensure a quiet environment and good sound quality. A study on diabetes self-management education classes that were mostly delivered to older adults (mean age of 62 years) (42) also included qualitative interviews about the pros and cons of distance learning (43). Illustrative quotes that help to describe the "real" experience of distance learning included:

- (I) "It was online, which was a big deal for me because ... I'm not going out these days.";
- (II) "I liked [distance learning] a lot because sometimes with depression, anxiety ... it's hard to go places and do stuff. That was helpful because it eliminated an excuse ...";
- (III) "I found it all really distract[ing] because so many of the people were doing other stuff. I'm watching them fart around ... A cat walks by, or somebody's husband's coming in ..." (43).

The participants also reported that a virtual environment was more conducive to discussing sensitive topics and felt more private. Yet, participants also continued to receive social support from distance learning, with some even reporting that it felt equivalent to meeting in-person. The acceptability of telehealth interventions has also extended to older adults in rural areas, which is critical given the healthcare access and resource issues often experienced by those living in rural areas of the US (44). In another study that assessed the effects of a highly intensive weight loss intervention delivered through both live video conferencing and in-person sessions, participants reported high satisfaction with the telehealth components (38). For example, there were high satisfaction scores with the video-conferencing device itself (4.4 out of 5) and using video-conferencing to work toward their health goals (4.7 out of 5). Such levels of acceptability highlight the value of telehealth interventions to overcome the lack of close proximity to health promotion programs in rural locations (44).

Feasibility for suppliers

The majority (92.5%) of organizations delivering the NDPP exclusively provided in-person group classes as of 2019 (6). Yet, most organizations quickly transitioned to virtual delivery after the onset of the COVID-19 pandemic (12). This rapid transition indicates the high level of feasibility for providing distance learning services. As of June 2023, there were 155 NDPP suppliers registered with the CDC as providing the distance learning delivery mode who also have “preliminary” or “full” CDC-recognition (45), which is required by CMS to be an MDPP supplier. Only 15% (n=23) are currently MDPP suppliers. The remaining 132 NDPP organizations could readily expand to delivering the program via telehealth for Medicare beneficiaries as well. However, multiple MDPP suppliers have reported a desire for additional training and resources to better implement DPPs through distance learning (9,12). Because CMS mandated in-person delivery prior to the COVID-19 pandemic, some suppliers experienced challenges when switching to distance learning delivery, e.g., technological skills of staff, administrative intricacies of virtual delivery, and adherence to curriculum fidelity online (12).

Suppliers have reported difficulty recruiting for their remote classes, which diminishes feasibility. Recruitment is often a challenge even with in-person delivery of DPPs to participants of all ages (46), and this challenge has also applied when suppliers are recruiting older adults (18,47,48). Two studies that exclusively enrolled older adults

in telehealth interventions similar to the MDPP noted difficulty with recruitment (21,38).

Nonetheless, there are recommended strategies to facilitate recruitment (46). A systematic process to refer patients to the MDPP is especially key (47,49). Electronic health record (EHR) systems can be used to identify patients with prediabetes (50,51), alert the healthcare provider, and link patients to an MDPP supplier (52), which could improve MDPP referrals and uptake. Referral protocols that are compliant with the Health Insurance Portability and Accountability Act (HIPAA) have been established, including by the American Medical Association (51) and the State of Colorado’s Office of eHealth Innovation (53). Importantly, provider-referred patients are more likely to enroll in DPPs (50,51), and go on to achieve more weight loss than those who were identified from other referral sources (5.4% *vs.* 4.8%) (12).

Acceptability for suppliers

A recent qualitative analysis reported on the perspectives of MDPP suppliers in Pennsylvania and found that telehealth delivery of the MDPP has become more appealing after the onset of the COVID-19 public health emergency. Although MDPP suppliers reported that older adults had initially hesitated when considering telehealth delivery, suppliers also perceived how telehealth facilitated access and social support for older adults during the pandemic (47). Suppliers in Los Angeles County also reported that telehealth delivery increased access for individuals who would otherwise have difficulty with in-person attendance in the NDPP (54). Interviewees further described examples of older adults and low-income participants who were “very tech-savvy” and “quickly able to adjust to telehealth” (54). However, as described in detail below, a remaining concern is that suppliers have reported needing better reimbursement rates for providing the MDPP.

Policy considerations to increase MDPP impact through telehealth

First, changing CMS policy to permanently allow continued delivery of the MDPP through distance learning appears warranted based on the newest evidence presented in this review. Telehealth delivery is especially needed because older adults living in rural areas with limited access have higher rates of diabetes (55) and diabetes-related mortality (56) than their urban counterparts. Although some knowledge gaps remain, it is reassuring that telehealth suppliers

would still be required to demonstrate adequate fidelity and effectiveness of their programs, in accordance with the CDC standards for program delivery. Otherwise, most policy change recommendations are related to reimbursement to suppliers for providing the MDPP.

Cost-effectiveness considerations

Reimbursement rates for the MDPP are set by CMS. The gap between MDPP costs and reimbursement is well-documented (57,58) and has been identified as a challenge to MDPP implementation (48), including when the MDPP was delivered through telehealth. For in-person services, initial delivery costs were reported to be \$553–800 with average reimbursement of only \$108–190 per participant (57,58). CMS announced changes effective in 2022 to help with this financial shortfall. Reimbursement for participants who meet all the attendance and weight loss benchmarks increased from \$468 to \$705; for those who meet attendance but not weight loss benchmarks, payments increased from \$203 to \$455 US dollars (13). Yet, even higher reimbursement rates are likely needed and appear supported by the return on investment. The long-term medical cost savings of participation in the MDPP have been established (8,18,59), and outcomes should be similar (or even better) for telehealth based on the evidence of clinical effectiveness reported above. CMS could also survey the costs for telehealth delivery of the MDPP, which appear largely unknown. One small study reported a cost savings of \$90 per participant when comparing in-person delivery to video-conference delivery among adults with a mean age of 50 and 53 years, respectively (60). Although distance delivery removes the necessity and cost of the physical space used for in-person programming, costs may be similar when accounting for staff time to provide additional technical support and other accommodations that older adults may require. Suppliers have also requested that CMS reduce payment wait times (47).

Another concern of low reimbursement rates is that MDPP suppliers may be dissuaded from entering markets with underserved populations who historically have been less likely to achieve performance payment milestones (58,61). In fact, severe shortages of MDPP sites were observed in states and territories with the largest populations of racial and ethnic minority beneficiaries (62). A recent analysis of suppliers revealed that states with a Medicare enrollment of $\geq 20\%$ African American or Hispanic beneficiaries had fewer MDPPs, e.g., Mississippi had three sites, New Mexico had one (63). However, health

equity goals may be achieved through policy changes that assure equitable payments for underserved beneficiaries who can have more barriers to achieving weight loss goals (58,64). For example, CMS could add reimbursement for A1C improvement, which is an indicator of risk reduction that can be less prone to disparities (28).

In turn, the overall impact of any changes in CMS rulemaking may be assessed by examining whether (and to what extent) there is a corresponding increase in the number of participating MDPP suppliers and beneficiaries. Evaluation of outcomes after CMS rulemaking changes could also include subgroup analyses to determine their effect on individuals from racial and ethnic minority groups, low-income backgrounds, and rural settings.

Strengths and limitations of this review

This review is limited by the small body of evidence that exists on telehealth delivery of lifestyle programs for diabetes prevention and weight loss among the older adult population, an issue that has been acknowledged by others (38,41). Additionally, many included studies were limited by small sample sizes, which restricts their generalizability. However, the evidence reviewed indicates that telehealth DPPs are feasible, acceptable, and effective for older adults. Further research is needed to better determine the cost-effectiveness of telehealth program delivery in the general population and among older adults.

Conclusions

Population-level strategies to prevent type 2 diabetes are urgently needed for the 26.4 million older adults with prediabetes in the US (1). Although the MDPP is a cost-free strategy for older-adult Medicare beneficiaries, it is largely unavailable and underutilized. This review revealed encouraging evidence that telehealth delivery of the MDPP is a useful method to increase its reach and impact, while also providing social support for older participants. Our findings from a limited body of evidence indicate that telehealth programs delivered via videoconferencing appear to be feasible, effective, cost-effective, and generally well-accepted by the population of older adults, summarized in *Table 2*. Clinically meaningful levels of weight loss were noted, and older adults were receptive to this form of programming, with some caveats. Adjustments for physical and cognitive limitations and modifications to the program to accommodate the needs of older adults were desired

Table 2 Findings and implications of telehealth delivery of the MDPP

Theme	Findings and implications
Clinical effectiveness	<p>Clinically meaningful weight losses with telehealth delivery of DPPs have been reported for older adults</p> <p>Economically-disadvantaged, racially- and ethnically-diverse, and older adults from rural locations have experienced meaningful outcomes</p> <p>Among Medicare beneficiaries to date, the highest mean weight loss was noted among those who participated in the most sessions via telehealth</p> <p>Implications: consistent evidence on the clinical effectiveness of telehealth DPPs points to the clear benefit of continuing this delivery mode for the MDPP</p>
Feasibility and acceptability	<p>Feasibility of telehealth delivery for older adults has been demonstrated</p> <p>Telehealth delivery is largely acceptable among older adults with some specific accommodations</p> <p>Some evidence suggests cost-effectiveness of telehealth delivery for DPPs</p> <p>Implications: telehealth DPPs are feasible, acceptable, and likely cost-effective; substantial increases in older adults' technology use suggest an increased demand for distance learning MDPPs going forward</p>
Policy recommendations	<p>Policy makers can be made aware of the effectiveness and acceptability of telehealth delivery for older adults</p> <p>Reimbursement models should cover program costs and consider alternate payment benchmarks, e.g., A1c reductions, prorated payments for <5% weight loss. Equitable payment models are also needed</p> <p>Telehealth delivery of the MDPP via distance learning should be permitted to continue</p> <p>Implications: the collective evidence indicates CMS rulemaking should be adjusted to allow ongoing MDPP telehealth delivery for the benefit of both eligible older adults and program suppliers</p>

MDPP, Medicare Diabetes Prevention Program; DPP, diabetes prevention program; CMS, Centers for Medicare and Medicaid Services.

(21,29,32,34). Additional important components were the ability to interact with others for support (21,38) and technical help (32-34,38). Taken together, the evidence suggests that delivery of the MDPP via telehealth is a sound practice that should be embraced by CMS for the widespread use and benefit of this program.

A unique contribution of this review is the integration of the newest analyses that compare in-person to distance learning delivery during the COVID-19 pandemic (23,24). These data provide compelling information that telehealth delivery appears to be effective among those who are aged 55+ years. Additionally, we have focused on the policy implications of the evidence. The findings shed light on the challenges faced by the MDPP, including insufficient reimbursement, limited awareness, and low referral rates. This review emphasizes the importance of continued virtual delivery of the MDPP and provides evidence to support policy recommendations, such as using EHR systems to identify patients with prediabetes and facilitate referrals. The impact of policy changes on program enrollment and payment structures is also explored, underscoring the need for increased payments and reduced wait times to encourage

broader participation. There is an urgent need for expanded virtual delivery options, considering the limitations posed by geographical barriers and the scarcity of MDPP suppliers. By leveraging telehealth technologies, the MDPP can reach underserved populations and help prevent type 2 diabetes among older adults. Policy recommendations derived from this review can inform future rulemaking by CMS to pave the way for the long-term sustainability of the MDPP and the coverage of other disease prevention programs.

Enrollment in Medicare is projected to increase by an average of 1.5 million beneficiaries each year from 2021 to 2029 (65), making uptake of the MDPP critically important. Moreover, as older Americans age into the Medicare system, they will have had much more experience with technology than previous generations. This evolution suggests an increased demand for more convenient, time-saving, and accessible programs will ensue. For millions of beneficiaries, conversion to diabetes could be prevented by MDPP participation, and produce substantial cost savings. Distance learning delivery facilitates participation, particularly for individuals living in rural areas and experiencing physical limitations. Policy makers are encouraged to consider the

current evidence on telehealth effectiveness and recognize the importance of allowing MDPP delivery in this format. Scalable delivery via telehealth is essential to make a national, population-level impact for older adults receiving Medicare benefits.

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Footnote

Reporting Checklist: The authors have completed the Narrative Review reporting checklist. Available at <https://mhealth.amegroups.com/article/view/10.21037/mhealth-23-37/rc>

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Conflicts of Interest: Both authors have completed the ICMJE uniform disclosure form (available at <https://mhealth.amegroups.com/article/view/10.21037/mhealth-23-37/coif>). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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