

# Palomar Medical Center West Project Makes a Midstream Shift

Team Adopts a Hybrid Integrated Delivery Model with Project Underway

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The building design and construction industry is in the midst of adopting integrated project delivery (IPD) as a form of contract relationship that provides better value, and incorporating IPD-related methods and tools such as design assist and building information modeling (BIM). Owners of capital projects started before IPD progressed beyond its infancy face a choice: stay the so-called conventional course or convert midstream to an IPD approach to better engage with similarly value minded partners. This is the position Palomar Pomerado Health (PPH), a public healthcare district in northern San Diego County, found itself in recently.

PPH is in the process of building Palomar Medical Center West (PMCW), a new 789,000-sf regional trauma center with 360 beds and a construction budget of \$614 million. The new facility, scheduled to open in 2011, also provides PPH the opportunity for mission-driven instigation of organizational change and implementation of innovative healthcare initiatives including evidence-based and sustainable design.

## Goals and rationale for a shift to IPD

Though fully implemented IPD depends on the depth of a relational team structure that is built from the beginning, projects already underway in a conventional format can change and the resulting hybrid IPD project can recognize a degree of the value and quality benefits of a full IPD project.

The PMCW project was structured under conventional forms of agreement with the owner holding multi-prime trade contracts to allow early public bid flexibility. Between 2004 and 2008, the project budget was re-baselined twice in response to national and local market conditions that had driven costs up by over 60 percent and forced the project to compete for the services of the best healthcare trade contractors. Given these extraordinary conditions and state mandated seismic compliance deadlines, the project employed aggressive scheduling methods, 100 percent BIM utilization, design assist, phased plan check methods, and incremental packages – in short, every tool or state-of-the-art method was implemented.

In early 2008, four months into construction and with 70 percent of trade contracts committed (of which 65 percent were design-assist-build), costs were still going up and the schedule was extending, demonstrating a lack of control and/or incentive for the team to work together creatively. PPH made the decision to convert the project to an hybrid

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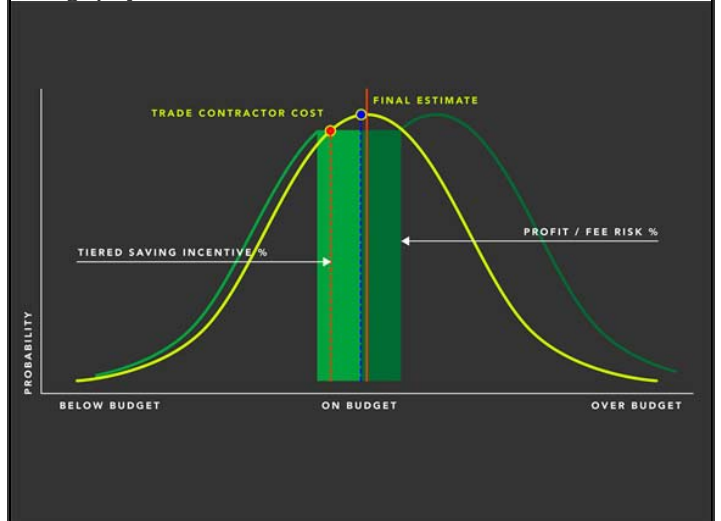
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### Palomar Medical Center West



Palomar Pomerado Health (PPH), a public healthcare district in northern San Diego County, Calif., PPH is in the process of building Palomar Medical Center West (PMCW), a new 789,000-sf regional trauma center with 360 beds and a construction budget of \$614 million. The new facility is scheduled to open in 2011. (Image courtesy of CO Architects.)

### Setting up hybrid IPD



IPD format, under the rationale that despite the innovations in methods and tools, a business-as-usual disconnect prevalent among the team was a threat to the project's aspirations.

## Characteristics of Hybrid IPD

At the heart of hybrid IPD is the goal of increasing all participants' sense of having "skin in the game," while bringing the primary parties of owner, AE, and the CM and trade contractors into an equitable risk-and-reward environment conducive to selfless action with payback. The basic three-party IPD buffers the owner against cost and time overruns through the establishment of a downside AE/CM percentage-of-compensation risk fund and an upside incentive pool for below-budget-and-schedule performance. Unfortunately, in this hybrid shift circumstance some of the ability to achieve that level of risk and incentive funding is lost or inappropriate because:

- The joint-decisions phase of IPD design, in which the AE and CM are able to collaborate to avoid the risk and earn the incentive, is past.
- The AE fee was already 75 percent expended, thereby limiting their ability to contribute proportionately to the risk pool.
- The AE and trades have not fully benefited from investment in project development that comes with IPD's forward biasing of fees.

The basic IPD approach, therefore, is possibly lopsided from an incentive, risk, and liability perspective if applied mid-project. This makes it necessary to look at another basis for risk/reward that can be applied appropriately to individual parties but still achieve an integrating effect. PPH decided that, in concept, a cost-plus-fixed-fee approach was optimal because it reduces risk to each party while eliminating any profit benefit from increased costs. In addition, some targeted profit risk or incentive can be added individually with a direct relationship to budget or schedule success factors.

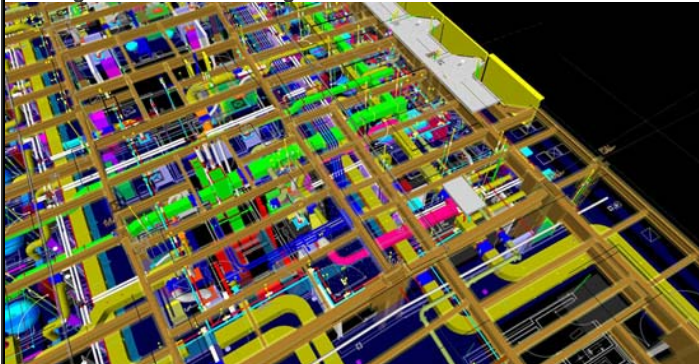
In the hybrid IPD shift, the owner gains partners incentivized to achieve savings by productivity and a partial cost overrun buffer. The AE has an incentive to keep fees down, the CM and trade contractors are incentivized for productivity; and all are incentivized to recognize savings below a target cost as follows:

- **AE:** Cost plus fixed profit, with a 5 percent return incentive on budget savings and no profit for fees to implement changes for savings or for construction administration services that overrun the schedule.
- **CM:** Percentage of fee at risk if over budget, general condition exposure on non-agreed schedule overrun, and a 25 percent return incentive on budget savings.
- **Trade contractors:** Converted to cost-plus-fixed-fee as a risk-reducing incentive to join. They place a percentage of profit at risk if over budget and gain percentage incentive for budget savings in a format that is bundled with dependent trades (such as structural steel, mechanical, and electrical) such that all win or lose together.

Hybrid IPD is therefore conceived to be flexible enough to handle variable risk and reward situations in a scaled manner for the differing participants while allowing for the other ongoing changes needed to continue to integrate the team over time. Setting up this hybrid form starts with the establishment of a new cost baseline that includes two components: the target cost (owner's best budget) and the final estimate (CM's best cost) which is the basis for risk/incentive terms going forward.

Hybrid IPD incentivizes team while reducing all party's risk. Setting up the hybrid delivery starts with the establishment of a new cost baseline that includes two components: the target cost (owner's best budget) and the final estimate (CM's best cost) which is the basis for risk/incentive terms going forward. (Graphic courtesy of CO Architects.)

### Building information modeling



Chessum warns against letting building information modeling (BIM) expire as a tool and a process as construction picks up momentum. He says it remains a transparent venue for team communication and sharing and building trust. (Image courtesy of CO Architects.)

### For More Information

## Biography

Thomas W. Chessum, AIA, a principal at Los Angeles-based CO Architects, has devoted his 29-year architectural career to the design of specialized and technically complex buildings for healthcare, research and science. His work ranges from "bench to bedside" – from research laboratories for some of the country's leading scientific institutions including The Salk Institute, to comprehensive healthcare projects for forward-looking clients such as Palomar Pomerado Health, UCLA Healthcare and Kaiser Permanente.

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### Notes:

## Reorganization strategy and process for shifting

The implementation of IPD in any form starts with the integration of the risk and reward conditions of the parties such that there can be trust. The shift to hybrid IPD on the PMCW project involved combining the tools (design assist, BIM, etc.) and the trust. Before the shift, the project was using the tools effectively without impacting the project's success due to a lack of trust in equitable risk and incentive. As many organizational theorists will note, an absence of trust produces a fear of conflict, which in turn leads to a lack of commitment and accountability, with the ultimate result of NO RESULTS. The process of reorganization to an IPD model must strategically form a minimal core team where trust is established such that it influences the trades to join.

The shift to hybrid IPD is therefore a long-term and ongoing process that will proceed at differing speeds and with differing levels of success. Keeping in mind that project success will be determined by the trade contractors, the initial step to success is the formation of a core project team (owner, designer, and CM) to become the initial change agent with a start-up focus on the restructuring of those core team relationships via agreements and fees. Beyond that, the implementation of a shift requires a strategic process that targets gaining the participation of each succeeding IPD team member as follows:

- Process: identify the probable steps, while remaining aware that not everything will go as planned.
- Analysis: identify strengths and weaknesses, and the ability of Core Team to be an influence.
- Strategy: identify where influence can be applied for value in return (cost, schedule and quality).

In shifting to IPD, the PMCW project found that there were four key steps:

1. Obtain legal advice as a team, so that the attorney represents the project. Keep the individual entity attorneys out. This is an important step towards trusting each other and thinking selflessly and creatively about addressing instances where the project is either strong or weak.
2. Implement a "high performance team" model, initially with the core team, and expanding later to the trades as they join. Align goals, decision-making structures, and escalation process.
3. Avoid the pressure to make early "short cut" decisions in the work or the process. Remember the adage "go slow to go fast," where trade-offs might seem to represent a loss of construction momentum or time.
4. Don't let BIM expire as a tool and a process as construction picks up momentum. It is still the best and most transparent arena within which to build trust.

## What is lost or gained?

Committing an ongoing project to a hybrid IPD model is a calculated leap of faith. There must be a belief that even partial success is going to result in improved value. The Palomar project has been in this process for 12 months and has succeeded in adding the six prime trade contractors to the team. The costs of re-negotiation of agreements, high performance team work sessions, and the related hours of work and distraction from the ongoing construction are difficult to pin down but could reach \$1 million.

The benefits to date fall into three categories, as demonstrated by the following examples:

- Cost avoidance - The bundling of trade contractor incentives prompted a timely coordination (during the planning phase) of steel fabrication schedules for heavy-pipe supports and additional steel framing, resulting in increased productivity in the shop and the field.
- Cost flexibility - Though over 70 percent contracted, the team effected a 6.5 percent VE-based cost reduction at the request of the owner.
- Cost saving - Steel erection, due to the “Tools and Trust” (BIM, design assist, Hybrid IPD) approach is ahead of schedule and was re-sequenced to avoid the use of a second crane resulting in a 11 percent reduction in the trade cost.

It is feasible and justified from a budget, schedule, and value perspective to shift to an IPD delivery model midstream. Change of this degree is momentous, but has the added benefit of establishing an ongoing project character of seeking continuous and healthy improvement.

**By Thomas W. Chessum**