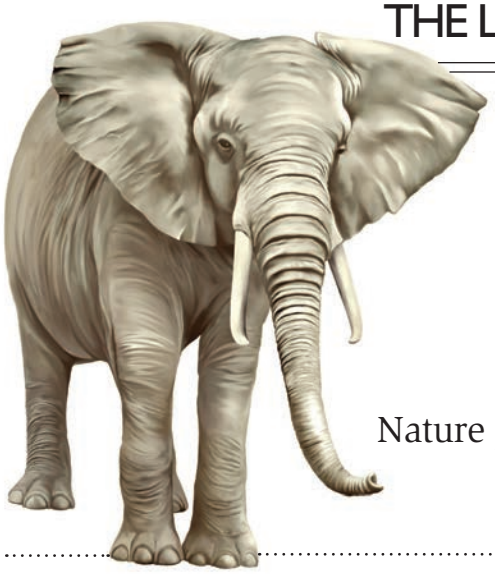

Bigger Is Better

Nature provides valuable lessons in efficiency.

BY JON A. HULTMAN, DPM, MBA

Much has been written about the advantages and disadvantages of group practice. If the changes in healthcare delivery currently predicted by experts come to fruition, the advantages of group practice will increase and "bigger will be better." Optimum group size has always been a topic of debate—generating a wide range of opinions based on subjective as well as objective data. As this debate continues, biology, as it relates to organisms found in nature, can offer us some interesting insight into the value of "size" as it might apply to medical groups.

As an organism in nature increases in size, it requires less energy, per gram of tissue, to function properly. This tendency continues as we scale up in size from single-celled organisms to the largest whales. As an example, let's compare an elephant's metabolism to that of a mouse. The elephant is 100,000 times bigger, yet its basal metabolic rate is only 7,000 times greater. Stated differently, the metabolism of one gram of mouse tissue is approximately fourteen times greater than that of one gram of elephant tissue. This is but one demonstration of the fact that the larger the organism, the more efficiently it functions at the cellular level. If this were not the case, the elephant's metabolism would be fourteen times greater than it is, and as a result, its life span would be much shorter and its resources would be quickly depleted—in much the same way that financial resources are more rapidly depleted when a medical group is supported by an inefficient infrastructure.

We already know that the efficiency of business processes can be greatly improved by utilizing the same laws of physics that govern workflow. Much new information regarding "efficiency in nature" is being compiled in the fields of fractal geometry and fractal mathematics—both derived from Chaos Theory. Effective employment of the "rules" being revealed can improve the efficiency of group practices. While there are no comparable elephant/mouse examples in medicine—say, a group practice functioning at fourteen times the efficiency of a single-doctor practice, the fact that such a model exists in nature presents the possibility that a comparable model might be developed in arenas such as ours.

Some medical groups are vastly more efficient than others. The individual doctors in practices that have been merged while completely ignoring the laws of physics end up worse off than when they practiced solo; they capture none of the efficiencies that can be attained from coming together. Going back to the example of nature, we see a consistent relationship between "size" and "efficiency;" both animals and plants uniformly follow the "scaling laws" exhibited in nature. Living organisms routinely utilize the most efficient processes available to deliver resources—such as food and oxygen—to wherever they are needed at the cellular level. We in the business world go wrong by not doing the same. Instead, we attempt to "build elephants using mouse tissue." An example of this is a group of doctors who when merging their practices attempt to retain all the attributes of their previous individual practices. The result of this strategy is inefficiency—just as it would be for organisms in nature, because this strategy captures only one of the advantages of size—visibility. This type of grouping is occasionally found in nature and is used primarily as a protective mechanism. An example is when thousands of sardines swim together in a tightly packed formation, giving the illusion that they are one large fish. Their metabolic processes and nervous systems are not integrated. Obviously, the metabolism of this "large fish" is great, being the sum total of the metabolism of the thousands of individual fish of which it is composed. One can easily see the difference between the efficiency of this large school of fish and that of one

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orca of "equivalent size." Compared to the group of sardines, all systems of the orca are integrated, giving it the efficiency advantages of a large organism along with its intimidating size and structure—both of which serve it well in the environment in which it must compete.

If you are contemplating the creation or growth of a group practice, it is critical that you recognize from the beginning that "grouping" must be done with efficiency and scaling "laws" in mind. Recognize that you actually want to create a different and larger animal—not simply connect a group of similar small animals, giving the illusion of a large group. Doing so, you will only end up with "an elephant built using inefficient mouse tissue;" your result would be "a decrease in quality and a speedier depletion of resources."

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The proverbial million-dollar question is whether it is possible to achieve the ten to fifteen-fold efficiency advantages in medical groups that can be obtained in nature when optimum size is reached. This would take an unbelievable level of commitment from all doctors in the group, strict adherence to the principles of physics and mathematics, knowledge of scaling laws, and a significantly large size. Even if a multiple of ten or fifteen represents the "impossible goal," a "mere" two to threefold improvement in efficiency would fix the high cost problems that plague most of today's practices. If your new "efficient animal" is designed with the attributes of an orca in mind, rather than a group of sardines, your group will have what it takes to become a more aggressive player in both today's and tomorrow's competitive healthcare environments. **PM**

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