5. Ting HH, Rihal CS, Gersh BJ, Haro LH, Bjerke CM, Lennon RJ, et al. Regional systems of care to optimize timeliness of reperfusion therapy for ST-elevation myocardial infarction: the Mayo Clinic STEMI Protocol. *Circulation*. 2007; 116:729-36.
6. Jollis JG, Roettig ML, Aluko AO, Anstrom KJ, Applegate RJ, Babb JD, et al. Implementation of a statewide system for coronary reperfusion for ST-segment elevation myocardial infarction. *JAMA*. 2007;298:2371-80.
7. LaMonte MP, Bahouth MN, Magder LS, Alcorta RL, Bass RR, Browne BJ, et al. A regional system of stroke care provides thrombolytic outcomes comparable with the NINDS stroke trial. *Ann Emerg Med*. 2009;54:319-27.
8. Cowie MR, Chronaki CE, Vardas P. e-Health innovation: time for engagement with the cardiology community. *Eur Heart J*. 2013;34:1864-8.
9. Schoenhagen P, Zimmermann M, Falkner J. Advanced 3-D analysis, client-server systems, and cloud computing: integration of cardiovascular imaging data into clinical workflows of transcatheter aortic valve replacement. *Cardiovasc Diagn Ther*. 2013;3:80-92.
10. Schoenhagen P, Falkner J, Piraino D. Transcatheter aortic valve repair, imaging, and electronic imaging health record. *Curr Cardiol Rep*. 2013;15:319.
11. Aggarwal B, Raymond C, Jacob J, Kralovic D, Kormos K, Holloway D, et al. Transfer of patients with suspected acute aortic syndrome. *Am J Cardiol*. 2013;112:430-5.
12. Aggarwal B, Raymond CE, Randhawa MS, Roselli E, Jacob J, Eagleton M, et al. Transfer metrics in patients with suspected acute aortic syndrome. *Circ Cardiovasc Qual Outcomes*. 2014;7:780-2.
13. Raymond CE, Aggarwal B, Schoenhagen P, Kralovic DM, Kormos K, Holloway D, et al. Prevalence and factors associated with false-positive suspicion of acute aortic syndrome: experience in a patient population transferred to a specialized aortic treatment center. *Cardiovasc Diagn Ther*. 2013;3:196-204.
14. Matar R, Renapurkar R, Obuchowski N, Menon V, Piraino D, Schoenhagen P. Utility of hand-held devices in diagnosis and triage of cardiovascular emergencies: observations during implementation of a PACS-based system in an acute aortic syndrome (AAS) network. *J Cardiovasc Comput Tomogr*. 2015;9:524-33.

Key Words: acute aortic syndrome, aortic dissection, imaging, private medical cloud, disease management networks

EDITORIAL COMMENTARY

Are we ready to sit on a little cloud?

Jean Bachet, MD

From ADETEC, Suresnes, France.

Disclosures: Author has nothing to disclose with regard to commercial support

Received for publication Feb 29, 2016; accepted for publication March 1, 2016; available ahead of print March 31, 2016.

Address for reprints: Jean Bachet, MD, ADETEC, 1 Place Marcel Legras, 92150 Suresnes, France (E-mail: jean.bachet@yahoo.fr).

J Thorac Cardiovasc Surg 2016;152:42-3

0022-5223/\$36.00

Copyright © 2016 by The American Association for Thoracic Surgery

<http://dx.doi.org/10.1016/j.jtcvs.2016.03.018>

The article by Schoenhagen and colleagues in this issue of the *Journal* proposes the organization of large and centralized information technology (IT) networks of “experts” to assess and codify the management of patients suffering from acute aortic syndromes.¹ Obviously this idea finds its origin in and could be made possible through the easiness and strength of communication in the present times and the quality of information exchange that can be obtained through those network systems.

It is certainly a good idea that may represent a step toward a more evolved and reliable system for managing routine patient care and treating emergencies. As a matter of fact, the proposed network might represent significant progress in terms of diagnosis through, for example, better analysis and assessment of the provided images, of the patient’s clinical condition, advice concerning additional explorations, and so on.

Yet it seems that such a system might have some drawbacks or, at least that its implementation might merit some caution. Indeed, it may be rather difficult to define an

The “expert” on the “cloud.”

Central Message

Resorting to IT “expert networks” to better manage acute aortic syndromes is attractive. Is it realistic?

See Article page 39.

“expert.” It is a subjective view, and the term may be applied to professionals with widely varying kinds or levels of skill and knowledge. The *English Oxford Dictionary* defines an “expert” as “a person who is very knowledgeable about or skilful in a particular area.” But the definition is associated with the following example: “In every area of life, the experts are ready to smooth our path and tell us what to believe.” Indeed. Expertise is not a condition based on simple, unquestionable, reproducible scientific criteria, but rather it is the complex

multifactorial result of a mixture of personal experience with national and individual culture and education, institutional organization, and individual beliefs and convictions. Thus, in many fields, particularly surgery, experts may be prone to advise what they believe is best, in some cases regardless of the objective data.

Therefore, several experts may have a somewhat or even totally divergent opinion about a technique or a case and disagree about its management. Examples abound, and such disagreements and even severe controversies can be regularly observed in daily practice, staff meetings, conferences, and journal articles.

Another disturbing problem concerns the impact of the experts' opinion. It seems, indeed, that the main advantages of the proposed organization would be concentrated mostly on the diagnostic phase of the patient's condition, but its advantages in terms of treatment may be more uncertain. Acute aortic syndromes, particularly acute dissections, are too poorly anatomically defined and have too wide a spectrum of clinical and pathological conditions to allow straightforward systematic opinions about their management and treatment.

In addition, the final procedure is chosen and performed by a single team at a time when the "expert network" can interfere no longer or can have only little influence. Thus, this final and most important phase of the patient's management remains mostly, if not solely, dependent on the ultimate surgical team's experience, opinions, and skills. For example, in cases of acute type A dissection, even though the diagnosis, type, extension, possible malperfusions, and other factors may be well established, only the surgical team facing the lesions in the theater can decide whether or not the aortic valve, the root, the hemi-arch, or the total arch must be replaced. In this essential matter, consultation of the experts' network

likely would be uneasy and time-consuming, and thus scarcely useful or even useless.

Last but not least, the proposed system implies the regionalization of treatment and the systematic transfer to a "tertiary expert center." This may have some advantages, but some large drawbacks as well. This may be quite deleterious in some instances. Any transfer, even between close centers, may take some time (and often a few hours). Experience has largely demonstrated that even an apparently stable patient may rapidly evolve to a catastrophic condition during this delay.

In addition, one cannot help but think that those expert networks would be organized, developed, and managed by important high-volume tertiary centers that define themselves as "expert centers." Similar to what could be observed with the guidelines in the recent years, this could lead to a sort of intellectual and technical dictatorship that in many instances could preclude the development of proper and innovative alternative solutions.^{2,3}

Therefore, the interesting process proposed by this article is certainly attractive and likely could benefit the surgical community and the patients through an improved approach to the disease, a more precise and refined analysis of the lesions, and a reduction in the number of false-positive and false-negative diagnoses.

Concerning the treatment itself, the benefit seems to be less certain, however.

References

1. Schoenhagen P, Roselli EE, Harris EM, Eagleton M, Menon V. Online network of subspecialty aortic disease experts: impact of "cloud" technology on management of acute aortic emergencies. *J Thorac Cardiovasc Surg.* 2016;152:39-42.
2. Bachet J. Toward quality improvement of thoracic aortic surgery: estimating volume-outcome effect from a nationwide survey. *Eur J Cardiothorac Surg.* 2009;36:521-3.
3. Bachet J. The case against superspecialisation in surgery. *Semin Thoracic Cardiovasc Surg.* 2012;23:169-70.