

# Can A Group Driving Cessation Intervention Improve Quality of Life in Older Adults?

Nnedi Oranekwu, OT/s | Research Advisor: Jeramie Silveira, OT, OTD, OTR  
Department of Occupational Therapy, Salem State University

## Objectives

At the conclusion of this presentation, the audience should be able to:

- ❖ Define driving cessation and discuss the impact it has on older adults
- ❖ Gain an understanding of the value of occupational therapy and preparing older drivers for driving cessation
- ❖ Identify common outcome measures utilized to test the effectiveness of driving cessation interventions
- ❖ Identify common themes in effective interventions

## Background

- ❖ Driving is the most common and preferred mode of transportation that facilitates community mobility amongst older adults in developed countries, including the United States (Pellichero et al., 2020).
- ❖ The aging process can lead to a functional decline in the cognitive, sensorimotor, and visual perceptual abilities necessary for continued participation in safe driving (Pellichero et al., 2020).
- ❖ The population of adults age 65 and older will double by the year 2050, and will make up about 20% of the total population (Dickerson et al., 2019).
- ❖ Driving is the most common mode of mobility and has been considered an important occupation linked to quality of life [QoL] (Dickerson et al., 2019; Pellichero et al., 2020).
- ❖ Community mobility is essential for maintaining health and overall QoL (Dickerson et al., 2019).
- ❖ A loss in the ability to drive can result in reduced engagement in areas of occupation such as instrumental activities of daily living (IADLs), work, leisure, and social participation (Choi & DiNitto, 2016; Pellichero et al., 2020).
- ❖ Driving cessation can cause older adults to experience isolation, loss of autonomy, changed relationships, loss of personal identity, increased depressive symptoms, decreased community mobility, loss of independence, and reduced participation in important life roles (Dickerson et al., 2019; Liddle et al., 2014; Pellichero et al., 2020).
- ❖ There has been little research rigorously developing and evaluating driving cessation interventions (Liddle et al., 2014).
- ❖ Addressing driving cessation and adaptations early on through the use of intervention can help to mitigate the negative psychosocial effects of driving cessation (Pellichero et al., 2020).
- ❖ IADLs, work, leisure, and social participation all lie under the domain and scope of occupational therapy (Pellichero et al., 2020).
- ❖ Occupational therapy practitioners can recommend alternatives to community mobility and provide early education to older adults to give them more control over their decision to cease driving (Brzuz, 2018).

## Purpose & Hypothesis

The purpose of this systematic review of the literature is to examine if group driving cessation interventions for older adults can improve overall QoL.

## Methods

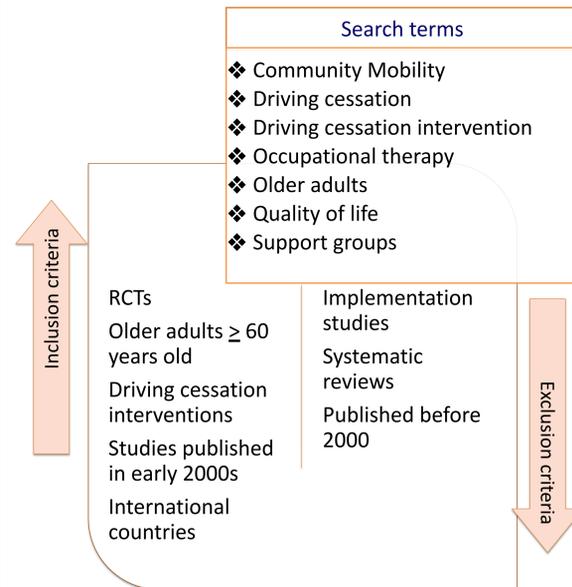


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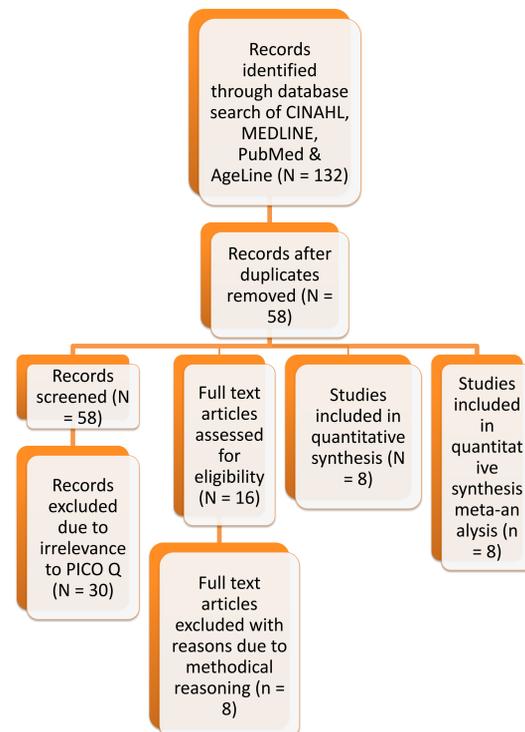


Figure 1. PRISMA Diagram for Selection of Relevant Articles (from Moher, D., Liberati, A., Tetzlaff, J., and Altman, D. G., 2009).

## Results

Table 1: Interventions, outcome measures, and significant results

Study	Sample Size	Intervention	Outcome measures	Result
1. Dobbs et al., 2009	74	Driving cessation support group	Depression scale, quality of life	Significant (p = 0.03) decrease in Depression Scale as compared to traditional intervention group
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- ❖ Studies 6 and 7 used an intervention administered by occupational therapy practitioners that provides community based education and support to older retired and retiring drivers.
- ❖ The intervention in study #8 is based off of the UQDRIVE intervention
- ❖ Study #2, 4, 5, and 7 are randomized controlled trials, study #1 adopted a non-randomized allocation method, study #3 was a population-based cohort study, study #6 was a mixed method research design
- ❖ Common themes in the outcome measures used include depressive scales (study #1, 5, 6, 7, and 8), well-being outcomes such as mood and self-efficacy (Study #7 and 8), goal performance and satisfaction (study #7 and 8).
- ❖ Health-related QoL outcome measures assess physical functioning, physical role, bodily pain, general health, vitality, social functioning, emotional role, and mental health (Chan et al., 2015).
- ❖ Studies #1 and 8 used QoL measures while studies #2, 3, 4, 5, 6, and 7 measured behaviors / skills associated with QoL.

## Discussion

- ❖ The interventions in the majority of these studies indicated that a driving cessation support group and education program may enhance factors of QoL such as mental health, self-efficacy, and social participation (Chan et al., 2015; Coxon et al., 2017; Dobbs et al., 2009; Gustafsson et al., 2012; Liddle et al., 2014; Stern et al., 2008).
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- ❖ The most common intervention explored amongst all 8 articles was the use of the UQDRIVE program developed in Australia and using the Person-Environment- Occupation (PEO) Model, the Model of Human Occupation (MOHO), adult learning principles, and client-centered practice approaches as the theoretical base from which it drew.
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## Implications

- ❖ Occupational therapy practitioners play a vital role in offering interventions to the aging driver to ensure continued participation in the community.
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- ❖ Occupational therapy practitioners need to address cultural and gender influences when planning and delivering clinical interventions.

## Future Research

There is a limited amount of research on the effectiveness of driving cessation interventions on older adults. Because this is such an emotional topic that negatively impacts older adults, future research should focus on the following:

- ❖ Imploring a larger sample size to prove effectiveness of interventions
- ❖ Ensuring that sample sizes are more indicative of the general population, that includes recruiting more men, and older adults with various health conditions and disabilities.
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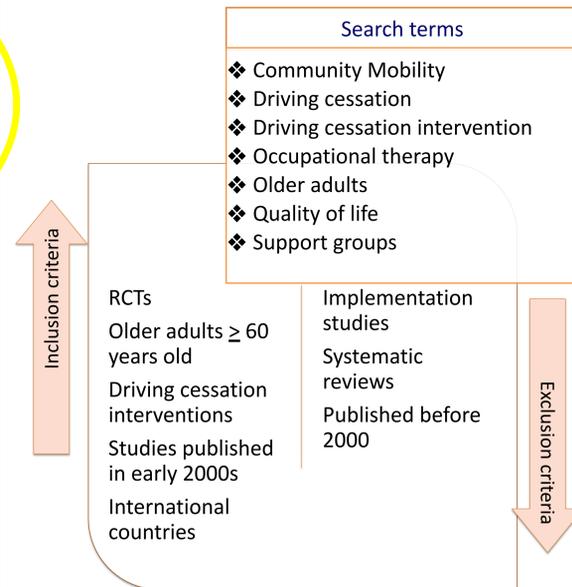


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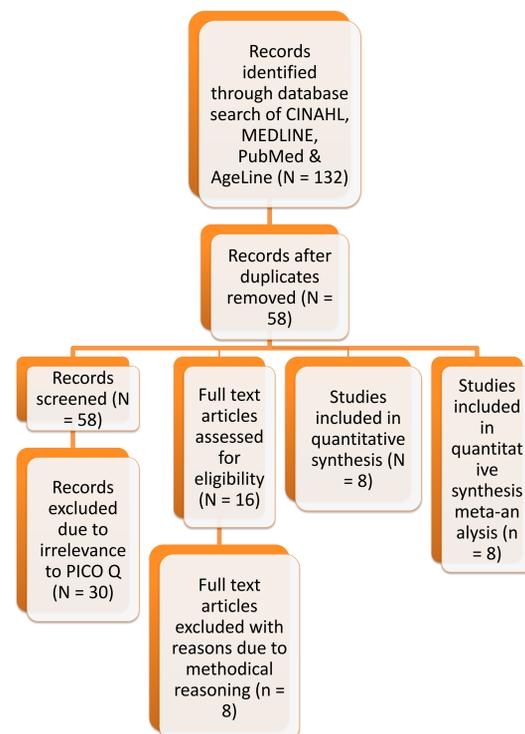


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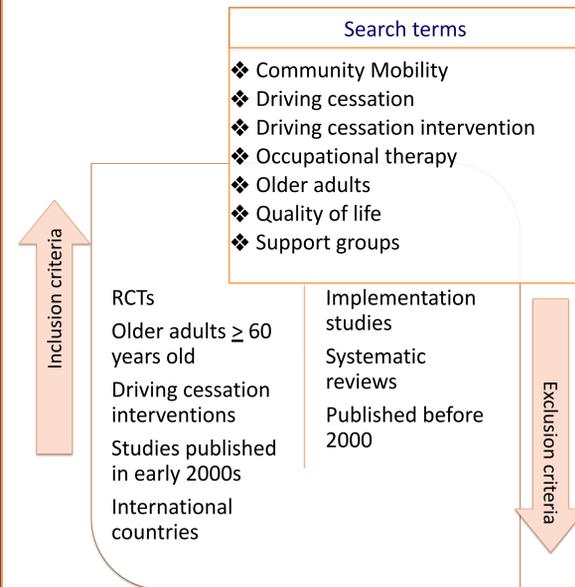


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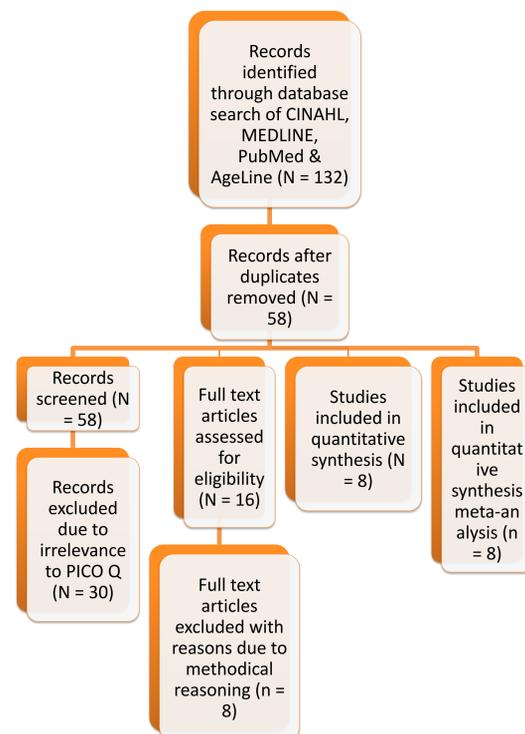


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# Can A Group Driving Cessation Intervention Improve Quality of Life in Older Adults?

Nnedi Oranekwu, OT/s | Research Advisor: Jeramie Silveira, OT, OTD, OTR  
Department of Occupational Therapy, Salem State University

## Objectives

At the conclusion of this presentation, the audience should be able to:

- ❖ Define driving cessation and discuss the impact it has on older adults
- ❖ Gain an understanding of the value of occupational therapy and preparing older drivers for driving cessation
- ❖ Identify common outcome measures utilized to test the effectiveness of driving cessation interventions
- ❖ Identify common themes in effective interventions

## Background

- ❖ Driving is the most common and preferred mode of transportation that facilitates community mobility amongst older adults in developed countries, including the United States (Pellichero et al., 2020).
- ❖ The aging process can lead to a functional decline in the cognitive, sensorimotor, and visual perceptual abilities necessary for continued participation in safe driving (Pellichero et al., 2020).
- ❖ The population of adults age 65 and older will double by the year 2050, and will make up about 20% of the total population (Dickerson et al., 2019).
- ❖ Driving is the most common mode of mobility and has been considered an important occupation linked to quality of life [QoL] (Dickerson et al., 2019; Pellichero et al., 2020).
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- ❖ Driving cessation can cause older adults to experience isolation, loss of autonomy, changed relationships, loss of personal identity, increased depressive symptoms, decreased community mobility, loss of independence, and reduced participation in important life roles (Dickerson et al., 2019; Liddle et al., 2014; Pellichero et al., 2020).
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- ❖ IADLs, work, leisure, and social participation all lie under the domain and scope of occupational therapy (Pellichero et al., 2020).
- ❖ Occupational therapy practitioners can recommend alternatives to community mobility and provide early education to older adults to give them more control over their decision to cease driving (Brzuz, 2018).

## Purpose & Hypothesis

The purpose of this systematic review of the literature is to examine if group driving cessation interventions for older adults can improve overall QoL.

## Methods

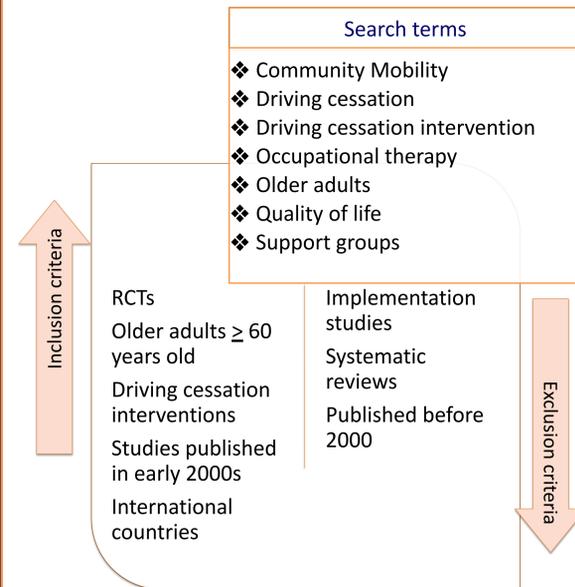


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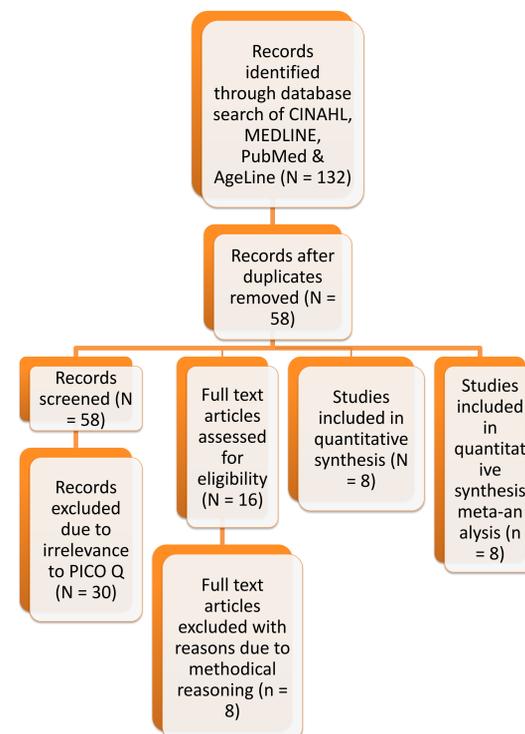


Figure 1. PRISMA Diagram for Selection of Relevant Articles (from Moher, D., Liberati, A., Tetzlaff, J., and Altman, D. G., 2009).

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Table 1: Interventions, outcome measures, and significant results

Study	Sample Size	Intervention	Outcome measures	Result
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- ❖ Studies 6 and 7 used an intervention administered by occupational therapy practitioners that provides community based education and support to older retired and retiring drivers.
- ❖ The intervention in study #8 is based off of the UQDRIVE intervention
- ❖ Study #2, 4, 5, and 7 are randomized controlled trials, study #1 adopted a non-randomized allocation method, study #3 was a population-based cohort study, study #6 was a mixed method research design
- ❖ Common themes in the outcome measures used include depressive scales (study #1, 5, 6, 7, and 8), well-being outcomes such as mood and self-efficacy (Study #7 and 8), goal performance and satisfaction (study #7 and 8).
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## Discussion

- ❖ The interventions in the majority of these studies indicated that a driving cessation support group and education program may enhance factors of QoL such as mental health, self-efficacy, and social participation (Chan et al., 2015; Coxon et al., 2017; Dobbs et al., 2009; Gustafsson et al., 2012; Liddle et al., 2014; Stern et al., 2008).
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## Implications

- ❖ Occupational therapy practitioners play a vital role in offering interventions to the aging driver to ensure continued participation in the community.
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There is a limited amount of research on the effectiveness of driving cessation interventions on older adults. Because this is such an emotional topic that negatively impacts older adults, future research should focus on the following:

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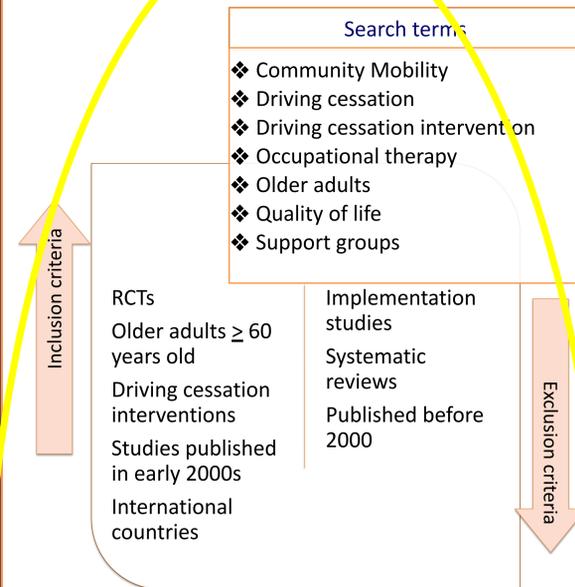


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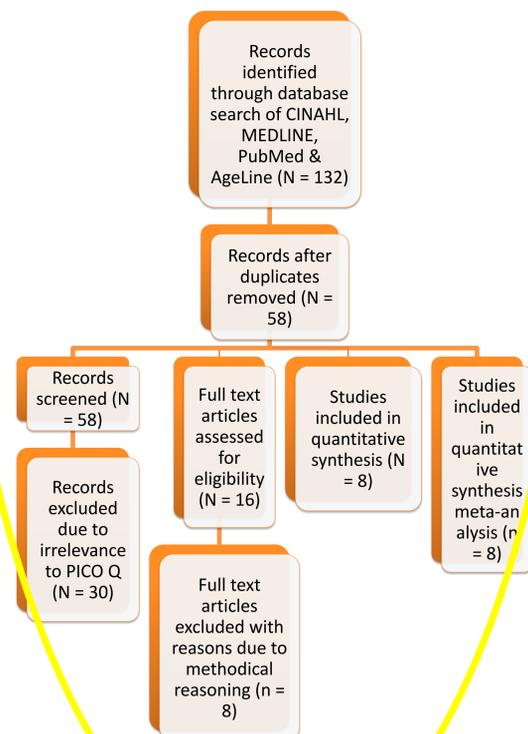


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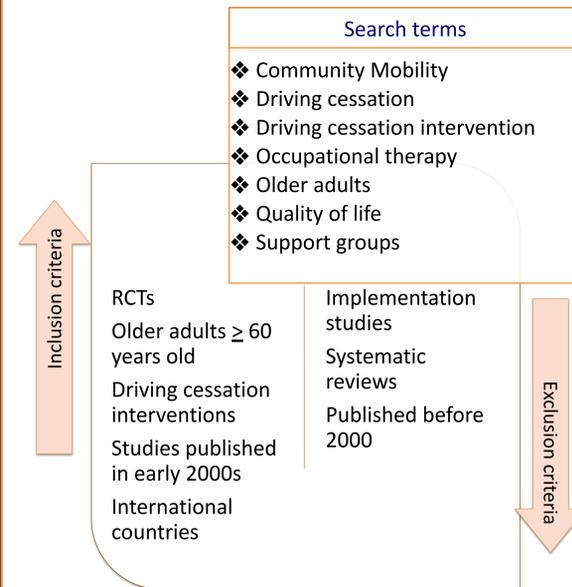


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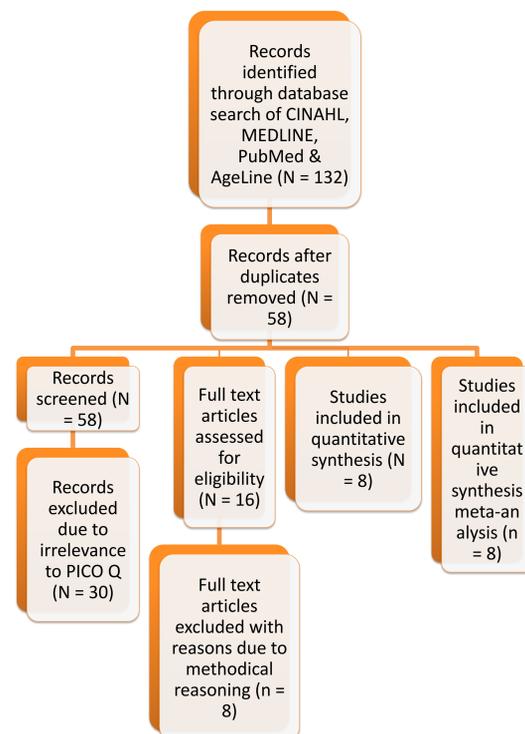


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# Can A Group Driving Cessation Intervention Improve Quality of Life in Older Adults?

Nnedi Oranekwu, OT/s | Research Advisor: Jeramie Silveira, OT, OTD, OTR  
Department of Occupational Therapy, Salem State University

## Objectives

At the conclusion of this presentation, the audience should be able to:

- ❖ Define driving cessation and discuss the impact it has on older adults
- ❖ Gain an understanding of the value of occupational therapy and preparing older drivers for driving cessation
- ❖ Identify common outcome measures utilized to test the effectiveness of driving cessation interventions
- ❖ Identify common themes in effective interventions

## Background

- ❖ Driving is the most common and preferred mode of transportation that facilitates community mobility amongst older adults in developed countries, including the United States (Pellichero et al., 2020).
- ❖ The aging process can lead to a functional decline in the cognitive, sensorimotor, and visual perceptual abilities necessary for continued participation in safe driving (Pellichero et al., 2020).
- ❖ The population of adults age 65 and older will double by the year 2050, and will make up about 20% of the total population (Dickerson et al., 2019).
- ❖ Driving is the most common mode of mobility and has been considered an important occupation linked to quality of life [QoL] (Dickerson et al., 2019; Pellichero et al., 2020).
- ❖ Community mobility is essential for maintaining health and overall QoL (Dickerson et al., 2019).
- ❖ A loss in the ability to drive can result in reduced engagement in areas of occupation such as instrumental activities of daily living (IADLs), work, leisure, and social participation (Choi & DiNitto, 2016; Pellichero et al., 2020).
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## Purpose & Hypothesis

The purpose of this systematic review of the literature is to examine if group driving cessation interventions for older adults can improve overall QoL.

## Methods

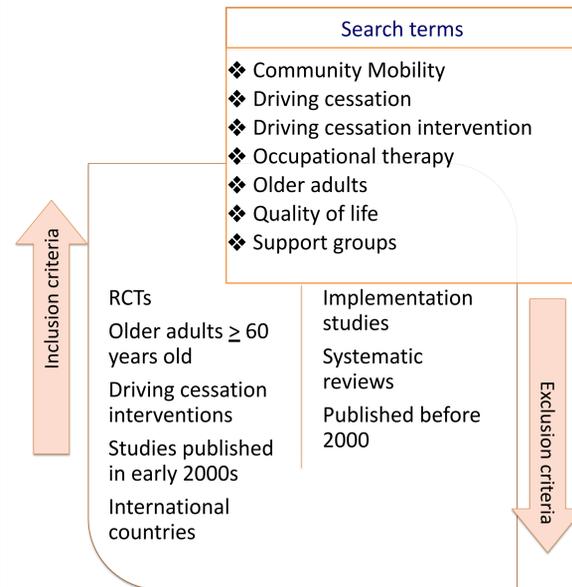


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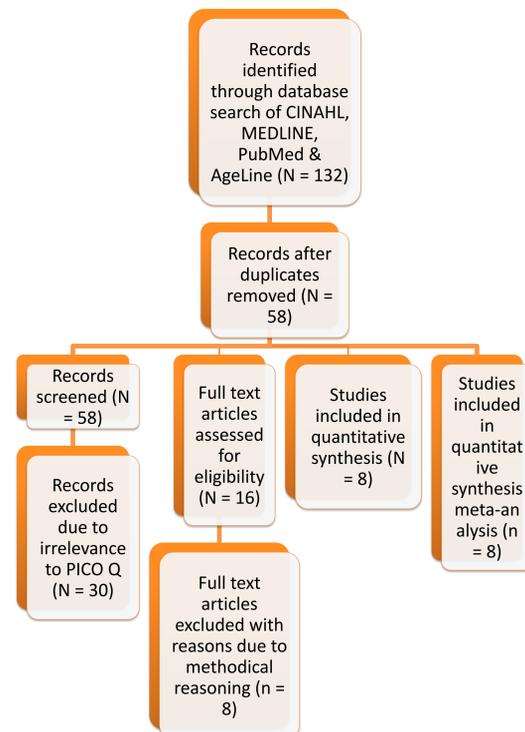


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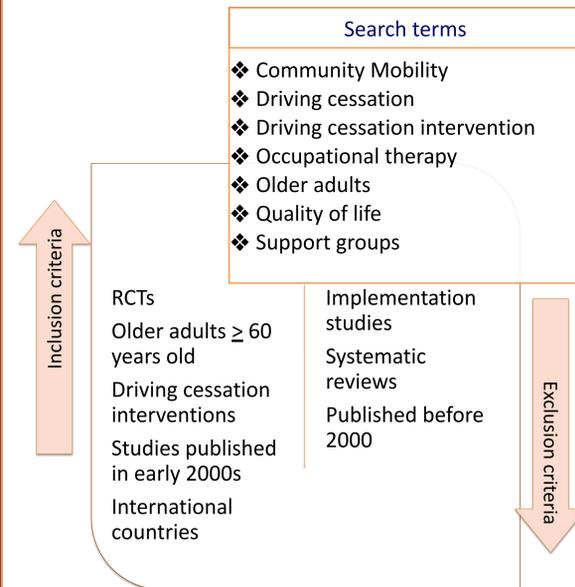


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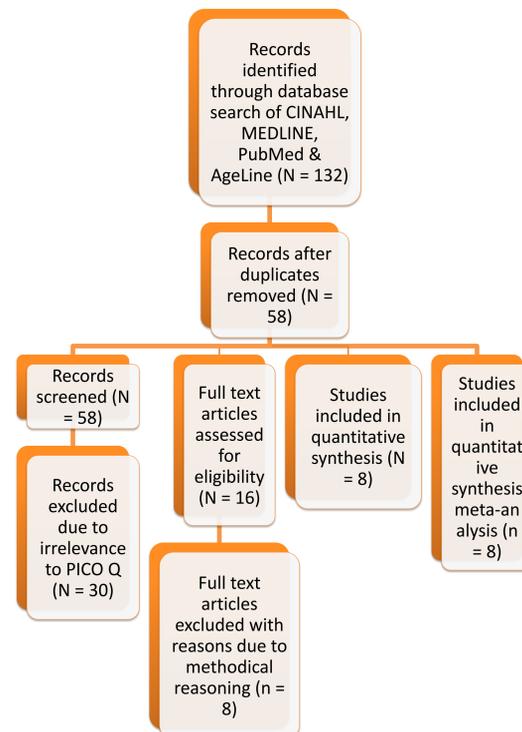


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# Can A Group Driving Cessation Intervention Improve Quality of Life in Older Adults?

Nnedi Oranekwu, OT/s | Research Advisor: Jeramie Silveira, OT, OTD, OTR  
Department of Occupational Therapy, Salem State University

## Objectives

At the conclusion of this presentation, the audience should be able to:

- ❖ Define driving cessation and discuss the impact it has on older adults
- ❖ Gain an understanding of the value of occupational therapy and preparing older drivers for driving cessation
- ❖ Identify common outcome measures utilized to test the effectiveness of driving cessation interventions
- ❖ Identify common themes in effective interventions

## Background

- ❖ Driving is the most common and preferred mode of transportation that facilitates community mobility amongst older adults in developed countries, including the United States (Pellichero et al., 2020).
- ❖ The aging process can lead to a functional decline in the cognitive, sensorimotor, and visual perceptual abilities necessary for continued participation in safe driving (Pellichero et al., 2020).
- ❖ The population of adults age 65 and older will double by the year 2050, and will make up about 20% of the total population (Dickerson et al., 2019).
- ❖ Driving is the most common mode of mobility and has been considered an important occupation linked to quality of life [QoL] (Dickerson et al., 2019; Pellichero et al., 2020).
- ❖ Community mobility is essential for maintaining health and overall QoL (Dickerson et al., 2019).
- ❖ A loss in the ability to drive can result in reduced engagement in areas of occupation such as instrumental activities of daily living (IADLs), work, leisure, and social participation (Choi & DiNitto, 2016; Pellichero et al., 2020).
- ❖ Driving cessation can cause older adults to experience isolation, loss of autonomy, changed relationships, loss of personal identity, increased depressive symptoms, decreased community mobility, loss of independence, and reduced participation in important life roles (Dickerson et al., 2019; Liddle et al., 2014; Pellichero et al., 2020).
- ❖ There has been little research rigorously developing and evaluating driving cessation interventions (Liddle et al., 2014).
- ❖ Addressing driving cessation and adaptations early on through the use of intervention can help to mitigate the negative psychosocial effects of driving cessation (Pellichero et al., 2020).
- ❖ IADLs, work, leisure, and social participation all lie under the domain and scope of occupational therapy (Pellichero et al., 2020).
- ❖ Occupational therapy practitioners can recommend alternatives to community mobility and provide early education to older adults to give them more control over their decision to cease driving (Brzuz, 2018).

## Purpose & Hypothesis

The purpose of this systematic review of the literature is to examine if group driving cessation interventions for older adults can improve overall QoL.

## Methods

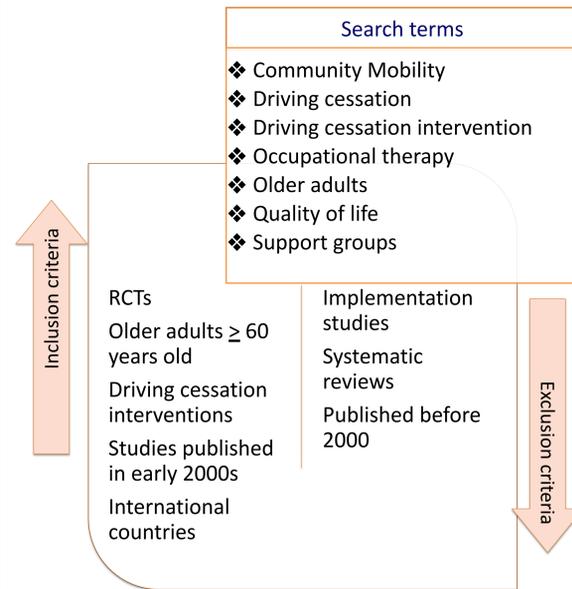


Figure 1: Prisma Flow Chart

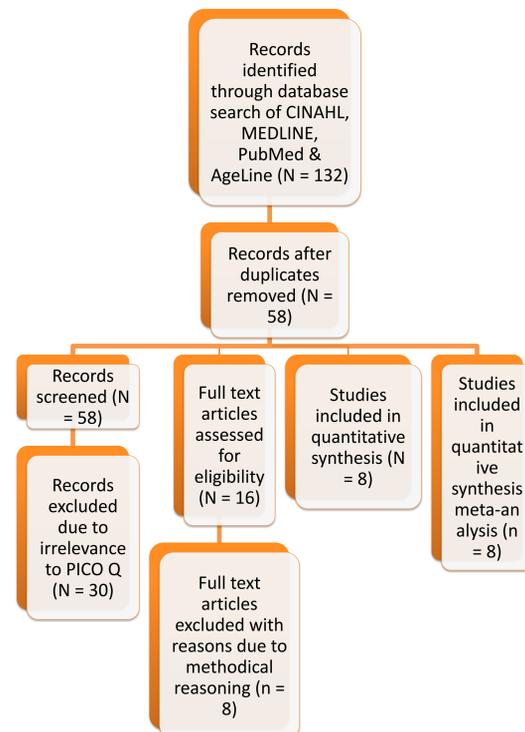


Figure 1. PRISMA Diagram for Selection of Relevant Articles (from Moher, D., Liberati, A., Tetzlaff, J., and Altman, D. G., 2009).

## Results

Table 1: Interventions, outcome measures, and significant results

Study	Sample Size	Intervention	Outcome measures	Result
1. Dobbs et al., 2009	74	Driving cessation support group	Depression scale, quality of life	Significant (p = 0.03) decrease in Depression Scale as compared to traditional intervention group
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6. Gustafsson et al., 2012	55	University of Queensland Driver Retirement Initiative (UQDRIVE)		Significant increase in anxiety (p = 0.05), depression (p = 0.01), and self-efficacy (p = 0.04)
7. Liddle et al., 2014	131			Significant (p=0.01) increase in # of episodes leaving the home
8. Chan et al., 2015	20	Driver Retirement Program (DRP)	Goal performance and satisfaction, depression scale, mood, quality of life	Significant (p = 0.015) improvement in mood / depression scores

- ❖ Studies 6 and 7 used an intervention administered by occupational therapy practitioners that provides community based education and support to older retired and retiring drivers.
- ❖ The intervention in study #8 is based off of the UQDRIVE intervention
- ❖ Study #2, 4, 5, and 7 are randomized controlled trials, study #1 adopted a non-randomized allocation method, study #3 was a population-based cohort study, study #6 was a mixed method research design
- ❖ Common themes in the outcome measures used include depressive scales (study #1, 5, 6, 7, and 8), well-being outcomes such as mood and self-efficacy (Study #7 and 8), goal performance and satisfaction (study #7 and 8).
- ❖ Health-related QoL outcome measures assess physical functioning, physical role, bodily pain, general health, vitality, social functioning, emotional role, and mental health (Chan et al., 2015).
- ❖ Studies #1 and 8 used QoL measures while studies #2, 3, 4, 5, 6, and 7 measured behaviors / skills associated with QoL.

## Discussion

- ❖ The interventions in the majority of these studies indicated that a driving cessation support group and education program may enhance factors of QoL such as mental health, self-efficacy, and social participation (Chan et al., 2015; Coxon et al., 2017; Dobbs et al., 2009; Gustafsson et al., 2012; Liddle et al., 2014; Stern et al., 2008).
- ❖ The UQDRIVE, DRP, and support groups are common interventions used by occupational therapy practitioners to address driving cessation in older adults.
- ❖ The most common intervention explored amongst all 8 articles was the use of the UQDRIVE program developed in Australia and using the Person-Environment- Occupation (PEO) Model, the Model of Human Occupation (MOHO), adult learning principles, and client-centered practice approaches as the theoretical base from which it drew.
- ❖ The interventions and outcome tools discussed, may be most effective on older adults in community-based settings where episodes of leaving the home are essential to intervention.

## Implications

- ❖ Occupational therapy practitioners play a vital role in offering interventions to the aging driver to ensure continued participation in the community.
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- ❖ It is important for occupational therapy practitioners to understand the perspectives of older adults who must cease driving, and address driving cessation early on as the effects of making that decision can have a negative impact on QoL.
- ❖ Occupational therapy practitioners need to address cultural and gender influences when planning and delivering clinical interventions.

## Future Research

There is a limited amount of research on the effectiveness of driving cessation interventions on older adults. Because this is such an emotional topic that negatively impacts older adults, future research should focus on the following:

- ❖ Implying a larger sample size to prove effectiveness of interventions
- ❖ Ensuring that sample sizes are more indicative of the general population, that includes recruiting more men, and older adults with various health conditions and disabilities.
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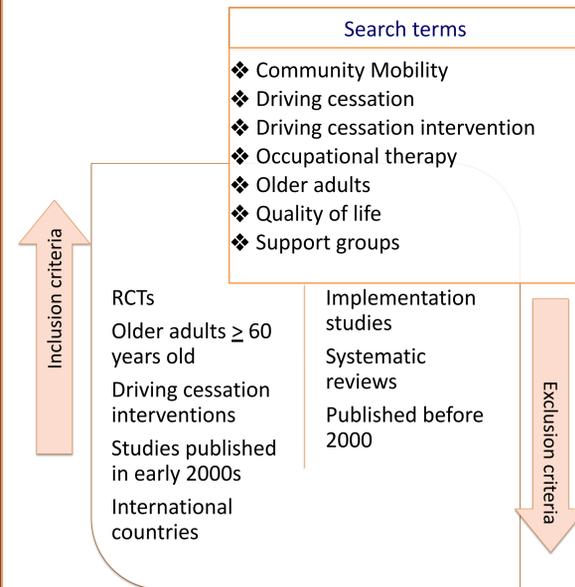


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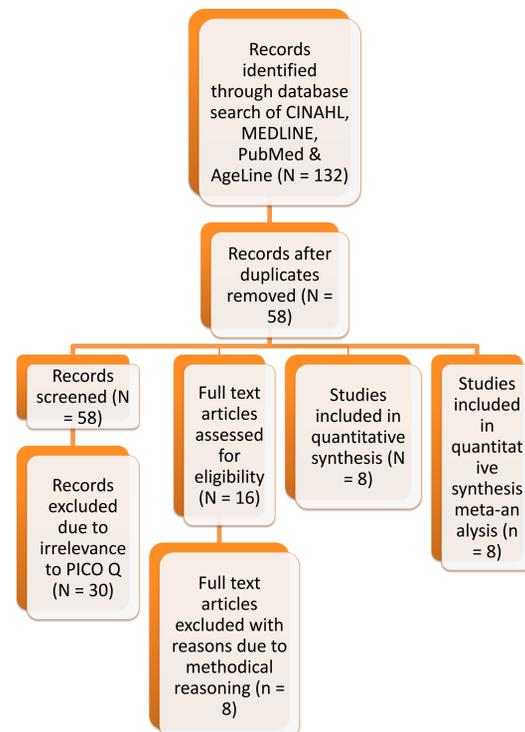


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