

A Doctor's View of "Opportunity to Survive"

Fulton's Assumptions and Math are Wrong

By Roy W. Waddell, M.D.

Fast Facts:

Much of the past confusion stemmed from the consistent tendency of the litigants and the courts to use the terms "opportunity to survive" and "survival rate" synonymously. But they are not the same!

The definition of "opportunity" in the *Fulton* decision does not make sense.

It is meaningless to discuss opportunity to survive without reference to the *nonsurvivors*.



*Fulton v William Beaumont Hosp*¹ is the law in Michigan. It construes MCL 600.2912a(2), which says:

In an action alleging medical malpractice, the plaintiff has the burden of proving that he or she suffered an injury that more probably than not was proximately caused by the negligence of the defendant or defendants. In an action alleging medical malpractice, the plaintiff cannot recover for loss of an opportunity to survive or an opportunity to achieve a better result unless the opportunity was greater than 50%.

The court held that the plaintiff's loss of opportunity was the difference between the patient's initial 85 percent chance of survival and the 60 to 65 percent chance of survival that the patient had at the time of the actual diagnosis. Unfortunately, the court used erroneous assumptions and bad math, and reached a wrong result.

In the following discussion, for simplification, the term "treated survival rate" is used to refer to the situation that pertains in the *absence* of negligence, i.e., when the patient's condition is *appropriately* diagnosed and treated. In the *Fulton* case and others, this is often referred to as the "initial survival rate." "Untreated survival rate" refers to the situation in which there is negligence, as when the condition has not been treated or diagnosed at all or has not been diagnosed and treated properly.

If we accept the *Fulton* interpretation, then we must accept three things that are in conflict with the court's duty to construe a statute in a way that is consistent with its plain language and its intent. First, we must read into the statute that the phrase "opportunity to survive" is synonymous with "survival rate" or "change in survival rate." Second, we must read into the statute that "greater than 50%" means "greater than 50 *percentage points*," which is *not* the same thing. A decrease in survival rate from 50 percent to 10 percent is a 40-*percentage-point* decrease, but it is an 80 *percent* decrease. So even with *Fulton's* faulty interpretation of "opportunity," it uses faulty math. Third, the decision can easily lead to anomalous results that violate a reasonable view of the statute's intent. An example: If a medical condition has an untreated survival rate of 51 percent that rises to 99 percent with appropriate treatment, then recovery of damages is disallowed under *Fulton* (because $99 - 51 = 48$, less than the "greater than 50" required). So even though treatment creates an almost sure bet for survival, there is no recourse if there is negligence and the patient dies. That surely doesn't seem to be in accord with the statute's intent, i.e., the result is anomalous.

Can "opportunity to survive" be defined so that it is consistent with the plain language of the statute, is fully in accord with the statute's intent, and never leads to anomalous results?

Much of the confusion in the past stemmed from the consistent tendency of the litigants and the courts to use the terms "opportunity to survive" and "survival rate" synonymously. But they are not the same! *Merriam Webster's Collegiate Dictionary* (10th ed) defines "opportunity" as "the favorable *convergence* of circumstances" (emphasis added). So *more than one* element

is required to create an "opportunity." A survival rate is just one element; it's a statistic inherent in the condition. To say that untreated appendicitis has a survival rate of 50 percent implies no "opportunity." The "opportunity" is created when treatment *that might change the survival rate* is brought to bear on the condition. It is meaningless to discuss an opportunity to survive with-

If we stop assuming that "survival rate" or "change in survival rate" are synonymous with "opportunity," the problem becomes clearer. The statute does not need changing. The understanding of "opportunity" does.

out reference to the *nonsurvivors*. Thus, "opportunity" is not *just* the change in survival rate, as *Fulton* posits, but the *relationship of that change to the portion of patients who would not have survived without treatment*. In other words, what percent of patients who would die without treatment can be saved with treatment? This is the true "opportunity to survive." It is expressed in the following formula:

$$\text{Opportunity to survive} = \frac{(\text{treated survival rate}) - (\text{untreated survival rate})}{100 - (\text{untreated survival rate})} \times 100$$

The numerator is the survival rate difference between the treated and the untreated condition. The denominator is the percentage of patients who would die without treatment. The " $\times 100$ " is included simply to express the ratio as a percentage.

Is this definition in accord with the statute's intent? A reasonable view is that the intent of the law is to disallow damages unless it can be shown that *proper treatment creates a better than even* ("greater than 50%") *chance of survival of the patients who would have died without treatment*. In other words, if appropriate treatment *cannot* save at least half of the patients who otherwise would have died, then you do not have sufficient evidence to show that the negligence made the difference in the adverse outcome (death). Conversely, if good treatment *can* save more than half of the patients who otherwise would have died, then you have adequate evidence that the poor treatment or negligence was likely to blame for the bad outcome. This is exactly what this definition of opportunity measures.

In the hypothetical anomalous case mentioned previously, the true "opportunity to survive" now becomes:

$$\begin{aligned}\text{Untreated survival rate} &= 51\% \\ \text{Treated survival rate} &= 99\%\end{aligned}$$

$$\text{Opportunity to survive} = \frac{(99) - (51)}{(100 - 51)} \times 100 = \frac{48}{49} \times 100 = 98\%$$

This is far greater than the "greater than 50%" required by the statute, and easily qualifies for damages under the statute. The anomaly is resolved, i.e., the result is no longer in conflict with the statute's intent.

What is wrong with *Fulton*? *It doesn't consider the denominator.* It therefore has the effect of wrongfully excluding a whole range of situations in which the survival rate "point spread" is less than 50, but the denominator is relatively low (which raises the "opportunity"). And this is exactly why anomalous results can occur under the *Fulton* reasoning. Note that under the *Fulton* decision, the "untreated" survival rate can never be *higher* than 50 percent for the case to qualify under the statute, because there has to be a greater than 50 "point spread." With the proposed definition, the "point spread" need not be greater than 50, and the "opportunity" can still exceed 50 percent, because the definition considers the *denominator*. Anomalous results *cannot* occur.

"Opportunity" is not *just* the change in survival rate, as *Fulton* posits, but the *relationship of that change to the portion of patients who would not have survived without treatment.*

Fulton looked at the history of the statute as a reaction to the Supreme Court's decision in *Falcon v Memorial Hosp.*,² in which the untreated and treated survival rates were zero percent and 375 percent respectively. *Fulton* concluded that the statutory language could either mean that the treated (initial) survival rate must be greater than 50 percent, or that the percentage-point difference in survival rates must be greater than 50 percent, since the untreated survival rate started at zero in the *Falcon* case. But the *Fulton* court never acknowledged or considered the *third* option, which is "opportunity" *as defined in this article*. When the untreated survival rate starts at zero, *all three options are equivalent* because the denominator is 100 (100 - 0). But at *any other* untreated survival rate, they are not equivalent. It requires an increasingly *lower* percentage-point spread to show a greater than 50 percent opportunity (as defined here) as the untreated survival rate rises above zero, because the denominator *decreases* from 100.

In fact, the *Fulton* interpretation that there must be greater than 50 *percentage points* between the two survival rates effectively creates an *increasingly higher standard* for "opportunity" as the untreated survival rate increases. At an untreated survival rate of 40 percent, *Fulton* requires a treated survival rate of greater than 90 percent. But with this point spread, 83.3 percent of the patients who would otherwise die survive, not 50 percent. At an untreated survival rate of 50 percent (or above), the *Fulton* criteria cannot be satisfied *at all*, even though treatment might create a 100 percent opportunity to survive. Presumably, the legislature intended the standard to be the same for all scenarios (a greater than 50 percent "opportunity"). The statute uses terminology (i.e., "opportunity") that unfortunately has been consistently misconstrued.

Again, the confusion has resulted from litigants and the courts using the terms "survival rate" (or the equivalent "chance of survival") and "opportunity to survive" synonymously. This has led to several supposed "opportunities," i.e., "initial opportunity," "difference (or change) in opportunities," "untreated opportunity," etc. But under the proposed definition, there is only one "opportunity." All we need to know to calculate it are the treated and untreated *survival rates*. If the calculated opportunity is greater than 50 percent, it qualifies under the statute. If it is 50 percent or less, it does not. The opportunity is either lost or it is not lost. There is no "partial" opportunity or loss of opportunity. You cannot "partially" die.³

It does not matter where the "untreated survival rate" begins, because we are measuring the *effect* of treatment on that condition. If the untreated survival rate of a condition is 60 percent (*automatically* disqualified under *Fulton*), but we can improve the survivability to 90 percent (a "point spread" of 30), the opportunity is:

$$\frac{90 - 60}{100 - 60} \times 100 = \frac{30}{40} \times 100 = 75\%$$

So, in this example, we have shown that treatment has a very significant effect on the survivability. We can save 75 percent of the patients who otherwise would have died, and this scenario should qualify under the statute.

Conversely, if a medical condition has an untreated survival rate of 10 percent (an ominous condition if not treated) and we can *quadruple* the survival rate to 40 percent with treatment (again a "point spread" of 30), that seems to be very significant, doesn't it? But the calculated "opportunity" is:

$$\frac{40 - 10}{90} \times 100 = \frac{30}{90} \times 100 = 33\frac{1}{3}\%$$

So the case would *not* qualify under the statute. Does this make sense? Yes, because even the best treatment can save only one-third of the patients who otherwise would have died. The condition is so

serious that it is still not convincing that the treatment made the difference in outcome as opposed to the severity (and relative untreatability) of the condition itself.

Two corollaries are of note (both situations are probably rare, but can conceivably occur):

- (1) If treatment makes no difference whatsoever in the survival rate, then the “opportunity” is zero, no matter whether the basic survival rate is low or high.
- (2) If treatment improves the survival rate to 100 percent, then the opportunity is always 100 percent.

What would have happened in the *Fulton* case if it had been argued and decided correctly? The case dealt with a woman whose delay in diagnosis of cervical cancer worsened her chances of survival, and she, in fact, died. The survival rate with earlier diagnosis was 85 percent. The survival rate with delayed diagnosis, because of a more advanced stage of cancer, dropped to 60 to 65 percent. The opportunity to survive was therefore:

$$\frac{85 - (60 \text{ to } 65)}{100 - (60 \text{ to } 65)} \times 100 = \frac{25 \text{ to } 20}{40 \text{ to } 35} \times 100 = 57.1\% \text{ to } 62.5\%$$

Her “opportunity” considerably exceeded 50 percent, and she should have qualified for damages (assuming that negligence was demonstrated).

It should be noted that in the *Fulton* case and in preceding cases dealing with this topic, both the *plaintiffs* and the *defendants* argued their positions using the assumption that “opportunity to survive” and “survival rate” are synonymous. It is therefore not surprising that the court simply used this assumption as well. In an earlier decision, *Wickens v Oakwood Healthcare Sys*,⁴ the appellate court ruled that only the *initial* (treated) *survival rate* need be greater than 50 percent for the case to qualify under the statute. This was also the view advocated by the dissenting opinion in *Fulton*. *Wickens* was later overturned by the Supreme Court on other grounds.⁵ But *Wickens* would have led to anomalies as well. *Fulton* *excludes* cases that *should* qualify under the statute. *Wickens* would *include* cases that *should not* qualify.

Recognize that with the proposed understanding of “opportunity,” nothing has to be “read into” the statute (except for a *rational* definition of the word “opportunity” itself). There is one opportunity, expressed as a percent. It is lost because the patient dies. It must be greater than 50 percent to qualify under the statute. The definition is also fully in accord with the *intent* of the law and does not lead to anomalous results.

The definition of “opportunity” in the *Fulton* decision does not make sense. The definition used here does. If we stop assuming that “survival rate” or “change in survival rate” are synonymous with “opportunity,” the problem becomes clearer. The statute does not need changing. The understanding of “opportunity” does. ■

Roy W. Waddell, M.D., received his undergraduate degree from Harvard University and his medical degree from the University of Cincinnati. He completed his orthopaedic surgery residency in Grand Rapids, Michigan, and is board-certified in orthopaedic surgery. He has been in full-time private practice in orthopaedic surgery in Grand Rapids since 1979.

FOOTNOTES

1. *Fulton v William Beaumont Hosp*, 253 Mich App 70; 655 NW2d 569 (2002).
2. *Falcon v Memorial Hosp*, 436 Mich 443; 462 NW2d 44 (1990).
3. But the principle actually applies just as validly to “loss of opportunity to achieve a better result,” as long as “better result” can be defined or reasonably estimated. Consider an example of “opportunity to achieve a better result.” A deep wound infection in a hip- or knee-replacement surgery can be a disaster, resulting in additional disability, additional and often multiple surgeries, and a generally poorer outcome. The use of prophylactic antibiotics can reduce the infection rate from perhaps four percent to less than one percent. If, therefore, an infection occurs in a joint replacement patient who has *not* received prophylactic antibiotics and that patient incurs a poorer outcome because of the infection, the lost “opportunity to achieve a better result” is:

$$\frac{99 - 96}{100 - 96} = \frac{3}{4} = 75\%$$
4. *Wickens v Oakwood Healthcare Sys*, 242 Mich App 385; 619 NW2d 7 (2000).
5. *Wickens v Oakwood Healthcare Sys*, 465 Mich 53; 631 NW2d 686 (2001).

