Supplementary Table 1  Incidence and mortality data of pancreatic cancer were extracted for these years as they were available since 1991

<table>
<thead>
<tr>
<th>Countries*</th>
<th>Incidence Years</th>
<th>Mortality Years</th>
<th>Quality of data**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>N/A</td>
<td>(1997-2018)</td>
<td>Low</td>
</tr>
<tr>
<td>Austria</td>
<td>N/A</td>
<td>(1992-2016)</td>
<td>Medium</td>
</tr>
<tr>
<td>Belarus</td>
<td>(1991-2012)</td>
<td>N/A</td>
<td>Medium</td>
</tr>
<tr>
<td>Belgium</td>
<td>N/A</td>
<td>(1992-2016)</td>
<td>Medium</td>
</tr>
<tr>
<td>Cuba</td>
<td>N/A</td>
<td>(2000-2017)</td>
<td>High</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>N/A</td>
<td>(1996-2013)</td>
<td></td>
</tr>
<tr>
<td>El Salvador</td>
<td>N/A</td>
<td>(1997-2014)</td>
<td>Medium</td>
</tr>
<tr>
<td>Country</td>
<td>Period 1</td>
<td>Period 2</td>
<td>Category</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>Greece</td>
<td>N/A</td>
<td>(1991-2017)</td>
<td>Low</td>
</tr>
<tr>
<td>Guatemala</td>
<td>N/A</td>
<td>(2000-2016)</td>
<td>Medium</td>
</tr>
<tr>
<td>Hungary</td>
<td>N/A</td>
<td>(1991-2018)</td>
<td>High</td>
</tr>
<tr>
<td>India***</td>
<td>(1991-2012)</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>N/A</td>
<td>(2000-2016)</td>
<td>Medium</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>N/A</td>
<td>(1991-2016)</td>
<td>Medium</td>
</tr>
<tr>
<td>Mauritius</td>
<td>N/A</td>
<td>(1991-2017)</td>
<td>Medium</td>
</tr>
<tr>
<td>Mexico</td>
<td>N/A</td>
<td>(1998-2017)</td>
<td>High</td>
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<tr>
<td>Country</td>
<td>Phase</td>
<td>Period</td>
<td>Gini Coefficient</td>
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<td>-------</td>
<td>--------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>N/A</td>
<td>(1997-2017)</td>
<td>Low</td>
</tr>
<tr>
<td>North Macedonia</td>
<td>N/A</td>
<td>(1991-2013)</td>
<td>Medium</td>
</tr>
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<td>Norway</td>
<td></td>
<td>(1991-2016)</td>
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<td>N/A</td>
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<td>(1996-2016)</td>
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<td>Republic of Korea</td>
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<td>(1991-2018)</td>
<td>Medium</td>
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<td>Republic of Moldova</td>
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<td>(1991-2017)</td>
<td>High</td>
</tr>
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<td>Romania</td>
<td>N/A</td>
<td>(1991-2018)</td>
<td>High</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>N/A</td>
<td>(1999-2014)</td>
<td>Medium</td>
</tr>
<tr>
<td>Serbia</td>
<td>N/A</td>
<td>(1998-2016)</td>
<td>Medium</td>
</tr>
<tr>
<td>Singapore</td>
<td>N/A</td>
<td>(1991-2017)</td>
<td>High</td>
</tr>
<tr>
<td>South Africa</td>
<td>N/A</td>
<td>(1993-2015)</td>
<td>Low</td>
</tr>
<tr>
<td>Turkey</td>
<td>(1998-2012)</td>
<td>N/A</td>
<td>Medium</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>N/A</td>
<td>(2000-2015)</td>
<td>Medium</td>
</tr>
<tr>
<td>Country</td>
<td>Incidence Periods</td>
<td>Mortality Periods</td>
<td>Quality</td>
</tr>
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<td>------------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>----------</td>
</tr>
<tr>
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<td>(1991-2015)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Ukraine</td>
<td>(1993-2005)</td>
<td>N/A</td>
<td>Medium</td>
</tr>
<tr>
<td>Uruguay</td>
<td>N/A</td>
<td>(1997-2017)</td>
<td>Medium</td>
</tr>
<tr>
<td>Venezuela</td>
<td>N/A</td>
<td>(1996-2013)</td>
<td>High</td>
</tr>
</tbody>
</table>

* List of countries with/without data for pancreatic cancer incidence/mortality available in the observed period (from 1991 or later) continuously, or provided that there has been data for at least 15 years in a row continuously only. Source: GLOBOCAN 2020 estimates[^2]. ** Quality of data was classified using criteria described by WHO[^14]. High quality (ICD–9 or ICD–10 coding is used and completeness is > 90% and ill-defined codes appear on < 10% of registrations); Medium quality (Completeness is 70–90% OR ill-defined codes appear on 10–20% of registrations OR non-ICD codes used although completeness is > 90% and ill-defined codes appear on < 10% of registrations); Low quality (Completeness < 70% OR ill-defined codes appear on > 20% of registrations)[^14]. *** These countries have sample vital registration systems (although coverage is low, the sample provides population-representative information)[^14]. N/A, not available.
Australia: Males: 0 Joinpoints versus Females: 1 Joinpoint

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 1 Joinpoint, Rejected Coincidence.
Belarus: Males: 1 Joinpoint versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 1 Joinpoint, Females - 0 Joinpoints, Rejected Coincidence.

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Brazil: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Failed to reject coincidence.
Bulgaria: Males: 0 Joinpoints versus Females: 0 Joinpoints

- Males
- 1993-2013 APC = 2.4
- Females
- 1993-2013 APC = 3.0

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Canada: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Chile: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
China: Males: 1 Joinpoint versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint; Females - 0 Joinpoints, Rejected Coincidence.
Colombia: Males: 0 Joinpoints versus Females: 0 Joinpoints

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Conicence.

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Costa Rica: Males: 0 Joinpoints versus Females: 0 Joinpoints

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Concordence.

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Croatia: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Czechia: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Denmark: Males: 1 Joinpoint versus Females: 1 Joinpoint

- Males
- 1991-2010 APC = 1.5
- 2010-2016 APC = -2.2
- Females
- 1991-2009 APC = 1.7
- 2009-2016 APC = -2.7

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint; Females - 1 Joinpoint; Rejected Coincidence.
Estonia: Males: 0 Joinpoints versus Females: 0 Joinpoints

Males
1991-2012 APC = 0.4
Females
1991-2012 APC = 0.3

---

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Finland: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
France: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Germany: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Iceland: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
India: Males: 0 Joinpoints versus Females: 3 Joinpoints

- Males
  - 1991-2012 APC = 1.2
- Females
  - 1991-1997 APC = 8.5
  - 1997-2002 APC = -11.3
  - 2002-2007 APC = 23.4\(^1\)
  - 2007-2012 APC = -4.3

\(^1\)Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.

Final Selected Model: Males - 0 Joinpoints, Females - 3 Joinpoints, Rejected Coincidence.

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Ireland: Males: 0 Joinpoints versus Females: 0 Joinpoints

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Israel: Males: 3 Joinpoints versus Females: 0 Joinpoints

- Males
  - 1991-1993 APC = 12.4
  - 1993-1996 APC = -5.3
  - 1996-1999 APC = 8.3
  - 1999-2012 APC = 0.4
- Females
  - 1991-2012 APC = 1.6°

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 3 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.

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Italy: Males: 1 Joinpoint versus Females: 0 Joinpoints

1 Indicate that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint, Females - 0 Joinpoints, Rejected Coincidence.
Japan: Males: 1 Joinpoint versus Females: 1 Joinpoint

Years

ASR (W)

- Males
- 1991-2000 APC = -0.4
- 2000-2010 APC = 1.2
- Females
- 1991-2005 APC = 0.6
- 2005-2010 APC = 3.7

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint, Females - 1 Joinpoint. Rejected Coincidence.
Kuwait: Males: 0 Joinpoints versus Females: 0 Joinpoints

1indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Failed to reject Coincidence.
Latvia: Males: 0 Joinpoints versus Females: 0 Joinpoints

\[ \begin{align*}
&\text{Males} \\
&1991-2012 \text{ APC } = -0.4 \\
&\text{Females} \\
&1991-2012 \text{ APC } = 0.3^1
\end{align*} \]

\[ \text{ASR (W)} \]

\[ \text{Years} \]

\[ \begin{align*}
1990 & \quad 1992 & \quad 1994 & \quad 1996 & \quad 1998 & \quad 2000 & \quad 2002 & \quad 2004 & \quad 2006 & \quad 2008 & \quad 2010 & \quad 2012 & \quad 2014 & \quad 2016 & \quad 2018 & \quad 2020
\end{align*} \]

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Lithuania: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model. Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coercidence.
Malta: Males: 0 Joinpoints versus Females: 0 Joinpoints

\[ \text{1992-2013 APC = 0.7} \]
\[ \text{1992-2013 APC = 2.3} \]

\[ \text{Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.} \]
\[ \text{Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.} \]
Netherlands: Males: 1 Joinpoint versus Females: 2 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint; Females - 2 Joinpoints. Rejected Coincidence.
New Zealand: Males: 0 Joinpoints versus Females: 0 Joinpoints

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Norway: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Slovakia: Males: 1 Joinpoint versus Females: 1 Joinpoint

- Males
  - 1991-1995 APC = -2.0
  - 1996-2010 APC = 1.6
- Females
  - 1991-2002 APC = 0.2
  - 2002-2010 APC = 4.8

\(^1\)Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.

Final Selected Model: Males - 1 Joinpoint; Females - 1 Joinpoint. Rejected Coincidence.
Slovenia: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Spain: Males: 0 Joinpoints versus Females: 0 Joinpoints

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Sweden: Males: 2 Joinpoints versus Females: 1 Joinpoint

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 2 Joinpoints, Females - 1 Joinpoint, Rejected Coincidence.

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Switzerland: Males: 0 Joinpoints versus Females: 0 Joinpoints

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Turkey: Males: 0 Joinpoints versus Females: 0 Joinpoints

- Males: 1990–2012 APC = 3.6\(^1\)
- Females: 1990–2012 APC = 2.8\(^1\)

\(^1\)Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
United Kingdom: Males: 2 Joinpoints versus Females: 1 Joinpoint

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 2 Joinpoints, Females - 1 Joinpoint, Rejected Coincidence.
United States of America: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Supplementary Figure 1 Joinpoint analysis for pancreatic cancer incidence trends, by countries and sex, since 1991 (as per data availability). ASR (W): Age Standardized Rate (using World standard population, per 100000).

¹Statistically significant trend (p<0.05). Joinpoint results are not shown for incidence in some countries, because there was no data for pancreatic cancer in the whole observed period continuously. For the trend analysis, we presented all incidence data available from 1991 year onwards, provided that there has been data for at least 15 years in a row continuously.
Australia: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Austria: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Concidence.
Belgium: Males: 0 Joinpoints versus Females: 0 Joinpoints

- Males
- 1992-2016 APC = -0.1
- Females
- 1992-2016 APC = 0.5

As the years progress from 1990 to 2020, the ASR (A) for males and females shows a trend. The ASR for males decreases, while the ASR for females increases. The annual percent change (APC) for males is significantly different from zero at the alpha = 0.05 level. The final selected model indicates no joinpoints for males and females, with rejected concordance.
Brazil: Males: 0 Joinpoints versus Females: 0 Joinpoints

![Graph showing the comparison between males and females in Brazil with joinpoints at 0.](image)

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Bulgaria: Males: 1 Joinpoint versus Females: 0 Joinpoints

Years


ASR (‰)

Males
1991-2014 APC = 1.3
2014-2018 APC = -2.2
Females
1991-2018 APC = 1.9

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint; Females - 0 Joinpoints, Rejected Coincidence.
Canada: Males: 1 Joinpoint versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint; Females - 0 Joinpoints. Rejected Coincidence.

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Chile: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
China: Males: 1 Joinpoint versus Females: 0 Joinpoints

- Males
- 1991-2006 APC = 0.1
- 2006-2016 APC = 2.1
- Females
- 1991-2016 APC = 1.2

*Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint; Females - 0 Joinpoints. Rejected Coincidence.
Colombia: Males: 1 Joinpoint versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint; Females - 1 Joinpoint. Failed to reject Coincidence.
Costa Rica: Males: 0 Joinpoints versus Females: 0 Joinpoints

![Graph showing data points and trend lines for Costa Rica's ASR (Adjusted Standard Rate) for males and females over years from 1990 to 2020. The graph indicates a decreasing trend in ASR for both genders with different slopes, and the trend lines are labeled with the annual percent change (APC) values for the period 1997-2017.]

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Croatia: Males: 0 Joinpoints versus Females: 0 Joinpoints

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Cuba: Males: 0 Joinpoints versus Females: 0 Joinpoints

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Czechia: Males: 0 Joinpoints versus Females: 0 Joinpoints

- Males
- 1991-2013 APC = -0.4
- Females
- 1991-2013 APC = 0.1

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.

Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
El Salvador: Males: 0 Joinpoints versus Females: 1 Joinpoint

1 indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint, Females - 1 Joinpoint. Failed to reject Coincidence.
Estonia: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final selected model: Males - 0 joinpoints, Females - 0 joinpoints, rejected concordance.
Finland: Males: 0 Joinpoints versus Females: 0 Joinpoints

Years


ASR (W)

0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0

Males
1991-2018 APC = 0.3
Females
1991-2018 APC = 0.4

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
France: Males: 3 Joinpoints versus Females: 0 Joinpoints

![Graph showing trends in ASR (W) over years for males and females in France](image)

- Males
- 1991-2003 AFC = -0.2
- 2003-2008 AFC = 1.6
- 2008-2011 AFC = -1.8
- 2011-2016 AFC = 1.0
- Females
- 1991-2016 AFC = 1.3

\[\text{ASR (W)}\]

\[\text{Years}\]

1Indicates that the Annual Percent Change (AFC) is significantly different from zero at the alpha = 0.05 level.

Final Selected Model: Males - 3 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Germany: Males: 0 Joinpoints versus Females: 1 Joinpoint

![Graph showing的趋势](image)

- **Males**
  - 1991-2013 APC = 0.2
- **Females**
  - 1991-1996 APC = -0.3
  - 1999-2013 APC = 0.6

### Note
1. Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
2. Final Selected Model: Males - 0 Joinpoints, Females - 1 Joinpoint, Rejected Coincidence.

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Guatemala: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Failed to reject Coincidence.
Hungary: Males: 1 Joinpoint versus Females: 1 Joinpoint

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 1 Joinpoint, Females - 1 Joinpoint. Rejected Coincidence.
Iceland: Males: 0 Joinpoints versus Females: 0 Joinpoints

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Ireland: Males: 1 Joinpoint versus Females: 0 Joinpoints

- Males: 1991-2004 APC = -1.7\(^*\)
- 2004-2015 APC = 0.5
- Females: 1991-2015 APC = -0.1

\(^*\)Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.

Final Selected Model: Males - 1 Joinpoint; Females - 0 Joinpoints, Rejected Coincidence.
Israel: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Italy: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Japan: Males: 0 Joinpoints versus Females: 2 Joinpoints

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 2 Joinpoints, Rerected Coincidence.
Kuwait: Males: 0 Joinpoints versus Females: 0 Joinpoints

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Kyrgyzstan: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints; Rejected Concidence.
Latvia: Males: 0 Joinpoints versus Females: 2 Joinpoints

1995-2013 APC = -0.1
1995-2010 APC = 1.2
2010-2013 APC = -4.8
2013-2018 APC = 6.4

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 2 Joinpoints. Rejected Coincidence.

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Lithuania: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Luxembourg: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Malta: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Mauritius: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Mexico: Males: 2 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 2 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Moldova: Males: 1 Joinpoint versus Females: 1 Joinpoint

\[ 1991-1999 \text{ APC} = -4.0^1 \]
\[ 1999-2017 \text{ APC} = 2.0^1 \]

\[ ^1 \text{Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.} \]

\[ \text{Final Selected Model: Males - 1 Joinpoint, Females - 1 Joinpoint, Rejected Coincidence.} \]
Netherlands: Males: 2 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 2 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.

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New Zealand: Males: 0 Joinpoints versus Females: 0 Joinpoints

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
North Macedonia: Males: 0 Joinpoints versus Females: 2 Joinpoints

1991-2013 APC = 1.6
1991-1997 APC = 6.6
1997-2000 APC = -11.0
2000-2013 APC = 3.9

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model. Males - 0 Joinpoints, Females - 2 Joinpoints. Rejected Concurrency.
Norway: Males: 0 Joinpoints versus Females: 0 Joinpoints

- Males
- 1991-2016 APC = -0.0
- Females
- 1991-2016 APC = 0.2

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.

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Panama: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Failed to reject coincidence.
Republic of Korea: Males: 1 Joinpoint versus Females: 1 Joinpoint

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1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model. Males - 1 Joinpoint. Females - 1 Joinpoint. Rejected Coincidence.

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Romania: Males: 1 Joinpoint versus Females: 2 Joinpoints

$\text{Males}$
- 1991-2006 APC = 2.6
- 2006-2016 APC = 0.0

$\text{Females}$
- 1991-1994 APC = 4.9
- 1994-2013 APC = 1.8
- 2013-2018 APC = 0.1

$^1$Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint, Females - 2 Joinpoints, Rejected Coincidence.
Russian Federation: Males: 1 Joinpoint versus Females: 1 Joinpoint

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 1 Joinpoint. Females - 1 Joinpoint. Rejected Coincidence.
Serbia: Males: 0 Joinpoints versus Females: 0 Joinpoints

![Graph showing the comparison between Males and Females in Serbia from 1990 to 2020. The graph includes two lines, one for Males and one for Females, with data points indicating an increasing trend.](image)

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.

Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.

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Singapore: Males: 0 Joinpoints versus Females: 0 Joinpoints

†Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Slovakia: Males: 0 Joinpoints versus Females: 0 Joinpoints

![Graph showing ASR (W) over Years for Males and Females in Slovakia with notes on Annual Percent Change (APC) from 1992-2014.]  

1Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Slovenia: Males: 0 Joinpoints versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.
Spain: Males: 0 Joinpoints versus Females: 0 Joinpoints

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1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Concordance.
Sweden: Males: 0 Joinpoints versus Females: 0 Joinpoints

- Males
- 1991-2018 APC = -0.1
- Females
- 1991-2018 APC = -0.1

ASR (W)

Years


Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.

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Switzerland: Males: 1 Joinpoint versus Females: 0 Joinpoints

- Males
- 1991-2005 AFC = -0.3
- 2005-2017 AFC = 0.9
- Females
- 1991-2017 AFC = 0.4

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: Males - 1 Joinpoint, Females - 0 Joinpoints, Rejected Coincidence.
Turkmenistan: Males: 0 Joinpoints versus Females: 0 Joinpoints

- **Males**
  - 2000-2015 APC = 10.0\(^1\)

- **Females**
  - 2000-2015 APC = 6.4\(^1\)

\(^1\)Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.

*Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints, Rejected Coincidence.*
United Kingdom: Males: 1 Joinpoint versus Females: 1 Joinpoint

1\textsuperscript{Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.}

Final Selected Model: Males - 1 Joinpoint, Females - 1 Joinpoint. Rejected Coincidence.
United States of America: Males: 1 Joinpoint versus Females: 0 Joinpoints

1 Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.  
Final Selected Model: Males - 1 Joinpoint, Females - 0 Joinpoints, Rejected Coincidence.
Uruguay: Males: 0 Joinpoints versus Females: 0 Joinpoints

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Venezuela: Males: 0 Joinpoints versus Females: 0 Joinpoints

Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level. Final Selected Model: Males - 0 Joinpoints, Females - 0 Joinpoints. Rejected Coincidence.
Supplementary Figure 2 Joinpoint analysis for pancreatic cancer mortality trends, by countries and sex, since 1991 (as per data availability). ASR (W): Age Standardized Rate (using World standard population, per 100000). *Statistically significant trend (p<0.05). Joinpoint results are not shown for mortality in some countries, because there was no data for pancreatic cancer in the whole observed period continuously. For the trend analysis, we presented all mortality data available from 1991 year onwards, provided that there has been data for at least 15 years in a row continuously.