

WSPRS Disabled Life Expectancy

Overall Summary

What is the WSPRS Disabled Life Expectancy Assumption and how is it Used?

When a disabled Washington State Patrol Retirement System (WSPRS) member dies, the member's spouse may receive a survivor benefit that is based on the salary for current active members who hold the same rank as the member did at the time the disability occurred. This assumption is used in our valuation system to represent the number of years a member's salary at disablement is likely to grow in order to determine their spouse's survivor benefit.

For active members, we adjust the member's current salary from the time of disablement to the expected time of death with the general salary growth assumption. In order to make this adjustment, we need to determine the life expectancy, by gender, for a disabled WSPRS member.

High level Takeaways

Based on the new mortality assumption, life expectancy has decreased slightly for a male disabled member and increased slightly for a female disabled member. (See the **Mortality** section for more information about life expectancies.)

Assumptions

We assume that future disablements will occur, on average, at the same average age of current disablements.

The disabled mortality assumption is described in the Mortality section.

All other assumptions used in the development of this assumption match those disclosed in the [2012 Actuarial Valuation Report \(AVR\)](#).

General Methodology

The benefit begins at the date of the member's death, but uses salary from the member's date of disablement, increased with the general salary growth assumption. Thus, we begin by calculating the life expectancies of members at each age by projecting the RP-2000 disabled mortality base table to the year 2015 using 100 percent of scale BB (the new mortality projection assumption developed in this experience study). We chose the year 2015 for projection purposes because it approximates the mid-point of the next experience study period.

The table to the right shows the life expectancies for the average age of disablement in the 2012 valuation data, based on the previously described mortality assumption.

Once an active member is assumed to exit due to disability, we assume, on average, the member's survivor benefits will begin after the specified years above have elapsed.

For currently disabled members, we use an identical method, but base the life expectancy on the member's actual age at disablement.

Age	Male	Female
42	23	32

Data

We gathered the most recent valuation data and reviewed the dates of disability. Given the active members in both plans are over 90 percent male, we did not review data by gender.

Results

The member's final average salary at disablement is projected to their expected year of death as follows.

Age at Disability	Number
<30	5
30-34	5
35-39	8
40-44	9
45-49	10
50-54	12
55-59	0
Total	49

Male (Increase Factor) ^ (Life Expectancy) = $(1.0375/1.03)^{23} = 1.18$

Female (Increase Factor) ^ (Life Expectancy) = $(1.0375/1.03)^{32} = 1.26$

Because our valuation system assumes a benefit commences at disablement, it grows that benefit with the valuation COLA of 3 percent. We therefore have to back out the 3 percent growth in the benefit when applying the salary adjustment factor.