

Lead-time Bias

Lead-time bias is a bias resulting from taking starting measurements at different times. This can cause, for example, survival times for patients to look like they are getting better when they are not.

For example, cancer is often diagnosed when a patient develops symptoms, and the patient's survival time is generally defined as how long they live after diagnosis. If a screening test can lead to cancer diagnosis earlier, before symptoms develop, this creates a longer period of survival simply because diagnosis was earlier. The patient may not actually survive to a later date than they would have done without the screening.