Rapid Synthesis

Identifying Indicators and Rates of Poverty Among Older Adults

28 February 2018

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**Rapid Synthesis:
Identifying Indicators and Rates of Poverty Among Older Adults**

10-day response

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Evidence >> Insight >> Action

Forum+

The goal of Forum+ is to generate action on the pressing social-system issues of our time, based on the best available research evidence and systematically elicited citizen values and stakeholder insights. We aim to strengthen social systems – locally, nationally and internationally – and get the right programs, services and products to the people who need them. By social systems we mean the following government sectors and program areas: citizenship, children and youth services, community and social services, consumer protection, culture and gender, economic development and growth, education, employment, financial protection, food safety and security, government services, housing, infrastructure, public safety and justice, recreation, and transportation. With Forum+, we are building on McMaster's expertise in advancing human and societal health and well-being.

Authors

Kerry Waddell, M.Sc, Co-Lead Evidence Synthesis, McMaster Health Forum

Puru Panchal, Forum Fellow, B.H.Sc. student, McMaster University

Michael G. Wilson, PhD, Assistant Director, Forum+, and Assistant Professor, McMaster University

Timeline

Rapid syntheses can be requested in a three-, 10-or 30-business-day timeframe. This synthesis was prepared over a 10-business-day timeframe. An overview of what can be provided and what cannot be provided in each of the different timelines is provided on the Forum's Rapid Response program webpage (www.mcmasterforum.org/find-evidence/rapid-response).

Merit review

The rapid synthesis was reviewed by a small number of policymakers, stakeholders and researchers in order to ensure its scientific rigour and system relevance.

Citation

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KEY MESSAGES

Questions
- What indicators, apart from income, have been used to measure poverty among older adults?
- What is the poverty rate among older adults in Canadian provinces and territories and in Organisation for Cooperation and Development (OECD) countries?

Why the issue is important
- At any age, living in poverty and economic insecurity affects all aspects of an individual's well-being, but there is a unique burden for seniors given that it is often combined with challenges associated with aging, such as multimorbidity, reduced mobility and independence, and loss of community and social supports.
- Recent data indicate a growth in the number of seniors who fall under the low-income measure, with an increase from 12% of Canadians over the age of 65 being considered low income in 2005 to 14.3% in 2015 despite the national rates of poverty remaining relatively stable during the same time period.
- However, who gets classified as being in poverty is dependent on the indicators and measurements chosen, and these choices have implications for who qualifies for government programs and subsidies, as well as for informing the allocation of government resources and programs designed to alleviate poverty.
- While income is a good proxy to assess an individual's living standard (and is a necessary component of most composite measures of poverty), when it is used as the sole indicator of poverty it often fails to represent the full array of available resources that an individual may have at their disposal (e.g., pensions, real estate or benefits from government programs), nor does it account for the many dimensions of well-being, such as being sufficiently nourished, clothed, housed, having relatively low levels of morbidity, and taking an active part in one's community.
- Given the growing rates of seniors being classified as 'poor' combined with the continued emphasis on using income as the primary indicator of poverty and economic insecurity, it is timely to take stock of other indicators, apart from income, that can be used to measure poverty among older adults.

What we found
- We identified seven single studies and two reports (one by the Canadian Centre for Policy Alternatives and one from the European Commission) that were relevant to identifying indicators, apart from income, that have been used to measure poverty among older adults.
- From four of these single studies (three recent and one older, with recent referring to studies conducted within the last five years), we identified five composite measures that have been used to define poverty among older adults in Australia (Freedom Poverty Measure) and the United States (Supplemental Poverty Measure, National Academy of Science Alternative Poverty Measure, the Elder Economic Security Standard Index and Senior Financial Stability Index).
- Each of the four studies found that including a broader range of indicators of poverty and adjusting poverty thresholds resulted in a greater proportion of individuals being classified as 'poor' or 'economically insecure.'
- We also found a number of additional indicators (clothing, education, food security, health outcomes, housing, non-labour-related income, social inclusion and other sources of wealth) that have been suggested to be used in combination to create composite measures that take into consideration the many dimensions of poverty and its wide-ranging effects on an individual's well-being.
- The poverty rate among older adults ranges from 4.1% in Alberta to 26.7% in Newfoundland and Labrador, with the average poverty rate among older adults across Canada being 14.3% and the average poverty rate for all Canadians being 14.2%.
- Internationally, Canada ranks 12th among 26 OECD countries with a national seniors' poverty rate of 10.7% and 14th for the poverty rate for the total population, with a rate of 14.7%. These rates differ from those provided by Statistics Canada in the point above as they are calculated as the ratio of the number of people whose income falls below the poverty line and the poverty line is calculated based on a different set of income-related variables.

QUESTIONS

- What indicators, apart from income, have been used to measure poverty among older adults?
- What is the poverty rate among older adults in Canadian provinces and territories and in select Organisation for Economic Cooperation and Development (OECD) countries?

WHY THE ISSUE IS IMPORTANT

At any age, living in poverty and economic insecurity affects all aspects of an individual's well-being, but there is a unique burden for seniors given that it is often combined with challenges associated with aging, such as multimorbidity, reduced mobility and independence, and loss of community and social supports.(1)

In the 1960s, the implementation of the Old Age Security benefit and the Guaranteed Income Supplement dramatically reduced poverty rates among older adults in Canada.(1) However, recent trends show a possible reversal and indicate a growth in the number of Canadians over the age of 65 classified as being low income,(1) with an increase from 12% of Canadians over the age of 65 being considered low-income in 2005 to 14.3% in 2015.(2) This contrasts to the national low-income rate which has remained relatively stable over the same period of time, growing a small amount from 14.0% in 2005 to 14.2% in 2015.(2)

Poverty among Canadian seniors is not evenly distributed across this population, with some groups such as older women and seniors living alone or with non-relatives, being at greater risk of poverty than other older adults.(1) However, who gets classified as being in poverty is dependent on the indicators and measurements chosen, and these choices have implications for who qualifies for government programs and subsidies, as well as for informing the allocation of government resources and programs designed to alleviate poverty.(3)

Income is the most frequently used indicator for poverty because it is easily understood by the population and policymakers, data is easy to collect and it can be tracked and evaluated over long periods of time to determine whether efforts to alleviate poverty have been successful.(4) In Canada, poverty is typically measured in three ways, all of which rely heavily on income indicators. These measurements are:

- low-income measures, which is a relative measure of poverty set at 50% of adjusted median household income after tax;
- low-income cut-off (before or after tax), which are income thresholds below which a family will likely devote a larger share of its income (either after-tax or before-tax) on the necessities of food, shelter and clothing than the average; and

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Box 1: Background to the rapid synthesis

This rapid synthesis mobilizes both global and local research evidence about a question submitted to the Forum's Rapid Response program. Whenever possible, the rapid synthesis summarizes research evidence drawn from systematic reviews of the research literature and occasionally from single research studies. A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select and appraise research studies, and to synthesize data from the included studies. The rapid synthesis does <u>not</u> contain recommendations, which would have required the authors to make judgments based on their personal values and preferences.

Rapid syntheses can be requested in a three-, 10- or 30-business-day timeframe. An overview of what can be provided and what cannot be provided in each of these timelines is provided on the McMaster Health Forum's Rapid Response program webpage (www.mcmasterforum.org/find-evidence/rapid-response).

This rapid synthesis was prepared over a 10-business-day timeframe and involved four steps:
1) submission of a question from a policymaker or stakeholder (in this case, the British Columbia Ministry of Health);
2) identifying, selecting, appraising and synthesizing relevant research evidence about the question;
3) drafting the rapid synthesis in such a way as to present concisely and in accessible language the research evidence; and
4) finalizing the rapid synthesis based on the input of at least two merit reviewers.

- market basket measure, which represents the cost of the basket compared to disposable income for each family, with the basket including a nutritious diet, clothing and footwear, shelter, transportation, and other necessary goods and services.(5)

While income is a good proxy to assess an individual's living standard (and is a necessary component of most composite measures of poverty), it has two notable flaws when used as the sole indicator. First, when used as a single indicator, income often fails to represent the full array of available resources that an individual may have at their disposal (e.g., pensions, real estate or benefits from government programs).(4) The second common critique of income as a sole indicator is that it does not sufficiently account for the many dimensions of well-being, such as being sufficiently nourished, clothed, housed, having relatively low levels of morbidity, and taking an active part in one's community.(4)

Given the growing rates of seniors being classified as 'poor' combined with the continued emphasis on using income as the primary indicator of poverty and economic insecurity, it is timely to take stock of indicators, apart from income, that can be used to measure poverty among older adults.

> **Box 2: Identification, selection and synthesis of research evidence**
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> We identified research evidence (systematic reviews and primary studies) by searching Social Systems Evidence and PubMed in February 2018. In Social Systems Evidence (www.socialsystemsevidence.org) we used the following combination of filters: poverty reduction (under financial protection programs or services) AND older adults (under populations). In PubMed, we used the following MeSH terms: (Aged [MeSH Major Topic]) AND "poverty"[MAJR].
>
> The results from the searches were assessed by one reviewer for inclusion. A document was included if it fit within the scope of the questions posed for the rapid synthesis.
>
> For each systematic review we included in the synthesis, we documented the focus of the review, key findings, last year the literature was searched (as an indicator of how recently it was conducted), methodological quality using the AMSTAR quality appraisal tool (see the Appendix for more detail), and the proportion of the included studies that were conducted in Canada. For primary research, we documented the focus of the study, methods used, a description of the sample, the jurisdiction(s) studied, key features of the intervention, and key findings. We then used this extracted information to develop a synthesis of the key findings from the included reviews and primary studies.

WHAT WE FOUND

We identified nine resources including seven single studies and two reports by searching two databases, Social Systems Evidence and PubMed (see Box 2 for the search strategy), that were relevant to the questions posed for this synthesis.(1; 3; 4; 6-11) It should be noted that as a result of the short timeframe in which this synthesis was conducted, these nine resources represent only a sample of the literature on measuring poverty, and that a much broader evidence base exists on measuring poverty across all ages that may still be relevant to seniors. In addition, we undertook a jurisdictional scan of poverty rates across Canadian provinces and select OECD jurisdictions. We provide more details about each single study in Appendix 1.

What indicators, apart from income, have been used to measure poverty among older adults?

As mentioned above, we identified seven single studies and two reports (one by the Canadian Centre for Policy Alternatives and one from the European Commission) that were relevant to identifying indicators, apart from income, that have been used to measure poverty among older adults.(1; 3; 4; 6-11) From four of these single studies (three recent and one older, with recent referring to studies conducted within the last five years), we identified five composite measures that have been used to define poverty among older adults in high-income countries, with four of these used in the United States and one in Australia.(3; 6; 8; 9) These composite measures are detailed in Table 1 below.

As a general recommendation for how to measure poverty, one recent single study indicated that measuring poverty needs to consider: 1) what to include in resources available to an individual or family (i.e., the resource measure); 2) the minimum threshold of resources required to not be considered poor (i.e., the threshold measure); and 3) how to combine individuals into units that share resources (i.e., the measurement units).(3) More specifically, each of the four studies that identified the measures outlined in Table 1 found

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that including a broader range of poverty indicators (in addition to income) and adjusting poverty thresholds to take into consideration updated costs of basic necessities (e.g., food, clothing, shelter and utilities) and geographic differences in the costs of housing, resulted in a greater proportion of individuals being classified as 'poor' or 'economically insecure.'(3; 6; 8; 9) In particular, one recent study applied the Supplemental Poverty Measure to older adults and found that when compared to the existing poverty line in the U.S., an additional 7.7% of seniors fell below the poverty line, and 1.4% of those classified as being poor under the existing poverty line rose above it.(3) The study found that this change was largely dependent on the inclusion of out-of-pocket medical expenses in calculating an individual's level of resources, while the addition of non-cash transfers and refundable tax credits and housing subsidies were the main reasons for some moving above the poverty line.(3)

Table 1: Composite measures of poverty

Composite measure of poverty	Description
Freedom Poverty Measure (Australia)	• This measure from Australia expands on using only income as a measure of poverty to include: health (having a disability and poor health utility score); education (having completed school until year 10); and economic resources (income relative to 50% of median income poverty line).(8)
Elder Economic Security Standard Index (U.S.)	• This index establishes a measure of elder economic insecurity by determining a level of resources that are sufficient for an older adult to maintain an independent life. • The index uses data sources to establish thresholds for the required resource levels to meet basic needs including food, healthcare (including homecare and assisted living), housing, transportation and other miscellaneous expenditures. • Adjustments are made to poverty threshold based on geographic area, household characteristics, health status, and level of care needed.(6)
National Academy of Science Alternative Poverty Measure (U.S.)	• This measure was developed in the late 1990s by the National Academy of Science and has been applied across the population in the U.S., with an older study applying it specifically to older adults (e.g., 65+).(9) • Resource measures include adding the value of food stamps and school lunch programs, adding the value of heat assistance and housing subsidies, subtracting the cost of childcare and related expenses, adding/subtracting values of state/federal taxes, local taxes and capital gains/losses, and subtracting out-of-pocket medical expenses. • The poverty threshold is based on median expenditures of household goods, with adjustments for geographic differences in housing costs, while the measurement unit uses a broader definition of family that includes unrelated individuals living in the same household.(9)
Senior Financial Stability Index (U.S.)	• This index was developed in the context of the changing conditions in retirement incomes for older adults by accounting for resources required to remain economically secure in retirement. • Five key factors that have an impact on economic security are included in the index: retirement assets, household budget, healthcare expenses, home equity, and housing costs. • A household is deemed to be economically secure if it meets the threshold for retirement assets as well as two of the additional four factors.(6)
Supplemental Poverty Measure (U.S.)	• Uses current expenditure data (collected annually) to create thresholds which reflect the costs of basic needs (e.g., food, shelter, utilities and clothing), but the threshold is not adjusted for those aged 65 and over. • Resource measures are determined by calculating the sum of cash income, plus non-cash benefits that resource units can use to meet their needs, and minus taxes, work expenses and child support paid to another household. • The poverty threshold is based on average expected expenditures of food, clothing, shelter and utilities, and varies by family size and composition, as well as by geography to account for differences in housing costs by tenure. • Measurement units include the official definition of family as well as any co-resident unrelated children, unmarried partners or unrelated individuals living in the same home.(3; 6)

Given the broad array of non-income indicators of poverty that we identified in the included literature (including the composite measures outlined above), we summarize them separately in Table 2. We did not find any evidence that compared the suitability, validity or reliability of the indicators included in Table 2. However, the report from the European Commission, which defined indicators of material deprivation (used in the Europe 2020 strategy as one dimension of identifying individuals being 'at-risk' of poverty, with the other two being income and household work intensity), explicitly considered the suitability, validity, and reliability of its suggested indicators.(11) The literature included examples of both objective and subjective indicators, with objective indicators being consumption-based (e.g., income is adjusted for price or consumption units) or asset-based. Subjective indicators rely on survey questions on whether a household can make ends meet, an individual's level of happiness and social inclusion, or on the amount necessary to get by in a given community. Generally, similar to income, the research evidence shows that these non-income indicators should not be used on their own, but instead should be combined to create composite measures that take into consideration the many dimensions of poverty and its wide-ranging effects on the well-being of individuals.

Table 2: Categories of non-income indicators of poverty included in the reviewed literature

Category	Indicators
Clothing	• The person cannot afford to (but would like to) replace worn-out clothes by some new (not second-hand) ones (11) • The person cannot afford to (but would like to) own two pairs of properly fitting shoes, including a pair of all-weather shoes (11)
Education	• Level of educational achievement, with formal education until year 10 being used as a threshold in the Australian Freedom Poverty Measure (7; 8)
Food security	• The household cannot afford one meal with meat, chicken, fish or vegetarian equivalent per day (11) • The household does not have reliable access to sufficient quantity of affordable, nutritious food (1)
Health outcomes	• Disability or poor health utility score according to the Health Utilities Index (8)
Housing	• The house requires major repairs to plumbing or electrical wiring, or structural repairs to walls, floors or ceilings (adequacy of housing)(1) • 30% or more of household income spent on shelter (affordability of housing)(1) • The house does not have a suitable number of bedrooms for the occupants according to National Occupancy Standards (e.g., no more than two persons should share one bedroom; children over the age of five of opposite sexes should have separate bedrooms; single household members 18 years or over should have a separate bedroom, as should parents or couples) (suitability of housing)(1) • The household cannot afford the cost of utilities, including keeping the house adequately warm (11) • The household cannot afford to (but would like to) replace worn-out furniture (11) • The household cannot afford to face unexpected household expenses (using only its own resources)(11) • The household cannot afford access to a computer or the internet (11)
Non-cash, in kind resources, and income net of debt and medical expenses	• Amount (in dollars) of non-cash in-kind benefits received from government programs or supports (3; 6; 9) • Amount (in dollars) of taxes paid (or addition of tax on any credits)(3; 6) • Existing levels (in dollars) of debt (including credit card and instalment debt, student loans, vehicle loans and any other applicable debt)(1) • Amount (in dollars) of out-of-pocket medical expenses (including prescription drugs)(1; 2; 5; 8)
Social inclusion	• The household cannot afford private access to a car • The household has very difficult access to public transportation (11)

	• The person cannot afford to (but would like to) take part in regular leisure activities (11)
	• The person cannot afford to (but would like to) get together with friends or family at least once monthly (11)
	• The person cannot afford to (but would like to) spend a small amount of money each week on oneself without having to consult anyone (e.g., pocket money)
Wealth	• Amount (in dollars) of home or business equity (3)
	• Amount (in dollars) of additional real or financial assets (4)

What is the poverty rate among older adults in Canadian provinces and territories and in select OECD countries?

As a part of this synthesis, we used data from Statistics Canada and the OECD to examine the poverty rate among older adults in Canadian provinces and territories and in select OECD jurisdictions. Statistics Canada data was based on low-income measures to determine the poverty line, which is set at 50% of adjusted median household income after tax. For this measurement, household income is adjusted to take into account the number of individuals who live there and the cost savings gained (e.g., economies of scale) from purchasing necessities for larger households.(12) As can be seen in Table 3, the poverty rate among older adults in Canada ranged from a low of 4.1% in Alberta to a high of 27.6% in Newfoundland and Labrador. With the exception of Ontario, Manitoba and Alberta, the poverty rate among seniors is higher across provinces than that of the total population. We were unable to find comparable rates for Canadian territories, with the data that does exist being reported as the absolute number of households below the low-income measure rather than the rates of individuals below the low-income measure reported below.

When compared internationally in Table 4, Canada ranks 12th among 26 OECD countries, with a national poverty rate (calculated as the ratio of the number of people whose income falls below the poverty line) of 10.7% among older adults. For the total population, Canada ranks 14th of 26 countries, with a national poverty rate of 14.2%. The OECD uses a similar low-income measure to determine the poverty line as Statistics Canada (e.g., 50% of the adjusted median household income of the population), however, after-tax calculations at the OECD take into consideration "social insurance contributions and other non-discretionary spending" as well as categorizing older adults as those who are 66 and above rather than 65.(13; 14) It should be noted that the measurements used in both Canada and the OECD reflect relative income rather than absolute poverty or an absolute measure of an individual's resources. Therefore, comparisons between countries may not provide a true picture of the level of deprivation in a given jurisdiction.

Table 3: 2015 poverty rate among all Canadians and older adults (65+) in Canadian provinces and territories measured by low-income measurement (after tax)(12)

Jurisdiction	Proportion of total population below the poverty line	Proportion of older adults (65+) below the poverty line
National	14.2%	14.3%
British Columbia	15.8%	14.1%
Alberta	6.9%	4.1%
Saskatchewan	12.6%	12.4%
Manitoba	15.6	13.4%
Ontario	14.3%	12.5%
Quebec	16.2%	18.4%
New Brunswick	16.9%	19.9%
Nova Scotia	17.5%	21.0%
Prince Edward Island	15.9%	20.1%
Newfoundland and Labrador	15.4%	27.6%

Table 4: Poverty rates after taxes and transfer in select OECD countries (reported as ratios) in the general population and older adults (66+)(13)

Country	Total	Older adults (66+)
Austria	8.7%	7.8%
Belgium	9.8%	9.5%
Canada	14.2%	10.7%
Chile	16.1%	16.3%
Costa Rica	20.6%	25.1%
Czech Republic	6.4%	4.2%
Estonia	16.1%	31.9%
Finland	6.3%	5.2%
France	8.1%	3.1%
Greece	14.9%	7.7%
Israel	19.5%	21.2%
Korea	13.8%	45.7%
Latvia	16.2%	30.9%
Lithuania	16.5%	20.4%
Netherlands	7.9%	3.7%
Norway	8.1%	4.4%
Poland	11.1%	8.5%
Portugal	12.6%	10.8%
Slovak Republic	8.4%	3.4%
Slovenia	9.2%	13.5%
South Africa	26.6%	20.7%
Spain	15.3%	5.9%
Sweden	9.2%	11.4%
Turkey	17.2%	17%
United Kingdom	10.9%	13.8%
United States	16.8%	20.9%

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13.   Organisation for Economic Co-operation and Development. Poverty rate. Paris: Organisation for Economic Co-operation and Development; 2015.

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APPENDICES

The following tables provide detailed information about the systematic reviews and primary studies identified in the rapid synthesis. The ensuing information was extracted from the following sources:

- systematic reviews - the focus of the review, key findings, last year the literature was searched and the proportion of studies conducted in Canada; and
- primary studies (in this case, economic evaluations and costing studies) - the focus of the study, methods used, study sample, jurisdiction studied, key features of the intervention and the study findings (based on the outcomes reported in the study).

For the appendix table providing details about the systematic reviews, the fourth column presents a rating of the overall quality of each review. The quality of each review has been assessed using AMSTAR (A MeaSurement Tool to Assess Reviews), which rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial or governance arrangements within health systems. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered "high scores." A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8).

All of the information provided in the appendix tables was taken into account by the authors in describing the findings in the rapid synthesis.

Appendix 1: Summary of findings from primary studies about indicators, other than income, that can be used to measure poverty among older adults

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
What indicators, apart from income, have been used to measure poverty among older adults?	Examining which indicators of socio-economic status would be most useful in studies of health inequalities in the older population (7)	*Publication date:* December 2001 *Jurisdiction studied:* United Kingdom *Methods used:* Literature review and prospective qualitative study	3,543 adults aged 55–69 were interviewed in 1988-89; 2,243 of these adults were interviewed again in 1994	Statistically compared income measurements to six other indicators to find a pair of indicators with the best explanatory power.	Indicators identified by the literature included occupationally identified social class based on the Office of Population Censuses and Surveys Classification of Occupations, educational qualifications, housing tenure (identifying participants as owners or renters), the Townsend deprivation indicators (which used a framework to evaluate the lack of resources regarded as necessities to participate in normal activities) and a lack of typical household resources. All indicators were significantly associated with differences in self-reported health and possessed explanatory power. However, the best pair of indicators identified were educational qualification and social class paired with the Townsend deprivation indicator.
	Using a multidimensional poverty measure to capture a broader understanding of poverty in Australia (8)	*Publication date:* December 2011 *Jurisdiction studied:* Australia *Methods used:* Retrospective cross-sectional study	Survey of 36,241 respondents from the 2003 Survey of Disability, Ageing and Carers (SDAC) data source	Application of the Freedom Poverty Measure to SDAC respondents to determine a multidimensional view of poverty	The Freedom Poverty Measure consists of three poverty indicators: health (having a disability and poor health utility score); education (having completed school until year 10); and economic resources (income relative to 50% of median equivalent income poverty line). This measure was compared to using income alone as an indicator for poverty among the respondents in the survey (who had a near 90% response rate). It was found that The Freedom Poverty Measure identified 534,700 Australians who were below the poverty line compared to a model which only used income as a poverty indicator. This figure includes individuals with poor health or education in addition to low income.
	Using an alternative poverty measure to capture a broader understanding of poverty in the United States (9)	*Publication date:* 1999 *Jurisdiction studied:* United States *Methods used:* Retrospective cross-sectional study	The U.S. population aged 65 or older in 1997	The population was examined by age group, gender, race and ethnicity, and marital status according to Census Bureau data.	In the late 1990s, the United States' National Academy of Sciences (NAS) created the NAS alternative poverty measure, which was applied to elderly Americans. It consisted of changes in thresholds (basing poverty on median expenditures of household goods, adjusting thresholds for family size and composition, adjusting thresholds for geographic differences in housing costs) as well as changes in resource definitions (adding the value of food stamps and school lunch programs, adding the value of heat assistance and housing substitutes, subtracting the cost of childcare and related expenses, adding/subtracting

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					values of state/federal taxes, local taxes and capital gains/losses, and subtracting out-of-pocket medical expenses).

Official poverty indicators produced lower absolute estimates of the incidence of poverty among older Americans compared to the NAS alternative poverty measure; this was consistent across all groups and was especially true among older married couples and older men. High-risk groups of elderly people were found to be slightly poorer than under the official poverty measure. Furthermore, subtracting out-of-pocket medical expenses had a disproportionate effect on non-Hispanic whites and men compared to other groups. |
| | Asset-based measurement of poverty to supplement income measures (4) | *Publication date:* 2010

Jurisdiction studied: 50 high- and middle-income countries

Methods used: Theoretical framework | Micro-economic income data from 50 high- and –middle-income countries from the past 30 years | Used square root equivalence scale to compare income measurements to wealth measurements among households | The paper examines asset-based measures (wealth) of poverty. The paper defines income measurements as including all labour incomes, private transfer, pensions, and other social insurance benefits, cash from public social assistance, cash from rents, interests, dividends and other returns on financial assets. While this definition accounts for some aspect of household wealth, it ignores the possibility that an individual uses more than income to meet their needs. Therefore the concept of available resources should be broadened to include current income from labour, pensions and other transfers.

The paper suggests supplementing income-based measures of poverty with asset-based measures. While the former refers to "a static condition of insufficiency of economic resources in order to maintain a certain living standard," the latter better captures the potential for an individual to be at risk of poverty should an unforeseen event occur. In this circumstance vulnerability measures the resilience against an unforeseen event, and that this will lead to an impoverished state. An individual can therefore be considered asset poor whenever their wealth and income (when taken together) are insufficient to meet a designated poverty threshold. |
| | Assessing the differences in poverty thresholds and reporting between traditional measures | *Publication date:* 2013

Jurisdiction studied: United States | The U.S. population aged 65 or older | The population was examined according to Census Bureau and National Academy of Sciences (NAS) data. | The Supplemental Poverty Measure (SPM) was crafted in part by recommendations by the National Academy of Sciences. It defines three key elements of a measure of poverty: "(1) resource measures (to identify what should be counted as material resources); (2) threshold measures (to |

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
	and the Supplemental Poverty Measure in the United States (3)	*Methods used:* Retrospective cross-sectional study			identify what minimum resources are required to be considered "non-poor"); and (3) unit measures (how individuals are combined into resource-sharing units)." Units are defined as all people residing together who are related by birth, marriage or adoption. Traditional definitions of units also treat unrelated individuals aged 15 or older independently.

Overall, the poverty rates as measured by the SPM exceed the official poverty rates for older adults (aged 65 and older) by up to 8.3%. The primary reason why the SPM indicated higher values than traditional estimates was because of differences in the treatment of medical-out-of-pocket (MOOP) expenses. It was found that nearly all assessed home units in this study contained adult members with MOOP expenses (up to 98%). For many of these units, MOOP expenses were high, sometimes accounting for 40% of their unit's SPM poverty threshold. |
| | Assessing elderly poverty in the United States using alternative indicator (6) | *Publication date:* 2012

Jurisdiction studied: United States

Methods used: Retrospective cross-sectional study | The U.S. population aged 65 or older | The population was examined according to traditional poverty estimates and four alternative indicators of poverty. | Four alternatives to the federal poverty line measure established by the U.S. Census Bureau in the 1960s were reviewed: 1) the OECD relative measure of poverty; 2) the U.S. Census Bureau's Supplemental Poverty Measure (SPM); 3) the Wider Opportunities for Women (WOW) and Gerontology Institute at the University of Massachusetts Boston's Elder Economic Security Standard Index (Elder Index); and 4) the Demos and Institute for Assets and Social Policy at Brandeis University's Senior Financial Stability Index (SFSI).

While the poverty rate using traditional estimates was found to be 9%, the OECD estimate was found to be 22.2% and the SPM estimate was 34%. The OECD estimate is a comparator to other nations and adjusts for economic inequality and the standard of living. The SPM was found to reflect more accurately current expenditures among older adults and compared its thresholds for poverty to the federal measure. The WOW measure establishes elder economic security by determining a level of income that is sufficient to cover costs of living; its threshold for low income was found to be much higher than the traditional threshold (up to 200% of the poverty line). The SFSI estimate assesses housing and healthcare costs, the amount |

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Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					of home equity and assets, and household budgets as components of elderly economic security, and identifies a "standard" level and "risk" level defined for each of these components. This measure found that 36% of seniors were economically insecure and roughly 40% were economically vulnerable in the United States. Overall, using considerations from these four different indicators of poverty among seniors, this study concludes that over one-third of older adults were vulnerable to impoverishment and deprivation. This figure far exceeds current federal estimates using traditional measures.
	Assessing the role of different indicators in understanding the transitions of health and poverty in later life (10)	*Publication date:* 2014 *Jurisdictions studied:* Austria, Belgium, the Czech Republic, Denmark, France, Germany, Italy, the Netherlands, Poland, Spain, Sweden and Switzerland *Methods used:* Retrospective cross-sectional study	European citizens aged 50+ across 12 jurisdictions	The populations were analysed according to their responses to the Survey of Health, Ageing and Retirement in Europe (SHARE) assessment.	Three indicators for poverty were analysed in this study: income, wealth and subjective poverty. These were assessed between waves 2 and 4 of the SHARE assessment to track changes in health and poverty. It was found that changes in subjective health as well as in health measured by poor health symptoms and functional limitations were highly correlated with subjective poverty and wealth-defined poverty. Those who declared difficulties in older life were 38% more likely to suffer health deterioration as measured by symptoms of poor health, and 48% more likely to suffer setbacks as measured by functional limitations. The respective changes in poverty were found to be 29.5% and 46% respectively. This pattern was consistent for health deterioration and health improvement between waves 2 and 4 of the SHARE assessment. This suggests the importance of subjective poverty as a potential alternative indicator for poverty among older adults compared to income or wealth alone. There was a significant relationship found between subjective poverty and mortality. The study suggests that improvements in material conditions among the elderly may also translate into better quality of life and longer lifespans.