Applying CMMI for Services (CMMI-SVC) to Health Care

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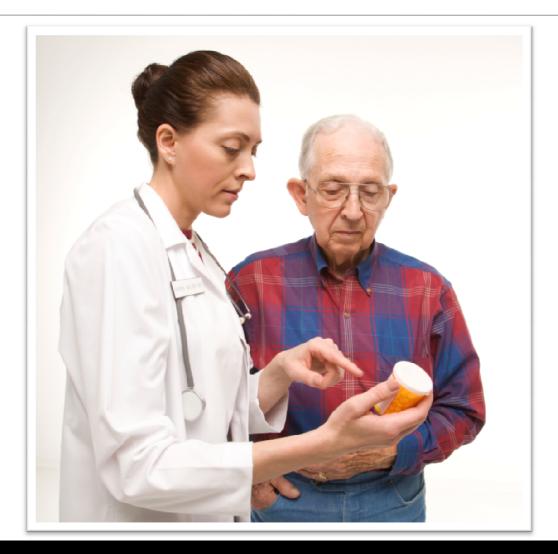October 2008

Contact information

The next few slides are about applying CMMI-SVC to health care services, specifically in-hospital pharmaceutical and respiratory services.

Eileen Forrester of the SEI worked with an SME who directs these services for a hospital group to apply CMMI-SVC to health care services. The SME had no prior experience with CMMI or model-based process improvement.

Applying CMMI-SVC to Health Care

Services-Specific Project Management PAs

Capacity and Availability Management

In pharmaceutical and respiratory services, this could mean planning and monitoring to ensure that sufficient resources, such as pharmacists, therapists, drugs, and oxygen, are available on a regular basis to enable delivery of drugs and respiratory care at an appropriate cost.

Service Continuity

For health care services, staff may make a plan and rehearse how to restore service after a natural disaster, pandemic, or terrorist attack.

Service Establishment and Delivery PAs (1 of 3)

Service System Development

For pharmaceutical and respiratory services, the service system includes facilities, such as the pharmacy supply rooms; shelves and equipment, such as that for measurement, delivery of drugs, and breathing equipment (infrastructure); doctors, nurses, pharmacists, therapists, and technical specialists (people); (consumables) such as drugs and oxygen; and diagnosing, prescribing, drug preparation, scheduling, planning, budgeting, and treating (processes).

Service System Transition

Suppose the state in which a hospital group operates passed a law that nurses are no longer able to administer certain drugs, except in the presence of a pharmacist. These practices would be invoked to make the changes to people and processes that would be required to comply with the law while continuing to provide service.

Service Establishment and Delivery PAs (2 of 3)

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Service Delivery

For pharmaceutical and respiratory services, this would mean preparing a schedule of pharmacists and therapists, preparing and delivering drugs and respiratory care, monitoring supplies of drugs and equipment, acquiring consumables, managing requests, tracking customer satisfaction, and maintaining the infrastructure of the pharmacy and treatment facility. For these services, a request might be for a prescription for a new pain medication ordered for a patient in ICU, a consultation from a PharmD to doctors considering medications for a patient with an already complex drug regimen, or a respiratory therapist to come to the emergency department to treat a child suffering a severe asthma attack.

Incident Resolution and Prevention

An incident in this scenario might be delivery of a medication in the wrong dosage or media or failure to deliver the respiratory equipment in the time needed for the emergency patient suffering a severe asthma attack.

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Strategic Service Management:

In these cases, the organization would establish a range of standard pharmaceutical and respiratory services to meet the needs of its customers, and periodically analyze strategic data from markets and customers of pharmaceutical and respiratory services to revise these services to meet those needs. Standard services would include service-level agreements, which might specify, for example, response times for emergent and non-emergent treatment and delivery of prescriptions by the service providers.

By analyzing the set of services and user data, the organization might realize that they have a demand not only for corrective respiratory services, but also for services that could optimize the performance of athletes and musicians. The provider could then add standard respiratory performance services to their service line.

How can you stay informed?

Get more information about CMMI-SVC

- CMMI-SVC web page - www.sei.cmu.edu/cmmi/tools/svc

  — Community Resources

  — Presentations and other materials on CMMI-SVC

Write to cmmi-comments@sei.cmu.edu with comments and questions

When in doubt, contact SEI Customer Relations: customer-relations@sei.cmu.edu

Use this address to request the current draft or join the email alias

Contact information

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References

CMMI - http://www.sei.cmu.edu/cmmi/cmmi.html

ITIL - http://www.ogc.gov.uk/index.asp?id=2261

itSMF - http://www.itsmf.com/

BS 15000 - http://www.bs15000.org.uk/

COBIT - http://www.isaca.org/

ITSCMM - http://www.itservicecmm.org/

Interpreting Capability Maturity Model Integration (CMMI) for Operational Organizations, Brian P. Gallagher, Technical Note, CMU/SEI-2002-TN-006, April 2002

Interpreting Capability Maturity Model Integration (CMMI) for Service Organizations – a Systems Engineering and Integration Services Example, Mary Anne Herndon, SAIC, et al, Technical Note, CMU/SEI-2003-TN-005, November 2003

Services CMMI Public Website - https://bscw.sei.cmu.edu/pub/bscw.cgi/0/424939

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