



Process Improvement in Physician Practices and Healthcare Systems Comparison of Lean, Six Sigma and CxInSight

Differentiation	Lean	Six Sigma	CxInSight
Primary Interest	Remove waste	Reduce variation	Remove waste, reduce practice variation
Way they look at world	Flow and waste	Problem and detection	Flow and waste
Primary effect	Reduce waste and smooth flow	Reduce defects by reducing variation	Balance increased throughput, decreased care delays and decreased operating inefficiency
Secondary effects	Less inventory, fast throughput, better performance, more uniform output, less variation and improved quality	Improved quality, better performance, less waste, less inventory, fast throughput and uniform process output	Reduce waste, smooth flow, best practice, more uniform output, improved quality
Format	Typically Kaizen event format, concentrated resources in short timeframe; best for quick and initial gain (“inch wide, mile deep”)	Project format; resources spread over months; suitable for long-term and in-depth study	Weekly clinic improvement team meetings over 3-5 months; PDSA; series of quick changes to streamline primary <i>core business processes</i>
Approach	Has selected sets of solutions for selected sets of situations; for example, 5s, visual control, setup reduction, lead time reduction	All inclusive, generic approach to define, measure, analyze, improve and control; one size fits all	Systems approach; systematic change process that guides team to measure, analyze, improve, & sustain primary patient pathways
Efficiency	More efficient in selected sets of situations	Allows more thorough study and more science but not as efficient in selected applications	Efficient means of sustainable, system-wide improvement in clinic’s core business
Limitation	Statistical data analysis not emphasized; relies more on intuition and common sense	System view limited; may overspend when problems and solutions are simple and apparent	Initial change process is comprehensive; concentrated resources required

Technical difficulty	Focus on grass-roots, on the spot (gemba) and operator level activities and ownership	Need some science and statistical background	Practical; on clinic floor with physicians, staff, and manager level activity and ownership
Level of competency	Low (for every one)	High (not for every one)	Low - for physicians and staff; Medium - for practice managers (Value Stream Manager) and change agents (systems thinking)
Tools	Lean tools	Lean tools + statistics, Design of Experiments, Statistical Process Control, Capability Studies	Lean Six Sigma tools + integrated core business management tools and process controls
Signature characteristics	Small, quick, easy and intuitive improvements frequently occur over time; everyone can do it	Bigger, sophisticated solutions infrequently occur over long-term; star performer, not everyone can do it	Focused systems improvement <i>in clinic core business</i> . Standard but tailored models, change process, metrics, and OD. Uniform improvement results across system. Everyone can do it
Physician Engagement	Low: Representation on committees, in events	Low: Representation on projects	High: All providers participate in implementation process (weekly team meetings and quick individual data review meetings).
Practice Manager Engagement	Low- if practice manager is peripheral to project High – if practice manager is project champion/owner	Low- if practice manager is peripheral to project High – if practice manager is project champion/owner	High: Practice Managers participate/facilitate weekly meetings, and are trained in new role as Value Stream Manager/ process owner
Sustainability	Variable: Typically doesn't provide statistical process controls and capability studies to manage ongoing sustainability and detect onset of process variation. If managers are not	Good process control measures and capability studies to detect process variation. Stakeholder analysis key to provider/staff acceptance. Can impact	High: Program is key operating strategy. Strong provider/staff engagement/ buy-in. Integrated program management and oversight; on-going reporting.

	trained with appropriate management skill set, improvements are difficult to sustain. Emphasis is often put on developing specialists (change agent) vs. the manager of daily work groups	the quality of the solution and implementation. If managers are not designated process owners improvements are difficult to sustain	Practice Manager trained with skill set to sustain improvements. Physicians and staff trained during initial change process
Spread, Pace	Variable: significant time spent on choosing and coordinating events, and ensuring events tie to organization goals and strategies. Spread done by system-wide roll out often met with resistance. Compliance variable.	Variable: significant time spent on choosing and coordinating projects, and ensuring events tie to organization goals and strategies. Spread done by system-wide roll out of project can be met with resistance. Compliance variable.	CxInSight systems approach and weekly meeting format are designed for <i>rapid and comprehensive change in core business</i> . Scalable by site. Yields immediate results with each implementation
Results	Less analytical approach may make comparing results pre and post changes difficult to measure. Event-driven approach focuses on local optimization. Specific events chosen may not be most important core business improvements desired by primary stakeholders (patients, providers and staff).	Approach can be too sophisticated and complex. Will take significantly longer to realize financial and service quality gains. Analytical approach should provide good before and after results. Specific projects chosen may not be most important improvements desired by primary stakeholders in core business	Designed to improve the critical pathways <i>in core business</i> and achieve balanced system results: Increase satisfaction with service experience and workflow; significant financial return; significant strategic return -e.g., change-savvy workforce, platform for future system change
Cost Effectiveness	Physicians and staff are pulled from production during Kaizen week. Lost productivity. Potential loss of compensation to physician if productivity based. Significant resources spent on event selection and coordination.	Can be less cost effective due to the length of the project following the DMAIC method.	Quick Start up, leverage Cech Systems' expertise. Physicians and staff remain in production. Immediate increase in throughput. Focused concentrated resources increases pace of change and results

Source: Much of information regarding lean and Six Sigma was taken from [Quality Progress](#) "Melding Lean with Six Sigma" by Aditya Bhalla, and supplemented by Bonnie Cech, MHSA and Chris Clarke, RN, CMPE, LSSBB. CxInSight is a practice improvement system developed by Cech Systems, exclusively for physician group practices and healthcare systems.